



Exploring the highly-prospective Ilimaussaq Intrusive Complex, favourably located near the southern tip of Greenland

457 Mt JORC compliant multi-element resource (REE, U, Zn, NaF) defined at Kvanefjeld plateau, with huge upside potential

Pre-Feasibility Study scheduled for completion late 2009

Greenland Minerals and Energy Ltd is an mineral exploration and development company focused on unlocking the mineral riches of southern Greenland. The company is listed on the Australian Securities Exchange.

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September 2009 Quarterly Report

Friday, 30th October, 2009

Highlights

- *Lars Emil Johansen, a former Prime Minister of Greenland, takes the position of Chairman of the Greenlandic subsidiary*
- *2009 fieldwork program successfully completed in Greenland*
- *Company participates in South Greenland Council and Community meetings on the current status and future of Kvanefjeld multi-element project*
- *Pre-feasibility study continues on Kvanefjeld project with significant advances on process development; base-case process flow sheet established, optimisation work ongoing*



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Introduction

Greenland Minerals and Energy (“Greenland Minerals” or the “Company”) is a mineral exploration and development company actively exploring in southern Greenland. The Company is primarily focused on exploring its license area 2005/28 over the northern Ilimaussaq Intrusive Complex; a unique geological entity with extraordinary resource potential. A large JORC-compliant multi-element resource (rare earth elements, zinc, uranium and sodium fluoride) has been rapidly defined at Kvanefjeld plateau, which clearly highlights the world-class resource potential of the Ilimaussaq Complex. A pre-feasibility study is currently underway, with a focus on defining a process route to extract the elements of interest from these unique multi-element ores in an economically viable and environmentally responsible way.

The Company’s vision is one of the big picture; to be a significant producer of commodities of fundamental strategic importance and value to tomorrow’s world. Rare earth elements are now recognised as being critical to the global manufacturing base of many emerging consumer items. However, China has successfully monopolised global REE supply, raising serious concerns to non-Chinese consumers over the long-term stability of REE supply and pricing. Electricity from nuclear power continues to gain acceptance internationally as the clean base-load energy supply of the future; owing to rapidly increasing power demands coupled with concerns over carbon-based energy sources, greenhouse gas emissions and global warming. As the nuclear renaissance continues to gain momentum, the strategic importance of uranium resources will continue to emerge.

The northern Ilimaussaq Complex offers the potential for multi-element resources of unparalleled scale; resources that could restore balance to the global supply of rare earth elements, and contribute to the energy security of Europe for many decades.

September Quarter Activities

During the September quarter, the main activities undertaken by the Greenland Minerals and Energy centred on operations in Greenland, with the successful completion of the 2009 field program, and participation in key stakeholder meetings in Greenland that demonstrated strong local support for the Kvanefjeld multi-element project. Work programs relating to the pre-feasibility study are progressing well, with the Company now having established a conceptual process flow sheet. On a corporate level, an important development for the evolution of Greenland Minerals has been the strengthening of its presence in Greenland through key appointments to the board of the Company’s Greenlandic subsidiary, *Greenland Minerals and Energy A/S*. Lars Emil Johansen has joined as Chairman of the subsidiary, and respected Greenlandic businessman Ole Ramlau-Hansen has also joined as a Director.

2009 Field Activities in Greenland

The 2009 work program in Greenland was undertaken in the period of mid-June to late-August, and was the third significant work program undertaken by the Company since it commenced operations in Greenland in 2007. The program primarily involved diamond core drilling to obtain data relevant to the pre-feasibility study that is currently underway on the Kvanefjeld project, as well as obtaining core for ongoing metallurgical test work. Geotechnical drilling and sterilisation drilling were conducted to provide data that is pertinent to initial mine plans, which are being generated by consultants Coffey Mining. Drill core data is complemented by surface geotechnical mapping over the Kvanefjeld plateau (Figure 1), conducted by Coffey Mining personnel. In total, 5417 metres of core were drilled during the program.

