GREENLAND
MINERALS AND ENERGY LTD

ASX:GGG

Company Announcement, Wednesday 6th June, 2012

Zone 3 Mineral Resource Estimate Takes Kvanefjeld Project Global Resource Inventory to 575 Mlb's U_3O_8, 10.3 Mt's Total Rare Earth Oxide

Greenland Minerals and Energy Limited ("GMEL" or "the Company") is pleased to announce the first mineral resource estimate for the 'Zone 3' multi-element deposit. Zone 3 is the third deposit within the Northern Ilimaussaq project area for which a mineral resource estimate has been established. It follows on from the Kvanefjeld (619 Mt), and Zone 2 deposits (244 Mt). The Zone 3 resource estimate was independently prepared by SRK Consulting (SRK) and is reported in accordance with the Australian Joint Ore Reserve Committee (JORC) code.

Highlights:

- Zone 3 inferred mineral resource of **95 Million tonnes (Mt)*** **@ 300 ppm U_3O_8, 1.16 % total rare earth oxide (TREO)****, **0.28% zinc**

- Zone 3 contained metal inventory of **63 Mlbs U_3O_8, 1.11 Mt TREO**

- Global metal inventory now **575 Mlbs U_3O_8** and **10.3 Mt TREO; 2.24 Mt zinc** (at 150 ppm U_3O_8 cut-off)

- Rare earth resource inventory includes **370,000 t heavy REO, 840,000 t Y_2O_3**

- Zone 3 remains open to the north, south, west and at depth

- Zone 3 resources hosted by the same rock-type as Kvanefjeld; conducive to the same enhanced processing method as outlined in the recently released Prefeasibility Study (May, 2012)

**At 150 ppm U_3O_8 cut-off*
*** Total Rare Earth Oxide (TREO), refers to the elements in the lanthanide series + yttrium. Heavy Rare Earth Oxides (heavy REO), refers to the elements Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu*

PERTH: Unit 6 100 Railway Road, Subiaco Western Australia 6008 Postal: PO Box 2006 Subiaco WA 6904
Telephone: +61 8 9382 2322 Facsimile: +61 8 9382 2788
LONDON: First Floor 47 Charles Street, Mayfair, London W1J 5EL
GREENLAND: PO Box 156, Narsaq, Greenland 3921
WEB: www.ggg.gl EMAIL: info@ggg.gl ABN 85 118 463 004

Introduction

The Kvanefjeld, Zone 2 and Zone 3 multi-element deposits (uranium, REEs, zinc) are hosted within the northern portion of the Ilimaussaq Intrusive Complex, favorably located near existing infrastructure in southern Greenland. With the finalization of the initial mineral resource estimate at Zone 3, the broader Northern Ilimaussaq project area is clearly host to one of the world's largest resources of uranium and rare earth elements with a global metal inventory of 575 M lbs U_3O_8 and 10.33 Mt total rare earth oxide (TREO).

In May 2012 the Company released a prefeasibility study for the Kvanefjeld project that draws on major technical advances made during 2010 and 2011. The PFS is based on a highly efficient process flowsheet that involves flotation to capture the majority of REE-U bearing minerals into 10% of the original mass. This mineral concentrate is then leached conventionally under atmospheric conditions to extract >90% of uranium and heavy REEs. The PFS demonstrates the process route to be efficient with low technical risk, and strong economic metrics.

