



Company Announcement: *Wednesday March 23rd, 2011*

Greenland Minerals Releases an Upgraded Resource Estimate for the Kvanefjeld Multi-Element Project (REEs, U, Zn)

Greenland Minerals and Energy Limited ("GMEL" or "the Company", ASX:GGG) is pleased to announce a new resource estimate for the Kvanefjeld multi-element project that further confirms Kvanefjeld's status as one of the world's most significant resources of rare earth elements and uranium.

Key Highlights of New Kvanefjeld Resource Estimate

- Total resource of **619 Mt** (*an increase of 162 Mt*)*
- Indicated resources now **437 Mt** (*an increase of 72 Mt*)*
- Contained metal inventory of **6.6 Mt TREO** (Total Rare Earth Oxide), **350 Mlbs U₃O₈** and **3 Blbs Zn** (*TREO includes 0.24 Mt heavy REO, 0.53 Mt Y₂O₃*)
- Near surface, higher grade zones defined, including **122 Mt @ 1.4% TREO, 404ppm U₃O₈** (*0.05% heavy REO, 0.12% Y₂O₃*)
- Resources dominated by geochemical and mineralogical characteristics, in line with metallurgical process development and mining studies

**Estimated resources at 150 ppm U₃O₈ cut-off, consistent with previous resource estimate*



Introduction

The new resource estimate has been prepared by SRK Consulting (SRK), and is compliant with the code for reporting mineral resources set out by the Australian Joint Ore Reserve Committee (JORC). The significant improvements in the new estimate can be attributed to further drilling at Kvanefjeld undertaken during the 2009 and 2010 field seasons, the generation of a new geological model, and the development by GMEL in conjunction with SRK of a methodology to domain the unique multi-element resources. The higher grade, near surface zones that have now been defined provide the opportunity to significantly improve on mine scheduling, which will serve to strengthen the projects economics (e.g. at a 350ppm U_3O_8 cutoff - 122 Mt @ 1.4% TREO, 404 ppm U_3O_8 , and at a 300ppm U_3O_8 cut-off - 200 Mt @ 1.3% TREO, 373ppm U_3O_8).

The resources of the northern Ilimaussaq complex are both extensive and unique, and offer the potential to produce both light and heavy rare earth products, uranium and zinc concentrates, fluoride compounds and a zirconium product. GMEL's base-case mining scenario evaluates an operation to produce a rare earth concentrate and uranium oxide. Current metallurgical programs are advancing the process route to produce both a light and heavy rare earth product (including yttrium), uranium and zinc concentrates. The Company also has key mineralogical and beneficiation studies underway which aim to significantly enhance the project's efficiency and economics.

The finalization of the new resource estimate follows the recent announcement of the discovery of substantial new multi-element (REE, U, Zn) deposits within the broader project area. *These key developments serve to underline GMEL's operations on the northern Ilimaussaq Complex as one of the world's most strategically important emerging mineral projects.*

Background

Greenland Minerals and Energy Ltd is a mineral exploration and development company operating in southern Greenland. The Company is primarily focused on advancing the Kvanefjeld multi-element project (*both light and heavy rare earth elements, uranium, and zinc*) through the feasibility phase and into mine development.

Kvanefjeld is located within the Company's license over the northern Ilimaussaq Intrusive Complex; a unique geological entity that is highly prospective for specialty metals. Mineral resources at Kvanefjeld now stand at 619 Mt, and new deposits have recently been discovered in the broader project area (see drill intercepts reported in recent company announcements). Kvanefjeld is a highly-accessible resource that outcrops on a broad plateau, with the higher grade portions located close to ground surface.

An *Interim Report* on the Kvanefjeld pre-feasibility study was released in February 2010 that indicates the potential for the multi-element resources to sustain a large-scale mining operation for decades (*for more information visit the Company's website at <http://www.ggg.gl>*).



