



Company Announcement, Wednesday 21st March, 2012

Greenland Minerals Releases Initial Mineral Resource Estimate for the 'Zone 2' Uranium - Rare Earth Deposit

Greenland Minerals and Energy Limited ("GMEL" or "the Company", ASX:GGG) is pleased to announce the first mineral resource estimate for the 'Zone 2' multi-element deposit. Zone 2 is the second mineral resource established in the broader project area, following the delineation of a 619 Mt resource at Kvanefjeld (March 2011). The Zone 2 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 2 inferred mineral resource of **242 Million tonnes (Mt)* @ 304 ppm U₃O₈, 1.1 % total rare earth oxide (TREO)****, **0.26% zinc**
- Zone 2 contained metal inventory of **162 Mlbs U₃O₈, 2.67 Mt TREO**
- Global metal inventory now **512 Mlbs U₃O₈** (increase of 46%) and **9.2 Mt TREO** (increase of 39%); **1.98 Mt zinc** (at 150 ppm U₃O₈ cut-off)
- Rare earth resource inventory includes **330,000 t heavy REO, 740,000 t Y₂O₃**
- Higher grade upper ore zone of **119 million tonnes @ 400 ppm U₃O₈, 1.2% TREO**
- Zone 2 remains open towards the Kvanefjeld deposit located 6 km to the north
- Zone 2 resources hosted by the same rock-type as Kvanefjeld; conducive to the same enhanced processing method established for Kvanefjeld
- **Zone 3** drill assay results soon to be finalised, with initial Zone 3 mineral resource estimate anticipated in the coming weeks

*At 150 ppm U₃O₈ 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



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. The establishment of an initial mineral resource estimate at Zone 2, announced herein, further demonstrates that the broader northern Ilimaussaq project area is clearly host to one of the largest resources of uranium and rare earth elements globally.

In 2011 and early 2012 the Company made major technical advances in processing the extensive resource base, by firstly identifying a means to effectively beneficiate the ores, then demonstrating that >90% of uranium and heavy REEs can be leached from the mineral concentrates with a conventional leach under atmospheric conditions. These key developments form the basis of a simple, efficient flowsheet with low technical risk (*for more information visit the Company's website at <http://www.ggg.gl>*).