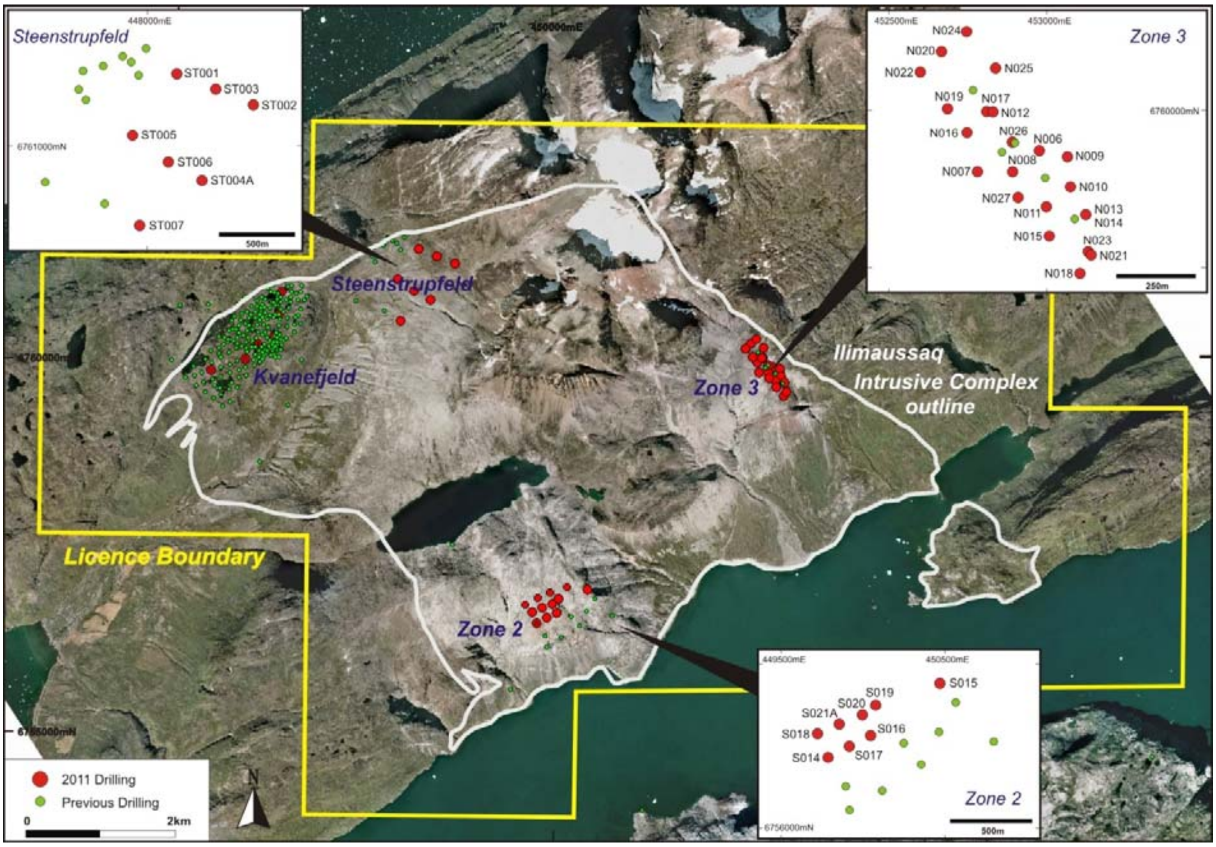

Figure 1. View over GMEL's multi-element project on the northern Ilimaussaq Complex in Greenland. Resources have been defined at Kvanefjeld, Zone 2 and Zone 3, with Steenstrupfeld representing another area of significant mineralisation. The distance from Kvanefjeld to Zone 2 is 6 km. The deposits identified represent the outcropping, and near surface expressions of a vast ore system that is interconnected at depth.

A regional exploration program has been running in tandem with the resource development and feasibility studies on Kvanefjeld since 2008. Deep exploration drill holes have demonstrated that lujavrite forms a thick sub-horizontal internal layer that extends through much of the northern Ilimaussaq Complex. The upper portions of the lujavrite horizon are strongly enriched in uranium, REEs and zinc, with some sections exceeding 150m in true thickness. GMEL has been targeting outcropping and near-surface lujavrite bodies with extensive uranium-REE mineralization now confirmed at Zone 2, Zone 3 and Steenstrupfjeld (Figure 1).

Zone 3 was discovered late in the 2008 field season when a series of initial holes were collared into outcropping lujavrite along the northeastern margin of the Ilimaussaq Complex. Further drilling was then undertaken in the 2011 field season. Mineralisation is hosted by lujavrite, consistent with mineralization at Kvanefjeld and Zone 2.

