

# Greenland Minerals 'Zone 3' Rare Earth – Uranium Deposit Shapes Up With Solid Drill Intercepts

Company Announcement Tuesday, 27<sup>th</sup> March, 2012

Impressive results of the 2011 drilling at *Zone 3* on the northern Ilimaussaq Complex highlight the presence of a third significant multi-element deposit after Kvanefjeld and Zone 2. The drill results will form the basis of an initial mineral resource estimate for Zone 3, anticipated in the coming weeks. This will mark another significant step in the projects overall resource base, which already includes a metal inventory of 512 Mlbs U<sub>3</sub>O<sub>8</sub>, 9.2 Mt total rare earth oxide (TREO), and 4.36 Blbs zinc.

## **Significant 2011 Zone 3 Intercepts Include:**

- NO23 101m @ 435ppm U₃O₂, 1.56% TREO, 0.30% Zn
- N009 **68m @ 410**ppm **U**<sub>3</sub>**O**<sub>8</sub>, 1.35% TREO, 0.31% Zn
- NO11 67m @ 401ppm U₃O₃, 1.49% TREO, 0.38% Zn
- N016 **81m @ 308**ppm U<sub>3</sub>O<sub>8</sub>, 1.20% TREO, 0.35% Zn
- *N007* **71m @ 350**ppm **U**<sub>3</sub>**O**<sub>8</sub>, 1.10% TREO, 0.26% Zn
- N010 44m @ 447ppm U₃O<sub>8</sub>, 1.46% TREO, 0.31% Zn
- NO21 46m @ 420ppm U₃O<sub>8</sub>, 1.44% TREO, 0.27% Zn
- > Zone 3 intercepts firm up a third significant multi-element deposit within the project area
- > The grade and continuity of multi-element intercepts support the aim of adding more resource tonnes at the upper end of the grade range
- Mineralisation at Zone 3 outcrops extensively, with higher grade portions near surface
- Zone 3 mineralisation hosted by lujavrite, and is consistent with that at Kvanefjeld and Zone 2
   \*TREO = rare earth oxides in the lanthanide series, plus yttrium oxide







## Introduction

Greenland Minerals and Energy Ltd ('GMEL' or 'the Company') 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 now demonstrated to host one of the world's largest multi-element resources of rare earth elements and uranium. Mineral resources at Kvanefjeld now stand at **619 Mt** (JORC-code compliant), with a further **242 Mt** now established at Zone 2. Combined, the two resources include a metal inventory of 512 Mlbs U<sub>3</sub>O<sub>8</sub>, 9.2 Mt total rare earth oxide, and 4.36 Blbs of zinc.

Kvanefjeld is a highly-accessible resource that outcrops on a broad plateau, with the higher grade portions located close to surface. Adjacent deep-water fjords provide shipping access directly to the project area. An international airport is located 35km away, and a nearby lake system has been positively evaluated for hydroelectric power.

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* <a href="http://www.ggg.gl">http://www.ggg.gl</a>).

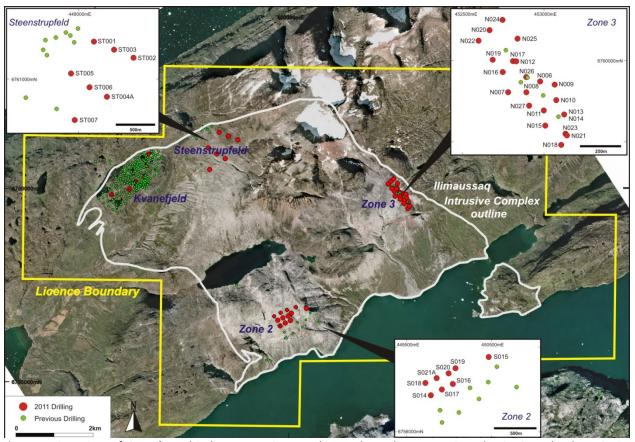
Importantly, the Greenland government recently introduced a uranium licensing framework for the Kvanefjeld project. This provides a clear path to see the project move through the feasibility phase and ultimately into mine development.

The Company's aim is to be a cost-effective producer of metals of fundamental strategic importance and value to tomorrow's world. Rare earth elements (REEs) are now recognised as being critical to the global manufacturing base of many emerging consumer items and green technologies. However, China controls more than 95% of global REE supply, and has maintained a policy of significantly reducing export quotas. This continues to raise serious concerns to non-Chinese consumers over the long-term stability of REE supply and pricing, at a time when REE-demand continues to grow. Uranium forms a critical part of the global base-load energy supply, with demand set to grow in coming years as developing nations expand their energy capacity.