Figure 1. View over GMEL's multi-element project on the northern Ilimaussaq Complex in Greenland. Resources have been defined at Kvanefjeld, with Steenstrupfjeld, Zone 2 and Zone 3 representing new areas of significant mineralisation. See recent company announcements for drill results from these zones. The distance from Kvanefjeld to Zone 2 is 6 km. The deposits identified represent the outcropping expressions of a vast ore system that is interconnected at depth.

A New Resource Estimate for the Kvanefjeld REE-U-Zn Deposit

Since acquiring the Kvanefjeld project in 2007, GMEL has released three previous resource estimates as work programs have evolved. The most recent was released in June 2009. In 2010, GMEL set out to develop an improved resource estimate for Kvanefjeld, with a focus on converting Inferred resources into Indicated resources. The areas that were addressed included increasing the drill density in certain areas of the deposit, utilizing the increased understanding of the geological nature of the deposit to domain the resources, and to effectively break out the components of the multi-element resource in order to clearly understand the value distribution. Importantly, substantial developments in understanding the deposit have resulted in an improved geological model that is closely aligned with the Company's metallurgical development programs, and ultimately, how the deposit will be mined.

SRK were engaged by GMEL in mid-2010 to prepare a resource update that includes data from the 2009 and 2010 drilling. The work conducted by SRK included a four-day site visit toward the end of the 2010 field season.

Apart from the additional holes, the major advancement from the previous (June 2009) estimate is the development of a technique to geologically domain the resources, resulting in division of the mineralized body into five new domains. SRK is currently compiling the full report to accompany the March 2011 resource update. The notes below summarize the key inputs, methods, and parameters used to prepare the estimation.

Lujavrite: Host-rock to REE-U-Zn Mineralisation

Multi-element REE-uranium-zinc mineralization is hosted by the black lujavrite rock type; an agpaitic nepheline syenite. The main body of lujavrite is a series of broadly sub-horizontal lenses, ranging from tens of metres to over 200 m in thickness. The lujavrite lenses are exposed at surface (outcropping). The lateral extents of the main lujavrite body are about 2200 m SW-NE, and 1000 m NW-SE.

Drilling

Table 1 summarises the metres and number of holes drilled at Kvanefjeld. All the drilling has been by diamond coring. Drill hole spacing is variable (Figure 2), but is approximately 70 m by 70 m across most of the northeast part of the deposit, and 140m by 140m in the southwest. The drill holes are generally vertical or close to vertical, and most are between 200m and 300m deep. The deepest hole (K174) is 500 m, extending down to 130 mRL.

The dominant core sizes used are BQ and NQ. Recovery is generally 100%, or close to 100%.

Table 1: Summary of Kvanefjeld drilling by purpose.

Purpose	Holes	Metres
GMEL Resource development (2007 onwards)	130	31,436
Historical (1977 and earlier)	65	9,830
GMEL Geotechnical	12	1,888
GEM Metallurgic	14	2,254
GMEL Sterilization	4	792

