



Company Announcement: *Tuesday June 21st, 2011*

Kvanefjeld Project, Technical Update:

Major Improvements in Mine Schedule, Beneficiation and Rare Earth Recoveries

Greenland Minerals and Energy Limited ("GMEL" or "the Company", ASX:GGG) is pleased to provide a technical update on the Kvanefjeld multi-element project (rare earth elements, uranium, zinc). Since releasing a 'base-case' development scenario for the Kvanefjeld project in early 2010, GMEL has been focused on establishing an increasingly efficient operation. The main areas of focus have been to improve the quality, grades and understanding of the mineral resources, to develop a highly effective method of beneficiating the Kvanefjeld ores, and improve the recovery of REEs.

Key developments include:

- New resource estimate allows for higher TREO* and uranium grade ores to be scheduled:
 - New schedule sees TREO outputs in 'base-case' mining scenario increase by 21% over the first 15 years of mining
 - Clear opportunity to optimize the project economics by maintaining high TREO output, at a reduced mining rate and lower cost processing plant
- Beneficiation testwork yielding extremely positive results; >85% of light REEs concentrated into <15% of the mass
- REE leach studies improve REE recoveries by 17% over the "base case" scenario (*without accounting for improvements in beneficiation that will allow for further recovery gains*)
- Developments present numerous avenues to optimize the project economics and efficiency; further advances expected in the coming weeks

*TREO = the rare earth elements of the lanthanide series and yttrium oxide



Background

Greenland Minerals and Energy Limited (“GMEL” or “the Company”) released an Interim Pre-feasibility report in Q1, 2010 that presented a ‘base-case’ mining scenario for the Kvanefjeld multi-element project. This study demonstrated the potential for Kvanefjeld to be developed as one of the world’s largest rare earth producing mines. The study also highlighted the economic benefit of by-production revenue streams, which serve to ensure highly competitive rare earth production costs.

Since releasing the Interim Report, GMEL has been focused on advancing the process flow-sheet to generate an increasingly efficient and scalable development scenario for Kvanefjeld. This has involved the establishment of a strong metallurgical process development team in-house. Three key areas have been focused on to bring about improvements;

- 1. Enhanced mineral resources;***
- 2. Effective mineral beneficiation; and***
- 3. Improved metal recoveries.***

As outlined herein, each area can contribute toward significantly reducing the capital cost of the mine and processing plant while maintaining a high output, thereby enhancing the overall efficiency and economics of the project.

Technical Focus

Resources – Advances in mineral resources at Kvanefjeld and their geological characteristics has now brought major improvements to the project. The establishment of a method to domain resources represented an important step in characterizing the ores by common mineralogical and geochemical features, as well as identifying higher-grade zones. ‘Inferred’ resources that had included high-grade material were infill drilled in 2010 in order to be reclassified as ‘indicated’ resources. These improvements were incorporated into the latest resource estimate, released in March 2011, which has now allowed for a significantly improved mine schedule. At a given throughput, mine output increases significantly.

Over the first 15 years of mining, the new mine schedule would see an **increase in output of 21% for TREO’s** and 10% for U_3O_8 using the ‘base-case’ mining parameters.

Whilst this represents a significant increase in mine output, it more importantly confirms an opportunity to reduce the mining rate and downstream processing capacity and cost, whilst maintaining a high rare earth output. GMEL is aiming to develop an operation, which at full capacity will have an annual production of approximately 40,000 tonnes TREO.

By 2015, global rare earth demand is estimated to be in the order of 200,000 tonnes, and demand is predicted to continue to grow significantly beyond this point. Annual growth in demand of just 10% would require an additional 20,000 tonnes of REO production per annum, post 2015. The Kvanefjeld multi-element project is being designed to cost-effectively contribute toward filling the looming rare earth supply void from 2015 and beyond.

Mineral Beneficiation – GMEL has been developing a very detailed understanding of the mineralogy of the Kvanefjeld resources. This is conducted through the Company's mineralogical program that is run through the University of British Columbia. The results provide a solid foundation for beneficiation studies that are now well-advanced. The beneficiation studies are aimed at developing an effective method of concentrating the economic minerals (REE-U minerals) into a small mass fraction. In the base-case flow sheet there was no beneficiation step prior to uranium extraction and only mild beneficiation (to approximately double REE grades in a 40% mass concentrate) prior to the leaching of REEs.

Beneficiation testwork has now identified a method that utilizes froth flotation to concentrate >85% of light REEs into <15% of the mass.

This represents a very significant development and endorses the Company's firm belief that the Kvanefjeld ores can be successfully beneficiated.

A method to effectively concentrate the economic minerals will allow for significant reductions in the capacity of hydrometallurgical leach circuits, which will ultimately lead to a low cost, highly efficient mining operation.

Testwork is ongoing; however the results achieved to date provide a clear indication for the opportunity to significantly reduce the capacity of the REE leach circuit while maintaining a high output, further strengthening the projects economics. More advances are anticipated in the coming months, as work programs progress.

Improve Metal Recovery - Improving recoveries is another key point of focus, particularly for REEs. In the 'base-case' flow sheet only 34% of REEs are recovered. Recent testwork has improved the efficiency of REE leaching, resulting in the recovery of 40% of total REEs (as oxides or TREOs). This represents a 17% increase.