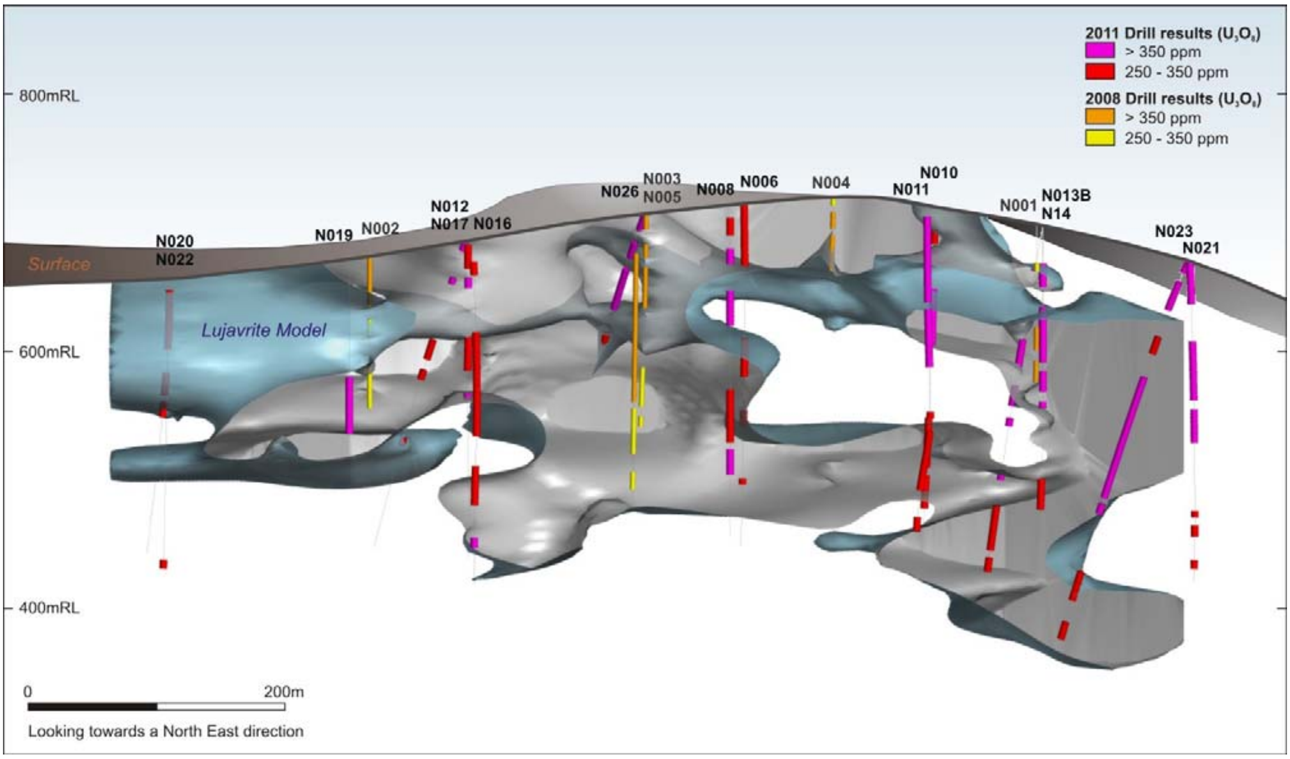

Figure 2. Long section through the Zone 3 resource model. The model captures the mineralized lujavrite envelope. The deposit remains open laterally and at depth.

Geology

The Ilimaussaq Intrusive Complex is known for the abundance of specialty-metal rich minerals that co-crystallised with the highly alkaline silicate rocks of the complex. The northern Ilimaussaq Complex is dominated by cubic kilometers of a sodalite-nepheline syenite known as *naujaite*. Intruding the voluminous naujaites is a suite of hyper-peralkaline syenites known as *lujavrites*. The lujavrites are distinguished from the naujaites by much higher contents of mafic minerals, strongly elevated contents of REEs, uranium and zinc amongst other metals.

The uppermost sections of lujavrite are the most enriched in REEs, uranium and zinc, where total REE concentrations can exceed 1.5%, and U_3O_8 can exceed 400 ppm. With increasing depth, grades of REEs and uranium drop to sub-economic levels. The thickness of the mineralized sections can exceed 250m in dome-like structural culminations, and such areas can persist over several square km's. The mineralized lujavrite sections are mostly preserved in the northern half of the Ilimaussaq complex. Uranium and all fifteen of the rare earth metals are mostly hosted within unusual, but readily leachable, phosphosilicate minerals, of which steenstrupine is dominant. Zinc is hosted by the sulphide-mineral sphalerite. Deep diamond drilling has shown that the known deposits are connected at depth by a sub-horizontal sill of lujavrite.

Drilling

Table 1 summarises the metres and number of holes drilled at Zone 3. All of the drilling has been by diamond coring. Drill hole spacing is approximately 100 m by 100 m. The drill holes are generally vertical or steeply dipping, most are at least 200 m deep, and the deepest is 320 m deep.