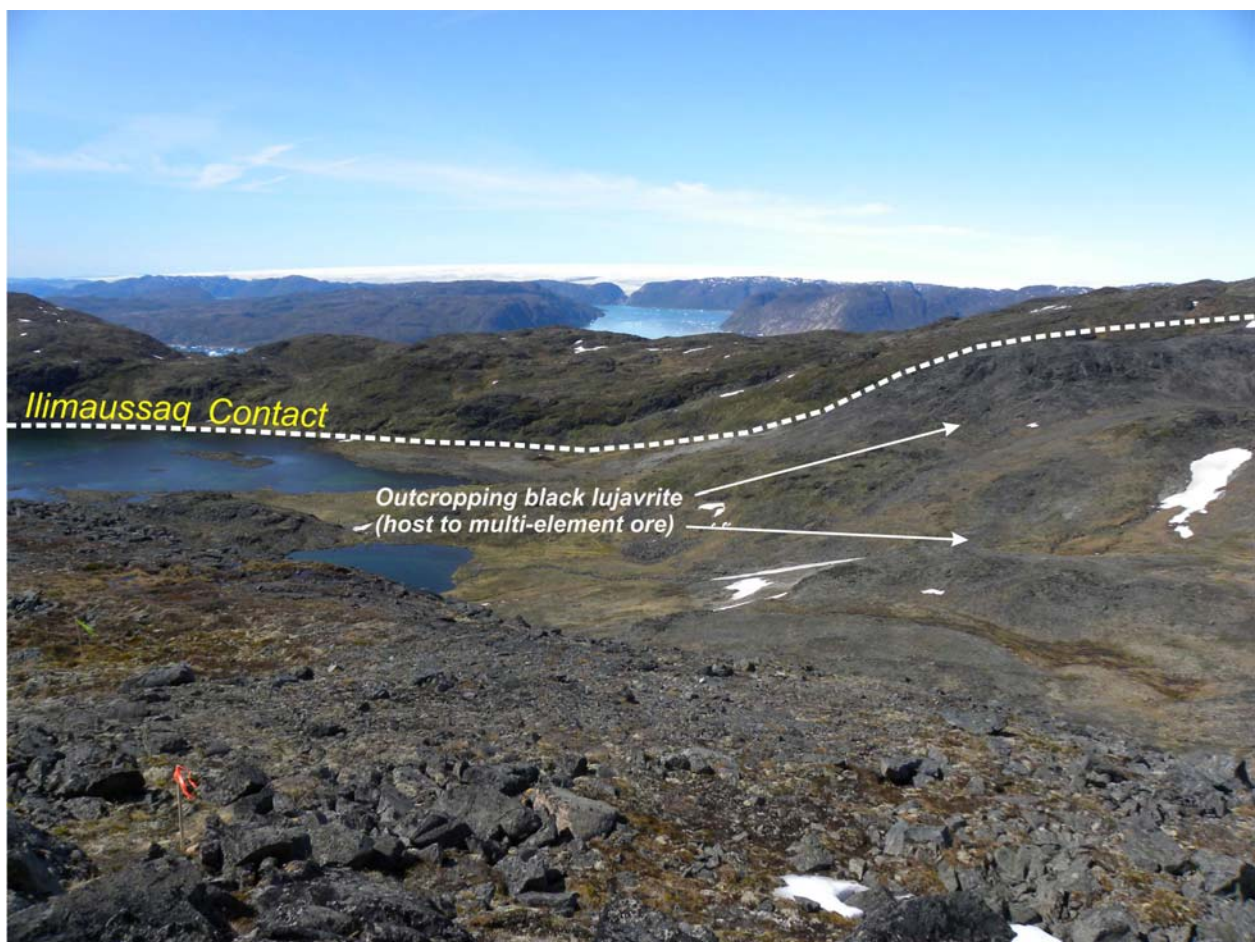


Figure 1. View over the resource area on Kvanefjeld plateau. Black lujavrite outcrops extensively across the plateau. The resource is located immediately inboard of the northwest margin of the Ilimaussaq Complex.

Approximately 2290 metres of HQ core were drilled to obtain sample material for ongoing metallurgical studies. Fourteen holes were drilled through the Kvanefjeld resource to obtain ore material of subtly different characteristics. This will allow future test work to evaluate the metallurgical response of varying ore types within the resource. On the basis of detailed geological studies conducted over the last year the Kvanefjeld resource has been mapped in three dimensions, and subdivided into regions of subtly different mineralogical and geochemical characteristics. The resulting three dimensional models, generated with Leapfrog™ software in conjunction with SRK Consulting, provided the basis for the targeting of metallurgical drill holes.

Also during the 2009 field season, several site visits were conducted for representatives from several international financial institutions and broking houses, as well as major industry participants. A concerted effort was also taken to provide site visits for local stakeholder representatives to ensure the community is kept up-to-date with the Company's current activities.