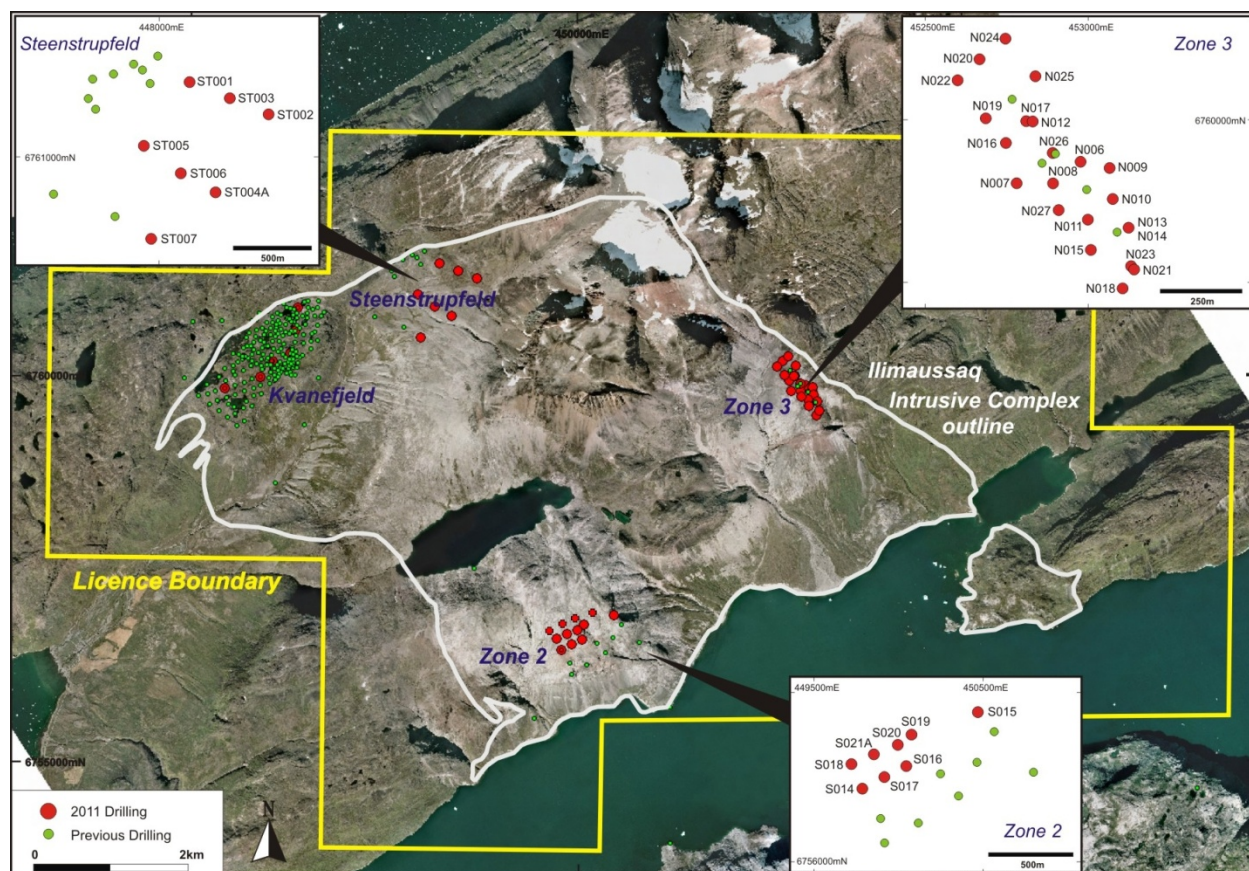


Figure 1. View over GMEL's multi-element project on the northern Ilimaussaq Complex in Greenland. Resources have been defined at Kvanefjeld and Zone 2, with Steenstrupfjeld and Zone 3 representing new areas of significant mineralisation. The distance from Kvanefjeld to Zone 2 is 6 km. The deposits identified 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. Drill results from Zone 3 and Steenstrupfjeld are anticipated to be released in the coming weeks, followed by an initial resource estimate at Zone 3.

Zone 2 was discovered in a single hole, S001 (see below), late in the 2008 field season. A further 22 holes have been completed at Zone 2 with results progressively announced during 2011 and 2012. The Zone 2 drill program has yielded consistent intersections from a high-grade zone equal to the best drill results from the high-grade domain of the Kvanefjeld deposit.

Significant drill intercepts from Zone 2 include:

- S006 185m @ 442 ppm U₃O₈, 1.2% TREO, 0.34% Zn
- S002 131m @ 447 ppm U₃O₈, 1.3% TREO, 0.34% Zn
- S001 116m @ 440 ppm U₃O₈, 1.2% TREO, 0.34% Zn
- S018 66m @ 474 ppm U₃O₈, 1.5% TREO, 0.34% Zn
- S016 65m @ 417 ppm U₃O₈, 1.3% TREO, 0.33% Zn
- S008 64m @ 462 ppm U₃O₈, 1.3% TREO, 0.33% Zn
- S019 60m @ 486 ppm U₃O₈, 1.1% TREO, 0.34% Zn
- S020 52m @ 452 ppm U₃O₈, 1.5% TREO, 0.33% Zn
- S013 45m @ 443 ppm U₃O₈, 1.7% TREO, 0.35% Zn
- S003 42m @ 463 ppm U₃O₈, 1.4% TREO, 0.39% Zn
- S003 46m @ 415 ppm U₃O₈, 1.5% TREO, 0.37% Zn
- S015 39m @ 449 ppm U₃O₈, 1.3% TREO, 0.37% Zn

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 naujaite is a suite of hyper-peralkaline syenites known as *lujavrites*. The lujavrites are distinguished from the naujaite by much higher contents of mafic minerals, markedly 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.



Figure 2. View of Zone 2 lujavrite mineralisation from Tunugdliarfik Fjord looking to the Northwest, Zone 2 in BLUE, and Zone 3 (several kilometres away refer Figure 1) in GREEN. Vertical relief is 800m from sea-level to ridge-crest.