## **2011 Field Program: Northern Ilimaussaq Complex**

In 2010, Greenland Minerals and Energy Ltd ("GMEL") unearthed two significant new multielement (REE, U, Zn) deposits within the northern Ilimaussaq complex; Zones 2 and 3. Significantly, these deposits demonstrated that mineralisation is far more widespread than previously recognised (Figure 1). Geological evidence suggests that Zones 2 and 3 represent outcropping, or near-surface expressions of a mineralised system that extends over several kilometres from Kvanefjeld, and is interconnected at depth. Following the highly encouraging initial drill results that were generated between 2008 and 2010, GMEL set about drilling sufficient drill holes in 2011 to generate initial resource estimates for both Zones 2 and 3. The aim is to increase resources at the upper end of the grade range established for resources already defined at Kvanefjeld.



**Figure 1**. Overview of GMEL's multi-element project on the northern Ilimaussaq Complex in Greenland. A JORC-code compliant 619Mt resource has been defined at Kvanefjeld, with a further 242 Mt's now established at Zone 2. The 2011 drill program concentrated on Zones 2 and 3.



#### Resource Drilling – Zone 3

The Zone 3 area, located along the northeastern margin of the Ilimaussaq Complex, was first recognized as a point of potential mineral resource interest during 1964 when the entire Ilimaussaq complex was geologically mapped under the supervision of the Geological Survey of Greenland (J. Ferguson). The area is dominated by outcropping black lujavrite over a strike length of greater than 600m. Similar to the established mineral deposits at Kvanefjeld and Zone 2, the Zone 3 area preserves the upper portion of a large lujavrite body.

In 2008 a total of 737 metres were drilled into Zone 3. This drilling was planned on the results of GMEL geological mapping and a ground-based radiometric survey completed early in that field season. Five drill holes were completed to test more than 500m of strike extent of the mineralisation. The significant intercepts reported previously were:

- NOO3 116m @ 363 ppm U<sub>3</sub>O<sub>8</sub>, 1.3% TREO, 0.35% Zn
- N002 43m @ 379 ppm U<sub>3</sub>O<sub>8</sub>, 1.4% TREO, 0.38% Zn
- NOO4 28m @ 460 ppm U₃O<sub>8</sub>, 1.2% TREO, 0.36% Zn
- N001 18m @ 462 ppm U<sub>3</sub>O<sub>8</sub>, 1.5% TREO, 0.32% Zn

The 2008 drilling confirmed the presence of a large lujavrite body, partially unroofed and outcropping that appeared to form consistent layers. In general the grade of the mineralisation is higher near surface, but this is not as clearly defined as that at Kvanefjeld and Zone 2. All 2008 drill holes intersected mineralisation which remained open in all directions.

The 2011 drilling was designed to extend the strike and width of the lujavrite to depths of around 250m below surface. A total of 21 drill holes were completed and significant results including:

- NO23 101m @ 434ppm U<sub>3</sub>O<sub>8</sub>, 1.56% TREO, 0.30% Zn
- N009 68m @ 410ppm U<sub>3</sub>O<sub>8</sub>, 1.35% TREO, 0.31% Zn
- N011 **67m** @ **400**ppm U<sub>3</sub>O<sub>8</sub>, **1.49% TREO**, **0.38% Zn**
- N016 81m @ 308ppm U<sub>3</sub>O<sub>8</sub>, 1.20% TREO, 0.35% Zn
- *N007* **71m** @ **349**ppm **U**<sub>3</sub>**O**<sub>8</sub>, **1.10% TREO**, **0.26% Zn**
- N010 44m @ 446ppm U<sub>3</sub>O<sub>8</sub>, 1.45% TREO, 0.31% Zn
- NO21 46m @ 420ppm U<sub>3</sub>O<sub>8</sub>, 1.44% TREO, 0.27% Zn



The drill hole array at Zone 3 now covers an area of greater than 800m by 200m, and extends to depths of approximately 250m. Lujavrite was intersected in all drill holes with mineralisation remaining open in all directions; however, greatest potential for further expansion lies to the east as lujavrite dips back into the interior of the Ilimaussaq complex.

Surface mapping of extensive outcrops has been conducted as a further constraint to be utilised in the resource estimation process. Significantly, this mapping has located more outcropping lujavrite around 800m north-west from Zone 3.

## **Resource Modeling**

The initial JORC-code compliant resource estimate on Zones 3 is anticipated to be finalised in early Q2, 2012. The resource estimate will be produced independently by SRK Consulting following the methodology established for the Kvanefjeld and Zone 2 mineral resource estimates.