Environmental Baseline Studies

Orbicon, a Danish environmental engineering group and consultant to Greenland Minerals, undertook a third year of data collection for the ongoing environmental baseline studies. These studies are designed to characterise the state of the broader environment prior to any disturbances relating to mining. This year's studies build on those conducted in 2007 and 2008. While there is a minimum of two years of data collection required in Greenland for an environmental baseline study, the Company extended the program into 2009 to increase the level of detail and overall quality of the baseline study.

New Appointments to the Board of the Greenlandic Subsidiary

In July, the Company announced new appointments to the board of its Greenlandic subsidiary company *Greenland Minerals and Energy A/S*. Lars Emil Johansen has joined as Chairman, and Ole Ramlau-Hansen as a Director. Mr Johansen has been at the forefront of Greenlandic politics since 1970 when he was elected to the then Greenland Country Council, the highest political authority in Greenland before the inception of the Greenlandic parliament after the constitutional change to Home Rule in 1979. He has represented Greenland in the Danish parliament since 1973, and was Prime Minister from 1991 - 1997. Mr Johansen has been pivotal in guiding Greenland's move to self-governing and increased independence, and is now keen to focus on building a strong minerals industry in Greenland. It is widely recognised that the development of a strong natural resource industry in Greenland is the key to securing financial

and political independence. Mr Johansen is a recipient of the Silver and Golden Nersornaat (the Greenland Medal for Meritorious Service).

Ole Ramlau-Hansen is another strategic appointment to the subsidiary board. Mr Ramlau-Hansen has had a long and distinguished career in Greenland, having lived there for more than 25 years. He was responsible for the construction of the first tertiary level business school in Greenland and has been involved in many of the major companies in Greenland including Royal Greenland, where he built the company over 13 years into the largest fishing group in the world from a loss-making state run enterprise. He has managed the Government divestment (privatisations) of several major companies. Mr Ramlau-Hansen is also a recipient of the Silver Nersornaat.

Overview of Recent Community and Council Meetings Held in Narsaq, Greenland

In early September, 2009, Company representatives participated in a series of meetings in Narsaq, south Greenland, that were attended by the new Minister for Commerce and Raw Materials the Honourable Mr Ove Karl Berthelsen, the Director of the Bureau of Minerals and Petroleum (BMP), Mr Jørn Skov Neilson, the Mayor of south Greenland, Mr Simon Simonson, and the South Greenland Municipal Council. The council represents the three main towns of southern Greenland that include Qaqortoq, Nanortalik and Narsaq. The latter is the town closest to the Ilimaussaq Intrusive Complex and the Kvanefjeld project area. Company representatives presented an update on the current status and increasing significance of the Kvanefjeld project to the above parties, before general discussions commenced in relation to any issues raised.

Discussions largely focussed on where the project is presently within the framework of assessing the feasibility of a mining project, and the work programs moving forward. A site visit to Kvanefjeld plateau was conducted to ensure that the Minister, the BMP Director, the Mayor and council representatives have a good understanding of the geography of the project area.

Following the meeting with the Minister and council, a public meeting was held in Narsaq that was well-attended by community members. The meeting was headed by a panel that included the Minister of Commerce and Raw Materials, the Mayor, Company representatives, and spokespersons for groups opposed to mining. The aim of the meeting was to update the community on emerging opportunities in southern Greenland, with the specific intention of updating the community on the status of the Kvanefjeld project, discussing and debating issues pertaining to mining in general, as well as issues associated with the mining of uranium-bearing ores. Following presentations by panel members the community had the opportunity to ask

specific questions and provide their opinion and perspective. The public forum meetings provided an excellent opportunity to clearly update key stakeholders on the status and significance of the Kvanefjeld project, and indicated a lot of strong support from the community for the project to advance into a *Definitive Feasibility Study*, once all necessary components of a preliminary feasibility study are completed.

Prior to the meetings community representatives from the town of Narsaq had circulated a petition seeking support for a mining project at Kvanefjeld to proceed if all social and environmental requirements were met. The petition was presented to Minister Berthelsen during the public meeting by community leaders.

Strong local community support from Narsaq and across the southern Greenland business community allows the Company to positively engage with the new Greenland Government. Kvanefjeld is the first resource defined within the Company's license over the northern Ilimaussaq Complex, and already holds the potential to be one of the world's most significant rare earth element and uranium projects with a mine life measured in decades. In 2010 increased levels of community and governmental interaction will aim to accurately demonstrate how the development of Kvanefjeld would benefit Greenland. Issues to be addressed include the environment, safety, job security, skills training, and levels of infrastructure commitment.