The Zone 2 deposit is located below a cap of naujaite, approximately 6 kms south of Kvanefjeld. The initial discovery drill hole at Zone 2 (S001) was completed close to the end of the 2008 field season. The target was a large body of lujavrite visible from Tunugdliarfik fjord (Figure 2). Radiometric surveys suggested a promising grade profile, and potentially higher grade than resources defined at Kvanefjeld. Subsequent drilling defined two thick, sub-horizontal sills of lujavrite (Figure 3), with a similar mineralogical and geochemical signature to Kvanefjeld.

The most notable similarity between Kvanefjeld and Zone 2 is the clear trend of improving uranium and rare earth grades with proximity to the surface, with the uppermost sill at Zone 2 showing similar, if not better uranium grades, than the upper uranium-rich zone at Kvanefjeld.

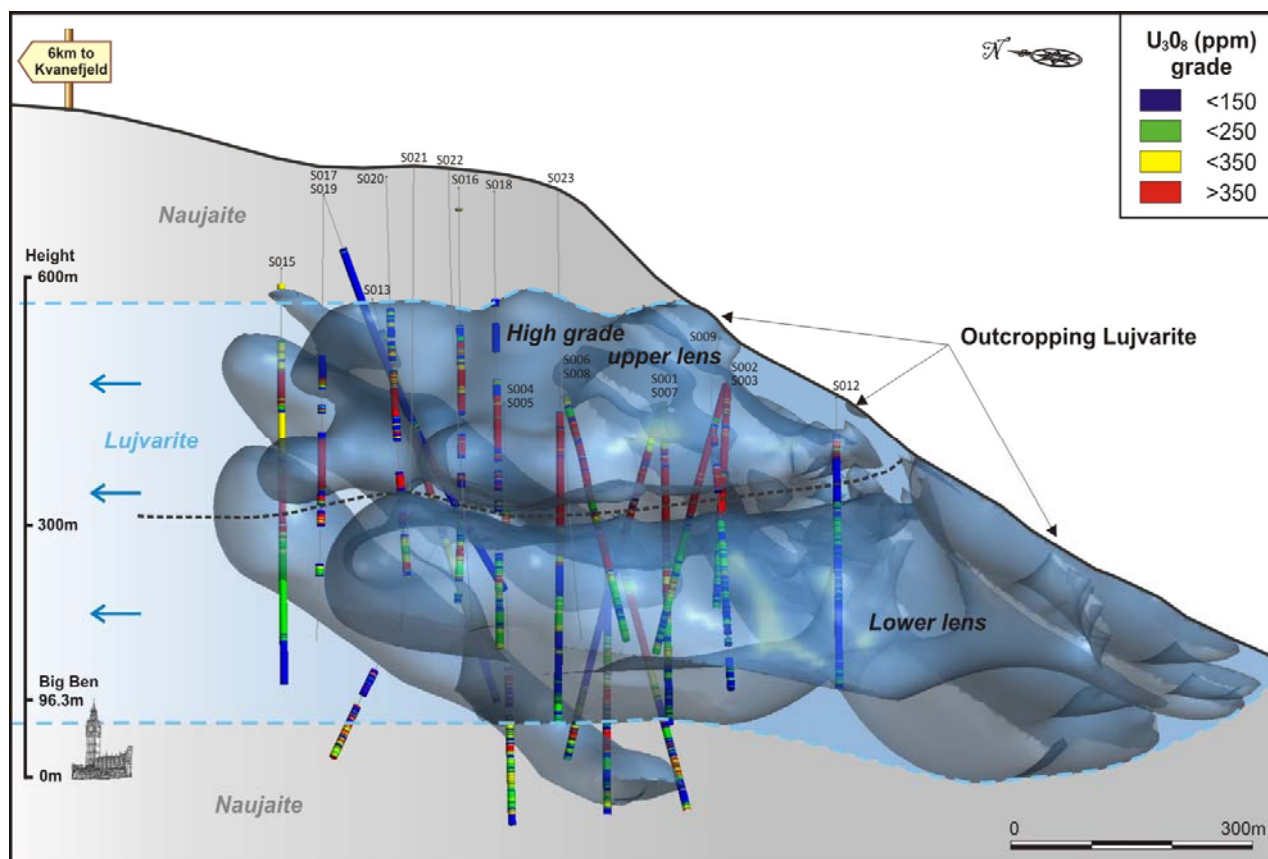


Figure 3. Long section through the geological model of the Zone 2 deposit. The model is constrained by both drill intersections and outcrop mapping of the lujavrite horizon (see also Figure 2). The deposit remains open to the north (left of page), with the lujavrite horizon undulating for 6km to the northern contact of the Ilimaussaq Complex where Kvanefield is located. Zone 2 is characterised by improving grades with proximity to surface. The model was generated using Leapfrog™ software. Big Ben, a well-known tall landmark, is shown at same scale to allow an appreciation of the vertical dimensions of Zone 2.

Drilling and Surveying

Table 1 summarises the metres and number of holes drilled at Zone 2. All the drilling has been by BTW diameter diamond coring. The drill hole array covers an area of 800m x 500m (see Figure 4), with a spacing that varies from 150m x 150m in the northwest part of the deposit, up to 300m elsewhere, and extends to depths of at least 350m. Recovery is generally 100% or close to 100%. Hole collars were picked up by ASIAQ, a Greenland-based surveying company, using an RTK-GPS system. The holes were downhole surveyed by GMEL using a single-shot Reflex tool at 50m intervals.