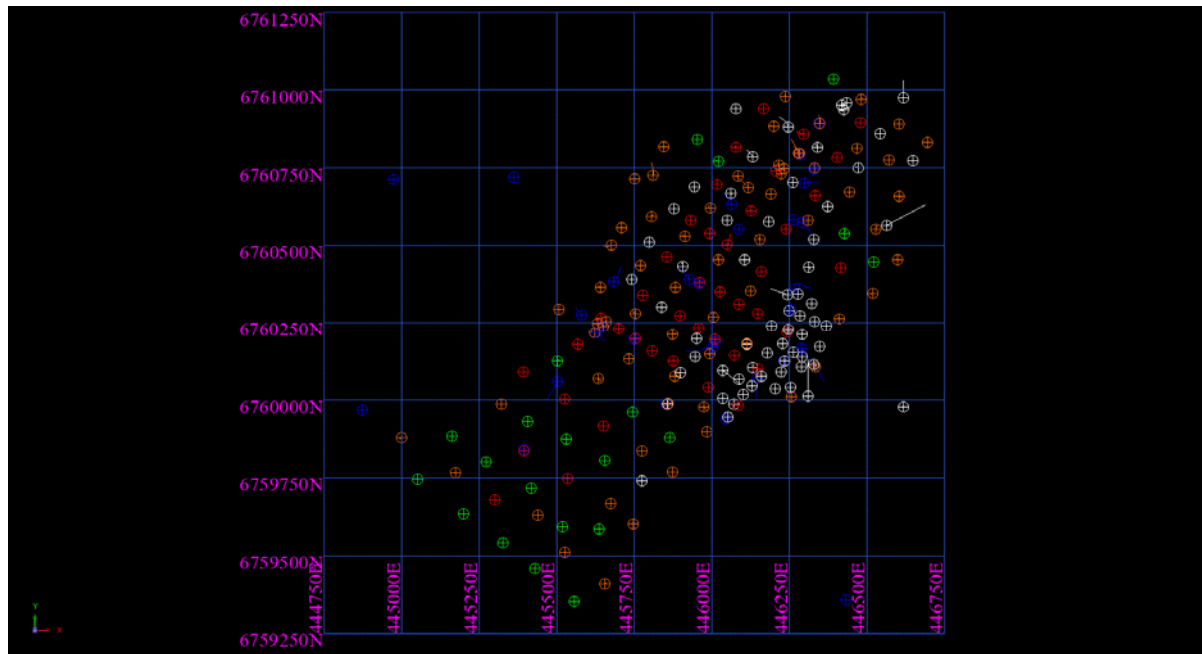


Figure 2. Kvanefjeld drill hole layout: Green = 2010, Blue = 2009 (Geotechnical, Metallurgic, Sterilization), Orange = 2008, Red = 2007, White = 1977 and earlier.

Survey

Hole collars up until the end of 2009 were picked up by ASIAQ, a Greenland-based surveying company. The 2010 holes have not been surveyed and are stored in the drill hole database with their design coordinates. The GMEL holes, and many of the Historical holes, were downhole surveyed using an Auslog Deviation Tool. Orientation data at 0.5 m increments are stored in the drill hole database. End-of-hole Eastman camera shots are available for most of the historical holes that could not be accessed by the downhole surveying tool.

Assays

Assaying has been done selectively on half-core from the historical and GMEL drilling. In general, intervals not selected for assaying are from the non-mineralized lithologies outside the lujavrite host. Most samples are 1 m long, although minor variations from 1 m sampling were used in the historical drilling (1977 and earlier), in order to align sample boundaries to geological contacts.

The majority of the assays values from the mineralised zone were obtained by chemical analysis. Where no chemical analyses are available, spectral probe values for U_3O_8 have been included in the assay database. GMEL has previously done extensive comparison of chemical versus spectral results where both are both available for the same intervals. SRK has reviewed this work and agrees that it is reasonable to combine both data sources.

The assay table contains values for elements of economic significance at Kvanefjeld, such as the lanthanide series, Y, U, and Zn (Table 1). In addition, many other elements have been routinely included in the chemical analyses: Li, Be, F, Na, Mg, Al, P, S, K, Ca, Sc, Ti, Mn, Fe, Ga, Rb, Zr, Nb, Mo, Sn, Hf, Ta, Pb, and Th.

Table 2: Metres of assay data in the Kvanefjeld database

Assay information	Metres
Chemical Assay (U_3O_8 , REO, and Zn)	21,336
Chemical Assay (U_3O_8 only)	118
Spectral data (U_3O_8 only)	11,021

GMEL shipped all the half-core for assaying to Genalysis Laboratories in Perth, Western Australia. The remaining half-cores are stored at the Company's operations base in Narsaq, Greenland. Samples were crushed to -3 mm, and then a 1 kg subsample was taken and pulverized to -75 μ m. A 50 g split was taken and used for multi-element analysis. In early work done by GMEL, both four acid digest and fusion methods were used for many elements during the analytical step, but later GMEL concluded that four acid digest alone was sufficient. After digestion, the samples were tested by either Inductively Coupled Plasma (ICP) Mass Spectrometry, or Inductively Coupled Plasma Optical Emission Spectrometry, depending on the element being measured.