Update on the Pre-Feasibility Study

Following the two highly successful exploration campaigns and rapid resource growth, Greenland Minerals and Energy launched a pre-feasibility study on the Kvanefjeld multi-element project in late 2008. The recently upgraded resource statement confirms the world class potential of Kvanefjeld, and emphasises the importance of the pre-feasibility process to the evolution of the project. Given the unique nature of the geology and the multi-element ores, it is a critical milestone for the Company to demonstrate that the elements can be extracted in an economically viable manner. At a pre-feasibility level, this is the Company's foremost aim, as it will serve to reduce the technical risk associated with the project.

The mining study component is being conducted by Coffey Mining Pty Ltd and covers the mine design and ore scheduling, geotechnical issues, hydrogeology and tailings management. The engineering study component is being conducted by GRD Minproc and includes the process design, engineering design and capital and operating costs of a milling and processing plant consisting of a rare earth refinery and uranium recovery plant. Environmental studies are also underway with Coffey Natural Systems preparing a strategy for the Environmental and Social

Impact Assessment and Orbicon, a Danish based environmental sciences group, undertaking field work and base-line monitoring.

Previous work by the Danish Atomic Energy Agency (RISO) identified a viable way to extract uranium. However, given the emerging economic and strategic significance of specialty metals, such as rare earths, the Company is taking a multi-element approach with other process routes being evaluated to focus on specialty metal recoveries and to enhance the economic strength of the project.

During the September Quarter, metallurgical testwork continued, and the work programs were completed in Greenland to generate data pertinent to the feasibility process. ANSTO (Australian Nuclear Services and Technology Organisation) have completed their initial phase of work on process development specifically for REE metallurgical behaviour and recovery. These results will feed into the broader process development and plant design that is being conducted by GRD Minproc.

Integrating Recent and Historical Test Work

Earlier in the year, Company representatives conducted a series of successful technical review meetings in Copenhagen with a number of the research scientists and explorers who have worked previously on the project. The level of in-depth knowledge and experience gained from these meetings has added enormous value to the mineralogical and metallurgical understanding of the orebody. The quantity and quality of technical data that is available from this period of intensive research, which ran for many years and culminated in a large scale pilot plant, is quite extraordinary and would be difficult and prohibitively expensive to try and replicate in today's economic climate. This information has been collated, and incorporated into the current state of knowledge and the project, and has contributed significantly to the conceptual process flow sheet generated by GRD Minproc.