Table 1. Summary of Zone 2 drilling by year

Year	Holes	Metres
2008	1	389
2010	12	4639
2011	10	5323
Total	23	10351

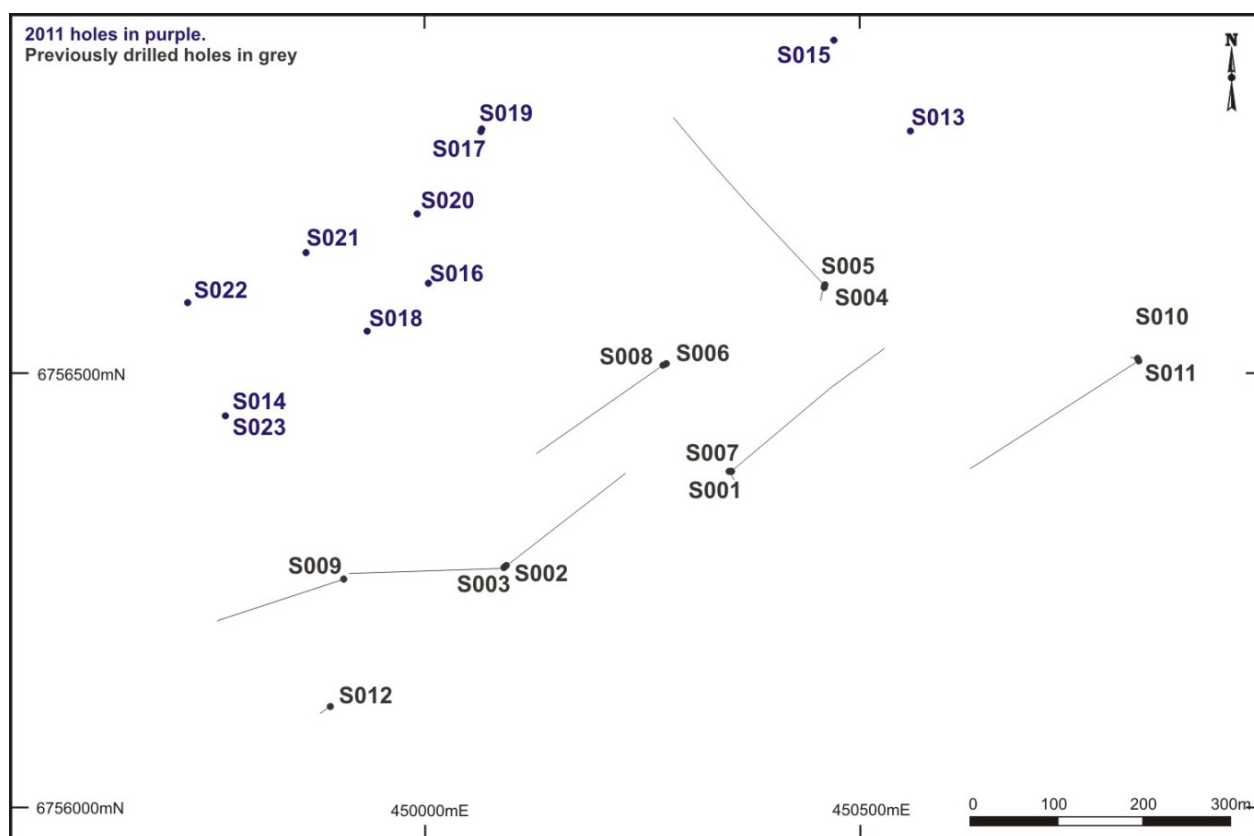


Figure 4 View of Zone 2 drill hole layout (coordinates in UTM Zone 23N WGS84 datum).

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 4,874 primary assays in the database for Zone 2. 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 2 deposit in particular are good, and that resource estimation can confidently be based on these data.

Geological Modeling

The lujavrite contacts were modeled 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 modeled 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 Leapfrog boundary modeling tools also allowed SRK to include surface mapping (done by GMEL geologists in 2010) as a control and constraint on the automated wireframing of Zone 2.

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, 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 applied this knowledge to Zone 2, and found that the ratio of Hf to Yb₂O₃ was an effective guide for manual wireframing of a shallow-dipping surface

that divides the lujavrite mineralization into two subdomains.

For Zone 2, the critical threshold for Hf to Yb₂O₃ ratios appeared to be about 1. The upper subdomain corresponds to Hf to Yb₂O₃ ratios of below 1, and generally higher U and HREE grades than the lower subdomain.

Geostatistical Modeling

SRK prepared the block model of estimated grades using Isatis and Gemcom Surpac software. Estimation was done for the following variables:

- LREO (sum of La₂O₃, CeO₂, Pr₆O₁₁, Nd₂O₃, Sm₂O₃)
- HREO (sum of Eu₂O₃, Gd₂O₃, Tb₄O₇, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃)
- Y₂O₃
- U₃O₈
- 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 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 0.25 to 0.40.

LREO, HREO, Y₂O₃, U₃O₈, and Zn were estimated by Ordinary Kriging in two passes within each of the two lujavrite domains. 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	448500	6755000	-490