The core size used is BTW. Recovery is usually 100% or close to 100%.

Table 1: Summary of Zone 3 drilling by year

Year	Holes	Metres
2008	5	736
2011	23	5764
Total	28	6499

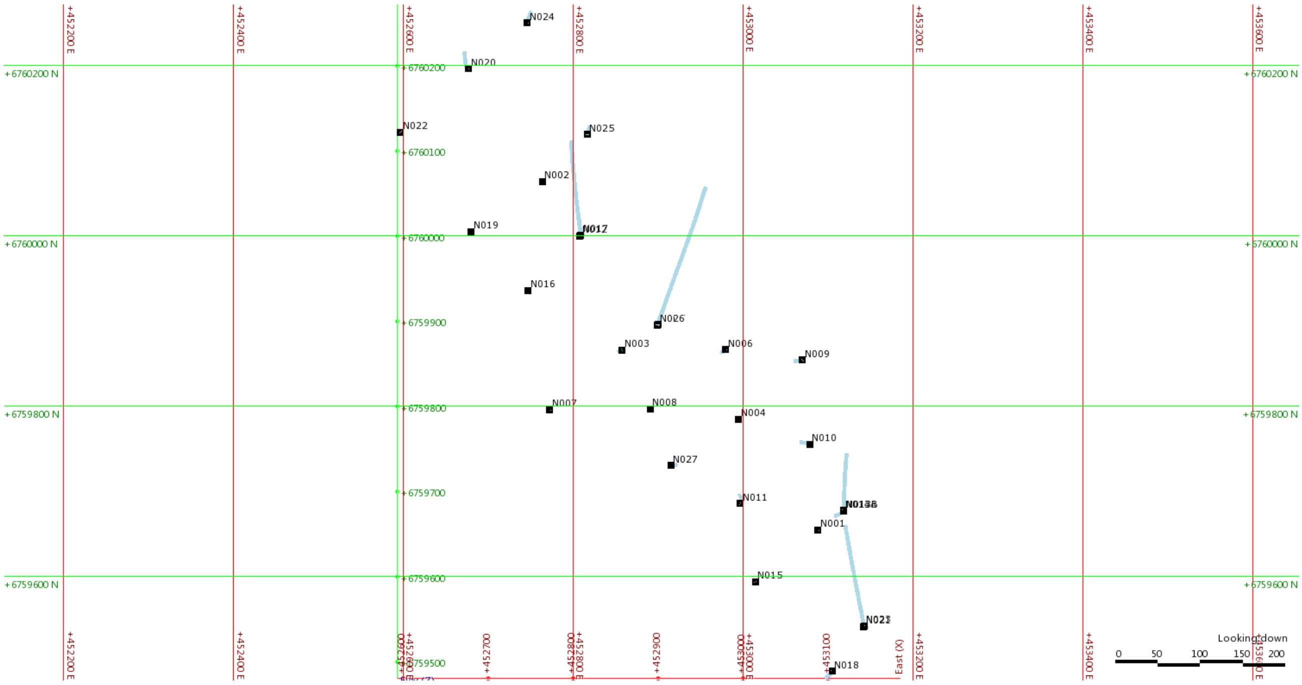

Figure 3: The Zone 3 drill hole layout. Scale bar increments represent 50 m. Most holes are drilled vertically.

Survey

Hole collars were picked up by ASIAQ, a Greenland-based surveying company. The holes were downhole surveyed using an Auslog Deviation Tool. Orientation data at 0.5 m increments are stored in the drill hole database.

Assays

Assaying has been done selectively on half-core. In general, intervals not selected for assaying are from the non-mineralized lithologies outside the lujavrite host. A fixed 1 m sample length was used.

There are 4,553 primary assays in the database for Zone 3. The assay table contains values for elements of economic significance at Kvanefjeld, such as the lanthanide series, Y, U, and Zn. In addition, many other elements have been 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.

GMEL shipped all the half-core for assaying to Genalysis Laboratories in Perth, Western Australia. Samples were crushed to -3 mm, and then a 1 kg subsample was taken and pulverized to -75 µm. A 50 g split was taken and used for multi-element analysis. After a four acid digest stage, 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 for the Kvanefjeld Project 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 and reviewed the sampling and QA/QC reports done by GMEL since 2007. SRK concludes that the overall quality of GMEL's database for the Kvanefjeld Project in general and the Zone 3 deposit in particular are good, and that resource estimation can confidently be based on these data.