The key components of GMEL's QA/QC program are:

1. Insertion of off-the-shelf REE and U Certified Reference Material from Ore Research Pty Ltd in the samples sent to Genalysis
2. Selection of 5-10% of the pulps from Genalysis to be check assayed by Ultratrace in Perth

SRK has analysed the QA/QC data, visited Genalysis' lab, reviewed the sampling and QA/QC reports done by GMEL since 2007, and done statistical checks of different generations and methods of sampling against each other. SRK concludes that the overall quality of the data in the Kvanefjeld database is very good, and that resource estimation can confidently be based on these data.

Geological Modeling

The lujavrite contacts were modeled by SRK using Leapfrog software. All the lithological logging in the database was converted to an indicator variable, i.e. coded as 1 or 0 depending on whether lujavrite or another rock type had been logged. The indicator variable was composited to 5 m, and then a 3D contour shell was generated from the composites. The anisotropy used for contouring was set from partial wireframe surfaces built in areas where the orientation of the lujavrite contacts is obvious; these orientations were therefore used to influence in the contouring in areas where correlations are more ambiguous.

Once the lujavrite domain had been established, GMEL and SRK looked at a number of different elements and combinations of elements that could be used to identify subdomains. Inter-element relationships were identified by geostatistical modeling conducted by GMEL, as part of an ongoing geometallurgy program. One of the most useful markers was found to be the ratio of either Zr or Hf to the heaviest rare earth elements. In particular, plotting the ratios of Hf to Yb revealed five statistical groups, and these groups were found to represent broadly coherent entities in three dimensions with distinctive REE and U grade distributions. The subtle differences in the groupings identified correspond to subtle differences in the relative abundance of the key ore minerals, most notably steenstrupine, lovozerite group minerals, and eudialyte-group minerals. Domain contacts were wireframed by SRK based on the Hf:Yb geochemical marker.

Geostatistical Modeling

SRK prepared the block model of estimated grades using Isatis and Gemcom Surpac software. Estimations were performed for the following variables:

- LREO (sum of La_2O_3 , CeO_2 , Pr_6O_{11} , Nd_2O_3 , Sm_2O_3)
- HREO (sum of Eu_2O_3 , Gd_2O_3 , Tb_4O_7 , Dy_2O_3 , Ho_2O_3 , Er_2O_3 , Tm_2O_3 , Yb_2O_3 , Lu_2O_3)
- Y_2O_3 (yttrium is not part of the lanthanide series, but is considered a REE, and behaves in a very similar manner to the heavy REEs of the lanthanide series)
- U_3O_8
- Zn

As noted above, there are more U_3O_8 assays in the database than REE and Zn assays, because spectral values are often available for U_3O_8 where no chemical assays were taken. One of the steps during data preparation was to use regression equations to infer missing LREO, HREO, Y_2O_3 , and Zn values from the available U_3O_8 values. The correlations between REE, Zn, and U are sufficiently strong for this regression method to be viable.

The raw data were composited to 5 m for statistical analysis and estimation. No top-cutting or restriction on the influence of the highest grades was applied. For all domains and variables, distributions are closer to normal than lognormal, the very highest and lowest values are not far removed from the mean, and the coefficients of variation (ratio of standard deviation to mean) are typically in the range 0.3 to 0.5.

LREO, HREO, Y_2O_3 , U_3O_8 , and Zn were estimated by *Ordinary Kriging* in a single pass within each of the five lujavrite domains, and also outside the lujavrite as a sixth domain. The domain contacts were set as hard boundaries. The block model parameters are given in Table 3 below:

Table 3: Block model parameters

Parameter		X	Y	Z
Area of interest for drill hole selection and modeling (Projection WGS84, Zone 23 North)	Minimum	444750	6759250	0
	Maximum	447000	6761250	850
Block dimensions (m)		35	35	10
Sub-block dimensions (m)		8.75	8.75	5
Discretisation		8	8	2
Rotation of block model		40° clockwise around Z axis		
Anisotropy used for variogram models and search domains		Dipping 15° towards 130		
Typical dimensions of the search ellipsoid		300 m x 300 m x 60 m		
Typical maximum number of samples selected in the kriging neighbourhood		32 (up to 4 samples per sector from 8 sectors)		

Bulk Density

A nominal value of 2.75 t/m³ was assigned to all blocks to convert volumes to tonnages. This value has been used for the previous Kvanefjeld resource estimations, and is supported by measurements taken on diamond drill core (at the completion of the 2008 field season 4212 density measurements had been taken).