	Maximum	452020	6758040	800
Block dimensions (m)		80	80	10
Sub-block dimensions (m)		10	10	5
Discretisation		8	8	2
Rotation of block model		None		
Anisotropy used for variogram models and search domains		Horizontal plane, with azimuth of 135 for principal direction		
Dimensions of the search ellipsoid		300m x 300m x 60m (first pass)		

	60 m x 600m x 100m (second pass)
Maximum number of samples selected in the kriging neighbourhood	40(up to 5 samples per sector from 8 sectors)

Bulk Density

A value of 2.8 t/m³ was assigned to all blocks to convert volumes to tonnages. The deposit SG is based on an average of 484 measurements on drill core.

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 drill hole spacing is large compared to the ranges of the variograms for Zone 2. During fitting of the Zone 2 variogram models, SRK had to apply some assumed values based on the knowledge of the main Kvanefjeld deposit several km to the northeast. The current drill hole spacing is also too wide to define geological continuity with high confidence.

Table 4. Statement of identified mineral resources, Zone 2 Multi-Element Deposit, March 2012

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	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

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.

Table 5. Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U ₃ O ₈ ppm) ¹	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
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
Project Total														
Cut-off (U ₃ O ₈ ppm) ¹	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	424	10480	266	9257	380	9636	844	2401	4.45	0.16	0.36	249	1.02
150	Grand Total	861	10708	270	9444	391	9835	873	2305	9.22	0.34	0.75	512	1.98

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.

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:

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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 and Zone 2 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.