Geological Modelling

The lujavrite contacts were modelled by SRK using Leapfrog software. The Leapfrog model drew on the core logging done by GMEL's geologists and stored in the lithology table of the database. Leapfrog grouped the logging codes into two main sets: the mineralized lithologies (the various lujavrite codes) and waste (most of the other codes, mainly naujaite).

From these groupings, the limits of mineralization were modelled in a similar manner to 3D contouring of a simple indicator value, but with two important enhancements. Firstly, as part of the processing of the lithology codes, Leapfrog not only flags a composite as mineralized or waste, but also attaches a distance from the composite to the downhole contact between mineralization and waste. Leapfrog uses these distances to influence the subsequent contouring.

The second key feature of the automated wireframing is that the anisotropy used for contouring could be set from partial wireframe surfaces built in areas where the orientation of the lujavrite contacts is obvious; these orientations were then used to influence in the contouring in areas where correlations are more ambiguous.

For the main Kvanefjeld deposit and Zone 2, GMEL and SRK had found that the ratio of either Zr or Hf to the heaviest rare earth elements was useful as a geochemical marker for defining spatially coherent subdomains with statistically distinctive REE and U grade distributions. SRK investigated whether or not similar geochemical subdomaining would be appropriate for Zone 3. SRK's conclusions was that, based on the current data, there was no compelling case for further subdomaining, and a single lujavrite domain would be sufficient for the Zone 3 estimation.

Geostatistical Modelling

SRK prepared the block model of estimated grades using Isatis and Gemcom Surpac software. Estimation was done 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
- U_3O_8

- Zn

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 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 in the range 0.30 to 0.40.

LREO, HREO, Y_2O_3, U_3O_8, and Zn were estimated by a single pass of Ordinary Kriging. The domain contacts were set as hard boundaries. The block model parameters are given in Table 2 below:

Table 2: Block model parameters

<table>
<tr><th colspan="2">Parameter</th><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td rowspan="2">Area of interest for drill hole selection and modelling
(Projection WGS84, Zone 23 North)</td><td>Minimum</td><td>452100</td><td>6759100</td><td>250</td></tr>
<tr><td>Maximum</td><td>453600</td><td>6760900</td><td>1050</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Block dimensions (m)</td><td>50</td><td>50</td><td>10</td></tr>
<tr><td colspan="2">Sub-block dimensions (m)</td><td>12.5</td><td>12.5</td><td>5</td></tr>
<tr><td colspan="2">Discretisation</td><td>8</td><td>8</td><td>2</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Rotation of block model</td><td colspan="3">None</td></tr>
<tr><td colspan="2">Anisotropy used for variogram models and search domains</td><td colspan="3">Plane dipping 15 towards 225, with principal axes along strike</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td colspan="2">Dimensions of the search ellipsoid</td><td colspan="3">300 m x 300 m x 60 m</td></tr>
<tr><td colspan="2">Maximum number of samples selected in the kriging neighbourhood</td><td colspan="3">40 (up to 5 samples per sector from 8 sectors)</td></tr>
</table>

Bulk Density

A value of 2.75 t/m^3 was assigned to all blocks to convert volumes to tonnages. This density is the same as was used for Kvanefjeld main.

Classification

SRK classified the Mineral Resource as Inferred. SRK considers that the current drill hole spacing is insufficient to justify a higher classification. In particular, the current drill hole spacing is too wide to define geological continuity with high confidence. SRK expects that drill hole spacing over most of Zone 3 would need to be reduced to around 50 m before an Indicated Mineral Resource classification could be considered. Note that the geometry of the lujavrite domain is more complex and variable over shorter distances than the lujavrite domains for Kvanefjeld main and Zone 2. For Kvanefjeld main and Zone 2, a wider drill spacing (100 m or more) would be sufficient to define geological continuity. See Table 3 for the Zone 3 mineral resource estimate.