Classification

SRK classified most of the Mineral Resource as Indicated. An Inferred component is made of up:

- Mineralisation outside the lujavrite
- Mineralisation in two isolated zones of lujavrite, intersected by only one drill hole each.
- Mineralisation at the lateral margins of the main lujavrite unit, and near the depth limit of the drilling coverage within the main lujavrite unit. Based on kriging quality and parameters generated during the Ordinary Kriging, SRK constructed a wireframe to separate the Indicated from the Inferred resources.

Table 3. Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project, March 2011.

Cut-off (U ₃ O ₈ ppm) ¹	Multi-Element Resources, Classification, Tonnage and Grade									Contained Metal				
	Classification	M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
150	Indicated	437	10929	274	9626	402	10029	900	2212	4.77	0.18	0.39	263	0.97
150	Inferred	182	9763	216	8630	356	8986	776	2134	1.78	0.06	0.14	86	0.39
150	Grand Total	619	10585	257	9333	389	9721	864	2189	6.55	0.24	0.53	350	1.36
200	Indicated	291	11849	325	10452	419	10871	978	2343	3.45	0.12	0.28	208	0.68
200	Inferred	79	11086	275	9932	343	10275	811	2478	0.88	0.03	0.06	48	0.20
200	Grand Total	370	11686	314	10341	403	10743	942	2372	4.32	0.15	0.35	256	0.88
250	Indicated	231	12312	352	10950	443	11281	1032	2363	2.84	0.10	0.24	178	0.55
250	Inferred	41	11251	324	10929	366	10426	825	2598	0.46	0.02	0.03	29	0.11
250	Grand Total	272	12152	347	10947	431	11152	1001	2398	3.30	0.12	0.27	208	0.65
300	Indicated	177	13013	374	11437	469	11906	1107	2414	2.30	0.08	0.20	146	0.43
300	Inferred	24	13120	362	11763	396	12158	962	2671	0.31	0.01	0.02	19	0.06
300	Grand Total	200	13025	373	11475	460	11935	1090	2444	2.61	0.09	0.22	164	0.49
350	Indicated	111	13735	404	12040	503	12543	1192	2487	1.52	0.06	0.13	98	0.27
350	Inferred	12	13729	403	12239	436	12675	1054	2826	0.16	0.01	0.01	10	0.03
350	Grand Total	122	13735	404	12059	497	12556	1179	2519	1.68	0.06	0.14	108	0.31

¹There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U₃O₈ has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

²Total Rare Earth Oxide (TREO) refers to the rare earth elements in the lanthanide series plus yttrium.

Note: Figures quoted may not sum due to rounding.