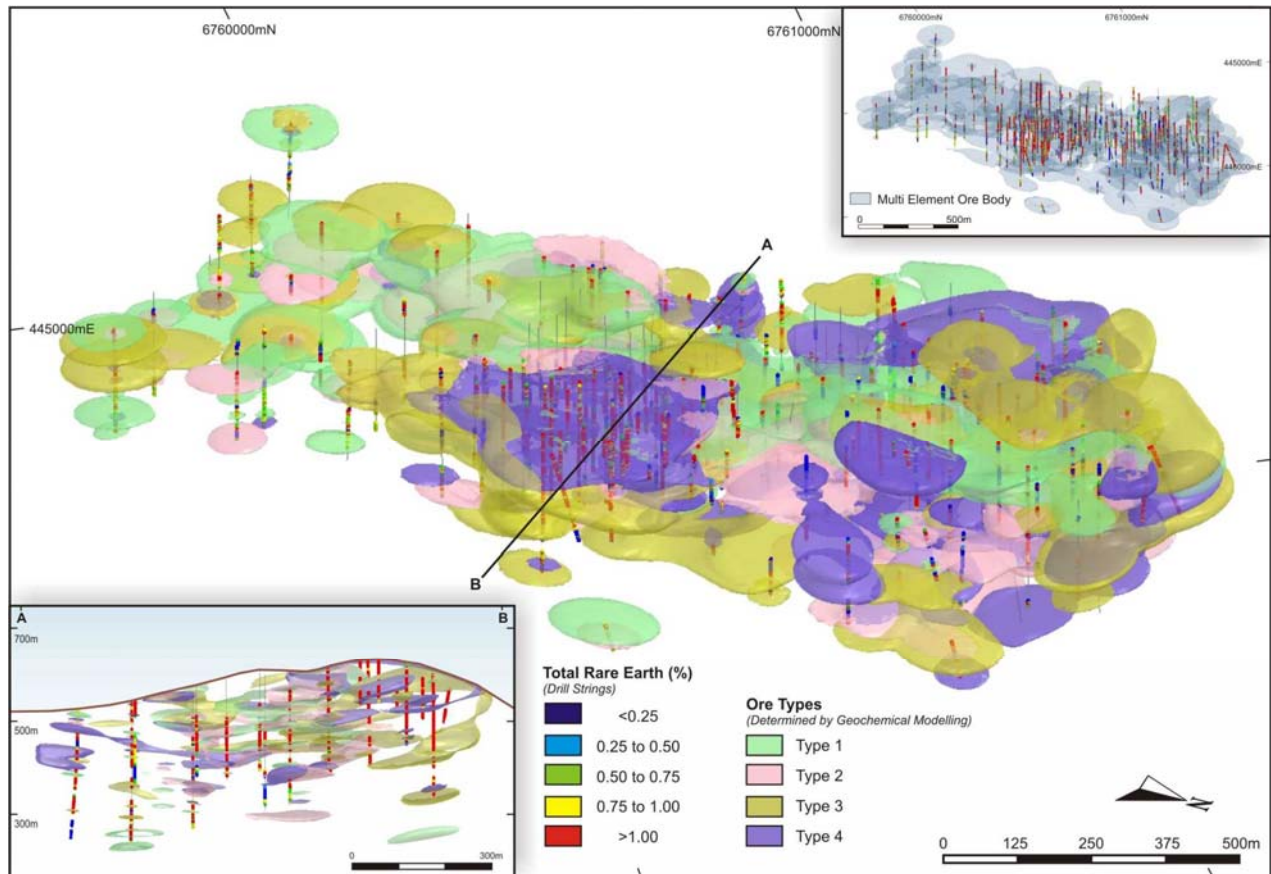


Figure 2. Geostatistical modelling of the vast geochemical dataset at Kvanefjeld allows the resource to be divided into zones of common mineralogical and geochemical characteristics. The modelling enabled drill holes for metallurgical sampling to be precisely positioned to ensure all zones are adequately sampled. The sample material will be used in future variability test work.

Mineralogical Studies and Ore-Type Classification

As part of the pre-feasibility study, the Company is undertaking a detailed mineralogical and geochemical study of the Kvanefjeld ore body. This will enable ore types to be classified on the basis of mineralogy and geochemistry. The various ore types will then be metallurgically tested at a bench scale level, to ensure that the optimal process route is confirmed and that variations in ore type are fully accounted for. During previous studies, variations in the ore body were not sufficiently understood nor accurately mapped as there was no multi-element geochemical coverage. This was essentially due to a lack of geochemical data as the drill core was only analysed spectrally during that phase of the study carried out by RISO. Greenland Minerals now has a more complete geochemical coverage of the deposit allowing ore types to be clearly identified and mapped in three dimensions. The vast multi-element dataset has been investigated geostatistically, and modelled in three dimensions with Leapfrog™ software. This

has led to the development of a three-dimensional geochemical and mineralogical model of the resource as it is currently defined (Figure 2).

Process Development

On the basis of the review of all previous work, in conjunction with work conducted by Greenland Minerals, a conceptual process flow sheet has been defined, and is presented in Figure 3. The flow sheet draws on the past work conducted by Danish research groups, which has been updated and verified by recent studies. The key aspects to the flow sheet are as follows. A whole-of-ore alkaline pressure leach circuit selectively extracts uranium, increases the solubility of REEs in subsequent acid leaching, and converts fluorine and thorium to stable insoluble compounds (environmentally beneficial). Following the alkaline leach circuit, rare earth minerals (predominantly phosphates) in the residue are concentrated into a smaller mass fraction through froth floatation. The concentrate is then treated with a dilute acid leach to extract rare earth elements, and a rare earth concentrate product is then generated.

Beneficiation studies are ongoing, with scope to potentially beneficiate ore prior to the alkaline leach circuit, as well as optimisation studies to further improve the beneficiation of rare earth minerals (following the alkaline leach circuit), and the efficiency of leaching the rare earths. The key advantages of this “base case” circuit are: effective extraction of uranium from the residue containing the rare earth elements; conversion of fluorine and thorium to stable products in the alkaline leach process which is environmentally advantageous; ability to concentrate rare earth minerals following uranium extraction; ability to leach rare earth elements using dilute acid at standard temperature and pressure. Whilst ongoing studies may modify the process flow sheet, the Company is extremely pleased with the progress to date, particularly given the unique nature of the ore type at Kvanefjeld.