The increase does not take into account advances in mineral beneficiation, which is likely to lead to further substantial improvements in the recovery of REEs. Work programs to improve REE recovery continue and include studies to evaluate a number of leach solution chemistries and leach conditions. Testwork on high grade mineral concentrates will soon be commencing.

Summary

Key work programs to establish an increasingly efficient development scenario for the Kvanefjeld multi-element project are yielding extremely positive results. Following the release of an updated mineral resource estimate, a new mine schedule has now been established. Under the base-case mining parameters, the new schedule sees an increase in REO output of 21%. GMEL is aiming to establish an operation, which at full capacity will have an output of approximately 40,000 t TREO. The new mine schedule creates the opportunity to maintain a high output while reducing the mine throughput and the size of the processing plant.

Beneficiation testwork programs are now producing extremely positive results with recent tests resulting in the concentration of >85% of light REEs in <15% of the mass. This opens the opportunity for further reductions in the capacity and cost of the REE leach circuit while maintaining a high output.

Testwork to improve REE recoveries is also yielding positive results, with an overall increase in recovery of 17% achieved so far to date.

All technical developments serve toward establishing an increasingly cost-effective and efficient development scenario for the Kvanefjeld multi-element project. Work programs addressing mineral beneficiation and REE recoveries are ongoing. More results will be presented over the coming months, as GMEL moves to firm up the optimal process flow sheet for the world's largest JORC-code compliant rare earth resource.

Yours faithfully,



Roderick McIlree
Managing Director
Greenland Minerals and Energy Ltd

Table 1. 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.

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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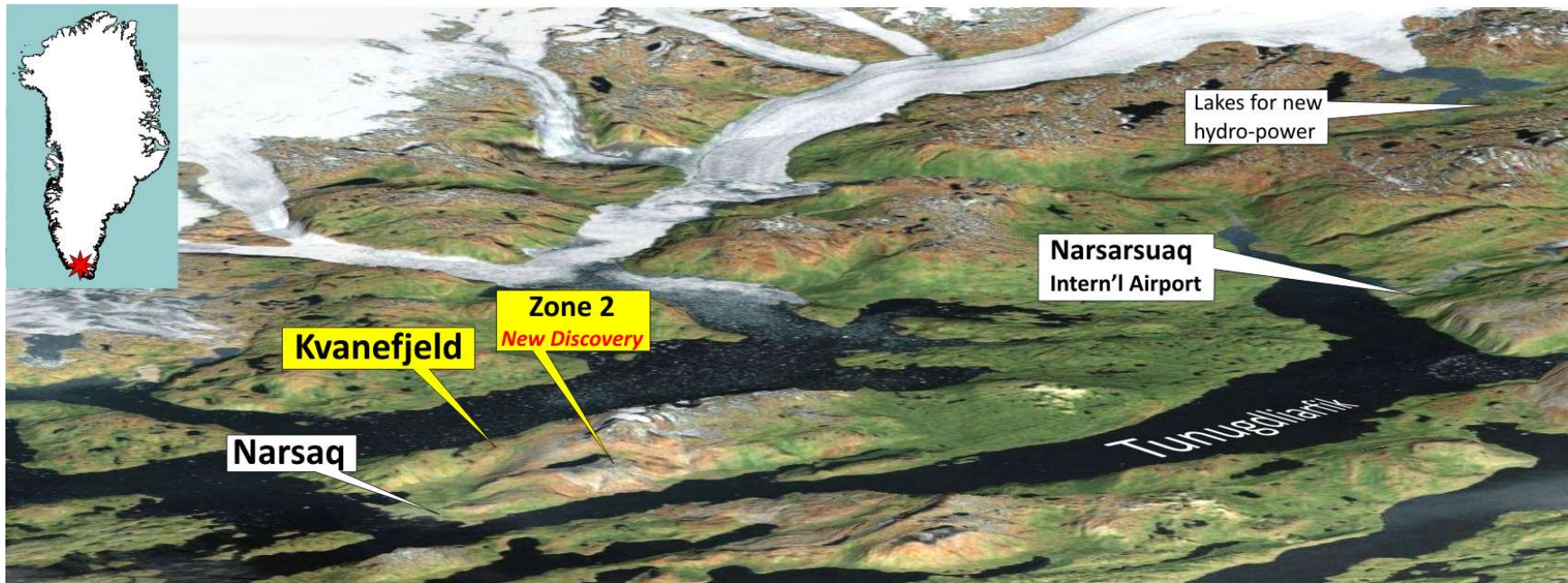
Greenland Minerals and Energy Ltd is aware of and respects the Greenlandic government's stance on uranium exploration and development in Greenland – which is currently a zero tolerance approach. However, a new amendment has been introduced to the standard terms for exploration licenses in Greenland that 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-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.



View over the broader geography of GMEL's multi-element project on the northern Ilimaussaq Complex located in southern Greenland. The fjords form a large-scale natural harbor system that is open to the north Atlantic shipping lanes all year round, and provide easy access to the project area. The distance from Narsaq to Narsarsuaq is approximately 45 km.