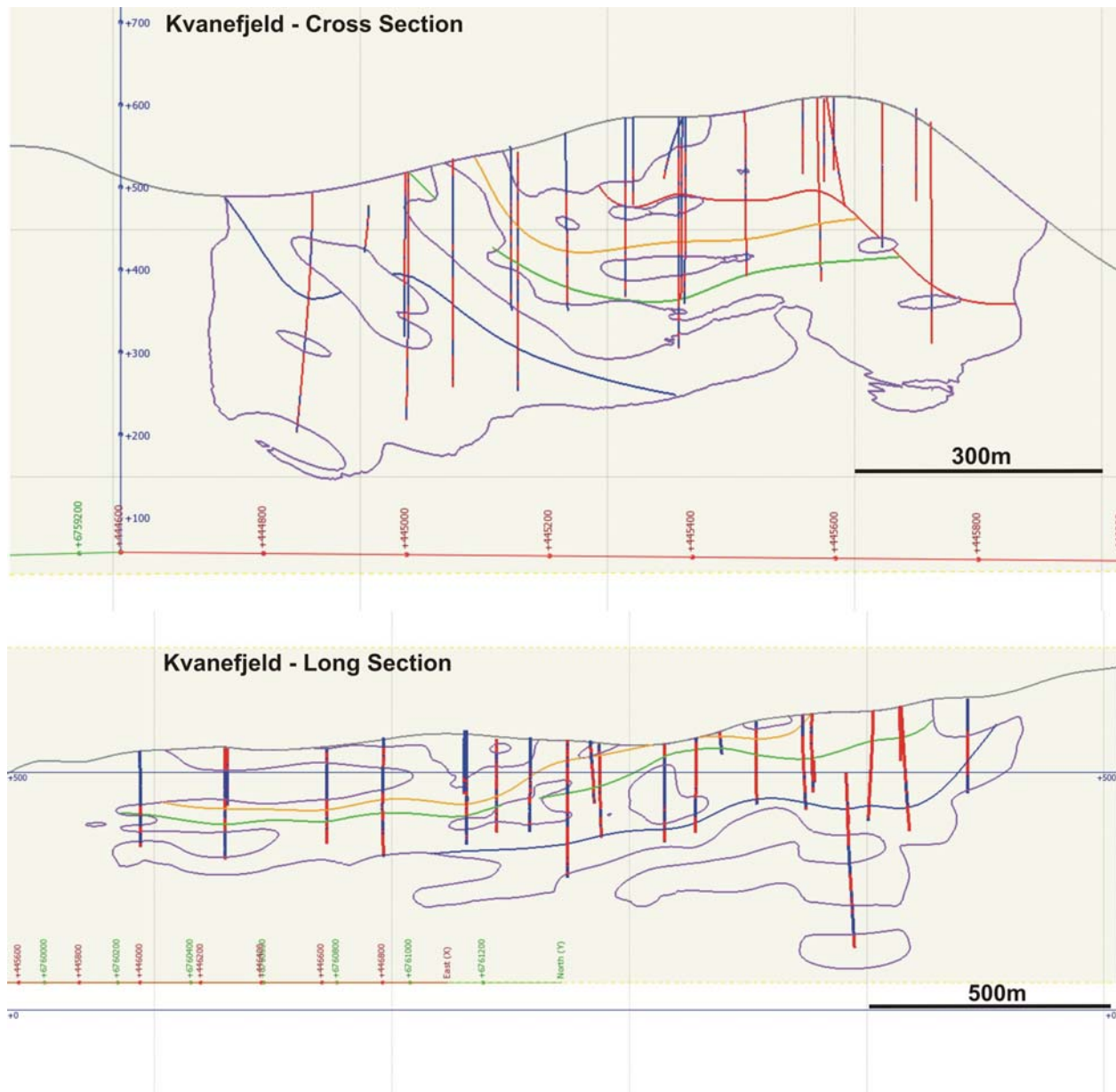
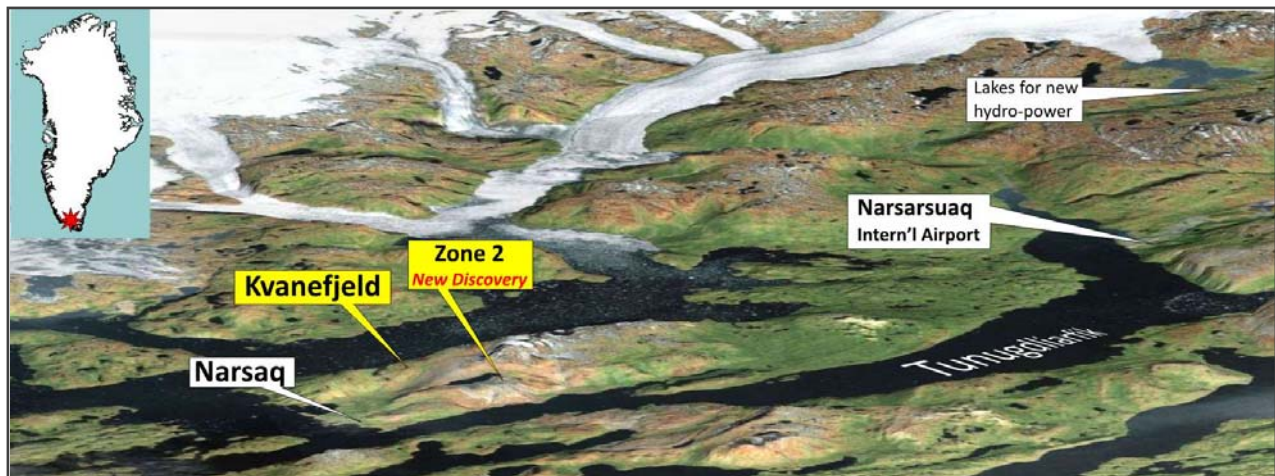