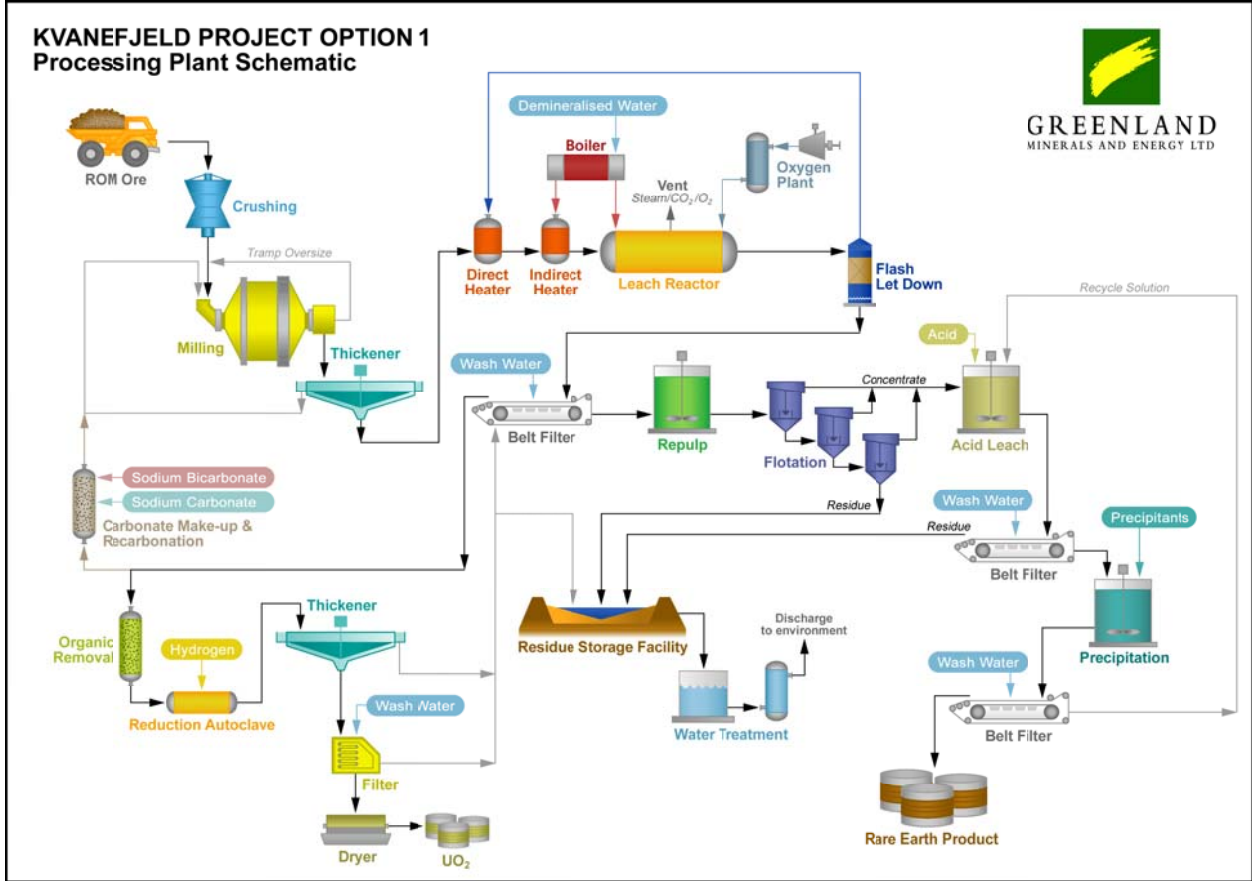


Figure 3. The conceptual process flow-sheet that is considered a 'base case' for the Kvanefjeld multi-element project. The flow sheet builds on historic test-work with recent metallurgical studies that have been conducted by Greenland Minerals over the last 12 months. The circuit incorporates a whole-of-ore alkaline pressure leach circuit that extracts uranium, which is followed by a flotation circuit to concentrate rare earth element-rich minerals that are subsequently leached with dilute acid to then generate a rare earth product.