GREENLAND
MINERALS AND ENERGY LTD

Table 3. Statement of identified mineral resources, Zone 3 Multi-Element Deposit, May 2012

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off	**Classification**	**M tonnes**	**TREO**[2]	**U_3O_8**	**LREO**	**HREO**	**REO**	**Y_2O_3**	**Zn**	**TREO**	**HREO**	**Y_2O_3**	**U_3O_8**	**Zn**
(U_3O_8 ppm)[1]		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt
150	**Inferred**	95.3	11609	300	10242	396	10638	971	2768	1.11	0.04	0.09	63	0.26
200	**Inferred**	88.5	11665	310	10276	400	10676	989	2806	1.03	0.04	0.09	60	0.25
250	**Inferred**	70.6	11907	330	10471	410	10882	1026	2902	0.84	0.03	0.07	51	0.2
300	**Inferred**	47	12407	358	10887	433	11319	1087	3008	0.58	0.02	0.05	37	0.14
350	**Inferred**	23.9	13048	392	11392	471	11864	1184	3043	0.31	0.01	0.03	21	0.07

[1]There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U_3O_8 has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

[2]Total 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.

Table 4. Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U_3O_8 ppm)[1]	**Classification**	**M tonnes** Mt	**TREO**[2] ppm	**U_3O_8** ppm	**LREO** ppm	**HREO** ppm	**REO** ppm	**Y_2O_3** ppm	**Zn** ppm	**TREO** Mt	**HREO** Mt	**Y_2O_3** Mt	**U_3O_8** M lbs	**Zn** Mt
Kvanefjeld - March 2011														
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	12429	352	10950	443	11389	1041	2363	**0.24**	2.53	2.63	**178**	0.55
250	**Inferred**	41	12204	324	10929	366	11319	886	2598	**0.04**	0.45	0.46	**29**	0.11
250	**Grand Total**	272	12395	347	10947	431	11378	1017	2398	**0.28**	2.98	3.09	**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
Zone 2 - March 2012														
150	**Inferred**	242	11022	304	9729	398	10127	895	2602	**2.67**	0.10	0.22	**162**	0.63
200	**Inferred**	186	11554	344	10223	399	10622	932	2802	**2.15**	0.07	0.17	**141**	0.52
250	**Inferred**	148	11847	375	10480	407	10887	961	2932	**1.75**	0.06	0.14	**123**	0.43
300	**Inferred**	119	12068	400	10671	414	11084	983	3023	**1.44**	0.05	0.12	**105**	0.36
350	**Inferred**	92	12393	422	10967	422	11389	1004	3080	**1.14**	0.04	0.09	**85**	0.28
Zone 3 - May 2012														
150	**Inferred**	95	11609	300	10242	396	10638	971	2768	**1.11**	0.04	0.09	**63**	0.26
200	**Inferred**	89	11665	310	10276	400	10676	989	2806	**1.03**	0.04	0.09	**60**	0.25
250	**Inferred**	71	11907	330	10471	410	10882	1026	2902	**0.84**	0.03	0.07	**51**	0.2
300	**Inferred**	47	12407	358	10887	433	11319	1087	3008	**0.58**	0.02	0.05	**37**	0.14
350	**Inferred**	24	13048	392	11392	471	11864	1184	3043	**0.31**	0.01	0.03	**21**	0.07
Project Total														
Cut-off (U_3O_8 ppm)[1]	**Classification**	**M tonnes** Mt	**TREO**[2] ppm	**U_3O_8** ppm	**LREO** ppm	**HREO** ppm	**REO** ppm	**Y_2O_3** ppm	**Zn** ppm	**TREO** Mt	**HREO** Mt	**Y_2O_3** Mt	**U_3O_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**	520	10687	272	9437	383	9820	867	2468	**5.55**	0.20	0.45	**312**	1.28
150	**Grand Total**	956	10798	273	9524	392	9915	882	2351	**10.33**	0.37	0.84	**575**	2.25

[1]There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U_3O_8 has therefore been used to define the cut-off grades to maximise the confidence in the resource calculations.

[2]Total 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.

ABOUT GREENLAND MINERALS AND ENERGY LTD.

Greenland Minerals and Energy Ltd (ASX – GGG) is an exploration and development company focused on developing high-quality mineral projects in 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 Mcillree
Managing Director
+61 8 9382 2322

Christian Olesen (DK)
Rostra Kommunikation
+45 (0)3336 0429

Greenland Minerals and Energy Ltd will continue to advance the Kvanefjeld 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 targets, 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 Mr 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, Zone 2 and Zone 3 deposits 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.