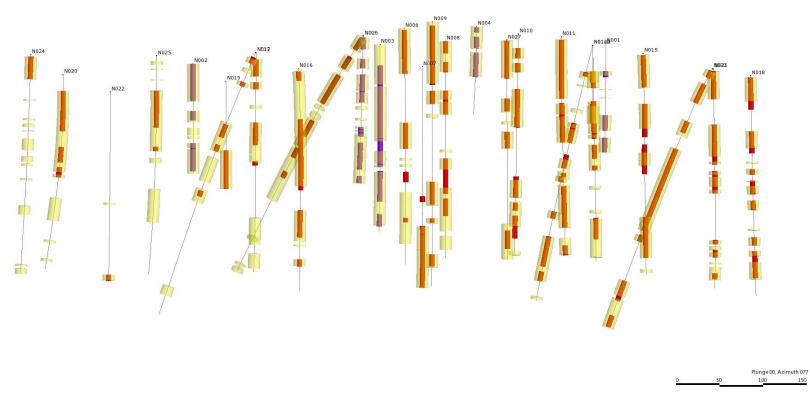


Figure 2. Long-section view of the drilling conducted at Zone 3 to date. The section is oriented NW-SE, looking toward the northeast, and the scale bar indicates 150m in 50 metre increments. The drill traces highlight lujavrite in transparent yellow (rock type that hosts the REE-U-Zn mineralisation), with significant multi-element intercepts highlighted in orange (2011 drilling), and purple (2008 drilling). Drill hole collars are labelled and intercept details are listed in Table 1.



**Table 1.** Zone 3 drill results.

Area	Hole _ID	From (m)	<b>To</b> (m)	Interval (m)	U₃O <sub>8</sub> ppm	TREO ppm	<b>Zn</b> ppm
Zone3	N023	101	202	101	435	15580	2959
Zone3	N009	4	72	68	410	13519	3138
Zone3	N011	4	71	67	401	14931	3838
Zone3	N016	58	139	81	308	11980	3497
Zone3	N007	182	253	71	350	11055	2635
Zone3	N010	63	107	44	447	14582	3107
Zone3	N021	64	110	46	420	14453	2668
Zone3	N011	76	121	45	393	12027	2885
Zone3	N006	2	52	50	349	12233	3261
Zone3	N014	64	107	43	389	14413	2475
Zone3	N019	79	123	44	378	12581	3063
Zone3	N020	19	65	46	350	14610	3788
Zone3	N015	2	39	37	427	14021	3997
Zone3	N025	40	82	42	367	12023	3613
Zone3	N011	171	218	47	321	11655	3442
Zone3	N027	1	44	43	345	11785	3196
Zone3	N026	57	95	38	386	12555	3329
Zone3	N015	187	234	47	293	10487	2373
Zone3	N021	3	35	32	426	12569	3693
Zone3	N015	58	96	38	339	13526	2636
Zone3	N018	2	39	37	331	11167	2937
Zone3	N013B	225	260	35	326	11194	2936
Zone3	N015	104	138	34	310	9396	2082
Zone3	N021	117	143	26	403	11201	2596
Zone3	N008	134	175	41	254	8020	1173
Zone3	N008	57	84	27	380	12661	3471
Zone3	N013A	67	90	23	445	16199	2682
Zone3	N023	20	44	24	418	14108	3795
Zone3	N016	162	193	31	320	11695	3053
Zone3	N006	108	138	30	324	11608	2675
Zone3	N013B	92	115	23	422	13555	2955
Zone3	N018	64	89	25	373	14161	2343
Zone3	N027	105	124	19	481	13601	3576
Zone3	N009	183	209	26	351	11858	2803
Zone3	N012	80	106	26	348	12262	3710