Tenure, Permitting and Project Location

Tenure

Greenland Minerals and Energy Ltd (ABN 85 118 463 004) is a company listed on the Australian Securities Exchange. The Company is conducting exploration of EL2005/28 in accordance with a joint venture agreement. The Company currently controls 61% of the license (with options to move to 100%). The Company, through its subsidiary, is also the operator of the project.

The tenement is classified as being for the exploration of minerals. The project hosts significant multi-element mineralisation within the Ilimaussaq Intrusive Complex.

Historically the Kvanefjeld deposit, which comprises just a small portion of the Ilimaussaq Complex, was investigated by the Danish Authorities. The project has received significant past exploration in the form of drilling, geophysics, geochemistry, an exploratory adit and numerous and varying metallurgical test work and technical papers.

Permitting

Currently there is a zero-tolerance toward uranium mining of any kind in Greenland. However Greenland Minerals and Energy have been fully permitted in all their exploration activities at Kvanefjeld to date by the Bureau of Minerals and Petroleum. The Company is exploring for, and evaluating, specialty metal resources in the northern Ilimaussaq Intrusive Complex. Mineral resources that have been identified by the Company to date are multi-element, or polymetallic, in nature and are inclusive of uranium-bearing minerals.

The Company conducts its work programs with the understanding that under the current regulations multi-element deposits such as those defined at Kvanefjeld to date cannot be exploited. The Company is working closely with the relevant authorities to define acceptable development scenarios.

Location

The exploration lease covers an area of 80km² in Nakkaalaaq North on the southwest coast of Greenland. The project is located around 46° 00'W and 60 55'N.

The town of Narsaq is located approximately 7 kilometres to the south west of the license area. Narsaq is connected to Narsarsuaq International Airport by commercial helicopter flights operated by Air Greenland. Local transport between settlements is either by boat or by helicopter.

The Company has office facilities in Narsaq where storage, maintenance, core processing, and exploration activities are managed. This office supports the operational camp located on the Kvanefjeld Plateau above the town where the operational staff are housed.

Access to the Kvanefjeld plateau (at approximately 600m asl) where exploration activities are focussed is generally gained by helicopter assistance from the operations base located on the edge of the town of Narsaq. It is possible to access the base of the plateau by vehicle and then up to the plateau by a track.

Capital Structure

Total Ordinary shares:	225,008,555
<i>Quoted</i> options exercisable 20c:	141,832,047
Unquoted options exercisable 10c:	750,000
Unquoted options exercisable 20c:	24,300,000
Unquoted options exercisable 50c:	3,500,000
Unquoted options exercisable 1.00:	3,500,000
Unquoted options exercisable 1.50:	1,888,840

Please visit the company's website at www.ggg.gl where recent news articles, commentary, and company reports can be viewed.

Yours faithfully,



Roderick McIlree

Managing Director
Greenland Minerals and Energy Ltd

ABOUT GREENLAND MINERALS AND ENERGY LTD.

Greenland Minerals and Energy (ASX – GGG) is an exploration and development company focused on unlocking the mineral riches of southern Greenland. The Company's flagship project is the Kvanefjeld multi-element deposit (Rare Earth Elements, Zinc, Uranium), that is rapidly emerging as the world's premier specialty metals project. Kvanefjeld has now entered the pre-feasibility phase that will ultimately map out a path to development and timeline to production. For further information on Greenland Minerals and Energy visit <http://www.ggg.gl> or contact:

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Greenland Minerals and Energy Ltd is aware of and respects the Greenlandic government stance on uranium exploration and development in Greenland – which is currently a zero tolerance approach to the exploration and exploitation of uranium. Any potential change toward the current stance of zero tolerance is not expected until after the public consultation and review process is concluded in the coming months.

The company is currently advancing the Kvanefjeld Project, recognised as the world's largest undeveloped JORC compliant resource of rare earth oxides (REO), in a multi-element deposit that is inclusive of uranium and zinc.

Greenland Minerals will continue to advance this world class project in a manner that is in accord with both Greenlandic Government and local community expectations, and looks forward to being part of the community discussion on the social and economic benefits associated with the development of the Kvanefjeld Project.

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Jeremy Whybrow, who is a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Overseas Professional Organisation' ('ROPO') included in a list promulgated by the ASX from time to time.

Jeremy Whybrow is a director of the company.

Jeremy Whybrow has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Jeremy Whybrow consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.