Figure 3. Sections through the Kvanefjeld deposit. Drill stings are coloured red for lujavrite, and blue for non-lujavrite. Purple represents the main lujavrite body. The red line in the cross section represents the medium-coarse grained lujavrite (MC), the blue line represents the contact between domains 2 and 3 the green line represents the contact between domains 3 and 4, and orange represents the contact between domains 4 and 5.

Summary

The new resource estimate for the Kvanefjeld project prepared by SRK Consulting represents the culmination of numerous work programs conducted by GMEL over 2009 and 2010. A strong emphasis has been placed on developing a resource estimate that is in close alignment with the geological characteristics of the deposit. The new estimate confirms Kvanefjeld's status as one of the world's largest REE-U resources, and sees improvements in key aspects including overall resources (619 Mt), Indicated resources (437 Mt), the definition of near-surface, higher grade zones, and overall contained metal.



View over the broader geography of GMEL's multi-element project on the northern Ilimaussaq Complex located in southern Greenland. The fjord system is open to the north Atlantic shipping lanes all year round. The distance from Narsaq to Narsarsuaq International Airport is 45km.

ABOUT GREENLAND MINERALS AND ENERGY LTD

Greenland Minerals and Energy Ltd (ASX – GGG) is an exploration and development company operating in southern Greenland. The Company's flagship project is the Kvanefjeld multi-element deposit (Rare Earth Elements, Uranium, Zinc), that is rapidly emerging as a premier specialty metals project. An interim report on pre-feasibility studies has demonstrated the potential for a large-scale multi-element mining operation. For further information on Greenland Minerals and Energy visit <http://www.ggg.gl> or contact:

Roderick McIlree*GMEL Managing Director***+61 (0) 8 938 22322****David Tasker (Australia)***Professional PR***+61 (0) 8 9388 0944****Laurence Read (UK)***Threadneedle PR***+44 (0)20 7653 9855**

Greenland Minerals and Energy Ltd is aware of and respects the Greenlandic government's stance on uranium exploration and development in Greenland – which is currently a zero tolerance approach. However, a new amendment has been introduced to the standard terms for exploration licenses in Greenland that creates a framework for the evaluation of projects that include uranium amongst other economic elements. Within this framework the Company is permitted to fully evaluate the Kvanefjeld project, inclusive of radioactive elements.

The Kvanefjeld Project is recognised as the world's largest undeveloped JORC-code compliant resource of rare earth oxides (REO), in a multi-element deposit that is also enriched in 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 continued community discussions on the social and economic benefits associated with the development of the Kvanefjeld Project.

The information in this report that relates to exploration results, geological interpretations, appropriateness of cut-off grades, and reasonable expectation of potential viability of quoted rare earth element, uranium, and zinc resources is based on information compiled by Jeremy Whybrow. Mr Whybrow is a director of the Company and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Whybrow has sufficient experience 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 by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Whybrow consents to the reporting of this information in the form and context in which it appears.

The geological model and geostatistical estimation for the Kvanefjeld deposit were prepared by Robin Simpson of SRK Consulting. Mr Simpson is a Member of the Australian Institute of Geoscientists (AIG), and has sufficient experience 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 by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Simpson consents to the reporting of information relating to the geological model and geostatistical estimation in the form and context in which it appears.