Zone3	N024	2	28	26	336	12579	3351
Zone3	N018	201	232	31	261	10250	2247
Zone3	N014	114	130	16	498	12702	3303
Zone3	N010	208	234	26	306	10300	1511
Zone3	N009	79	94	15	505	13990	3432
Zone3	N014	198	222	24	305	11058	3268
Zone3	N008	180	200	20	364	12936	3082
Zone3	N026	4	19	15	471	17419	3212
Zone3	N010	163	187	24	292	11426	2667
Zone3	N026	120	140	20	349	12974	3849
Zone3	N014	30	49	19	357	15128	2772
Zone3	N027	218	239	21	317	11813	3216
Zone3	N023	263	287	24	261	9984	2703
Zone3	N007	148	155	7	892	17975	483
Zone3	N027	67	82	15	411	13983	3689
Zone3	N012	8	27	19	320	11163	3512
Zone3	N013B	129	145	16	368	10060	2697
Zone3	N026	31	46	15	372	14642	2959
Zone3	N010	33	44	11	476	18474	2797
Zone3	N013A	30	43	13	397	16450	3348
Zone3	N017	89	105	16	321	13032	3449
Zone3	N020	83	101	18	280	10261	2117
Zone3	N018	120	136	16	301	9336	2147
Zone3	N023	3	12	9	509	14282	3841
Zone3	N013B	196	204	8	538	14906	3154
Zone3	N008	24	36	12	358	15084	3388
Zone3	N018	143	154	11	369	15725	2214
Zone3	N023	305	319	14	281	10477	2456
Zone3	N008	0	14	14	279	13844	4093
Zone3	N023	67	81	14	258	10385	1872
Zone3	N009	266	280	14	255	7704	2159
Zone3	N010	16	28	12	291	13675	2476
Zone3	N013B	266	277	11	315	10250	2433
Zone3	N012	34	42	8	403	12710	2445
Zone3	N016	218	226	8	399	12742	3316
Zone3	N011	239	250	11	288	10945	2903
Zone3	N017	6	14	8	393	12102	3806
Zone3	N020	106	118	12	261	11218	2246



Zone3	N016	3	14	11	279	13148	3652
Zone3	N006	164	176	12	254	8939	1573
Zone3	N023	207	215	8	366	10760	2888
Zone3	N021	207	216	9	324	10982	3291
Zone3	N012	124	129	5	564	12697	633
Zone3	N026	158	169	11	253	7812	2031
Zone3	N010	193	202	9	281	13774	3161
Zone3	N021	234	241	7	341	11742	2167
Zone3	N017	114	122	8	296	11994	3026
Zone3	N013B	155	161	6	387	9942	3126
Zone3	N017	37	42	5	459	12928	3710
Zone3	N018	107	113	6	380	11561	755
Zone3	N018	185	194	9	252	7966	881
Zone3	N022	209	216	7	287	10781	2263
Zone3	N017	170	177	7	275	16606	3422
Zone3	N009	225	230	5	384	13168	3314
Zone3	N013B	32	37	5	368	12764	3225
Zone3	N026	189	196	7	261	14580	4203
Zone3	N014	138	143	5	350	10353	2409
Zone3	N025	104	109	5	292	9851	3070
Zone3	N021	196	201	5	286	9239	1711
Zone3	N011	156	161	5	276	9034	2324
Zone3	N006	217	222	5	267	18349	4454
Zone3	N026	148	153	5	263	9982	1328

Intercepts calculated at 250 ppm U<sub>3</sub>O<sub>8</sub> cut-off, maximum internal waste 4m, minimum intercept 5m.\*TREO=LREO+HREO+Y<sub>2</sub>O<sub>3</sub>

Yours faithfully,

Roderick McIllree
Managing Director

Greenland Minerals and Energy Ltd



Table 2. Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project

Multi-Element Resources Classification, Tonnage and Grade								Contai	ned Meta	al						
Cut-off	Classification	M tonnes	TREO <sup>2</sup>	U <sub>3</sub> O <sub>8</sub>	LREO	HREO	REO	$Y_2O_3$	Zn	TREO	HREO	$Y_2O_3$	U <sub>3</sub> O <sub>8</sub>	Zn		
$(U_3O_8 ppm)^1$		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt		
Kvanefjeld - Mar	rch 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	<b>Grand Total</b>	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	<b>Grand Total</b>	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	<b>Grand Total</b>	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	<b>Grand Total</b>	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	<b>Grand Total</b>	122	13735	404	12059	497	12556	1179	2519	1.68	0.06	0.14	108	0.31		
Zone 2 - March 2	012															
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	Classification	M tonnes	TREO <sup>2</sup>	$U_3O_8$	LREO	HREO	REO	$Y_2O_3$	Zn	TREO	HREO	$Y_2O_3$	U <sub>3</sub> O <sub>8</sub>	Zn		
$(U_3O_8 ppm)^1$		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	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	<b>Grand Total</b>	861	10708	270	9444	391	9835	873	2305	9.22	0.34	0.75	512	1.98		

<sup>&</sup>lt;sup>1</sup>There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U<sub>3</sub>O<sub>8</sub> has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

<sup>&</sup>lt;sup>2</sup>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 <a href="http://www.ggg.gl">http://www.ggg.gl</a> 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.