



Company Announcement, September 20th, 2012

Kvanefjeld Feasibility Study Underway:

Metallurgical Developments Continue to Advance and De-Risk Process Flow-Sheet

Greenland Minerals and Energy Ltd ("GMEL" or "the Company") is pleased to provide an update on the status of process development for the Kvanefjeld multi-element project ("Kvanefjeld").

Following an intensive flow-sheet selection study conducted during 2011, a simple and elegant flow-sheet has been selected by the Company as the most suitable method to process Kvanefjeld ore. This flow-sheet, incorporating concentration via froth flotation and subsequent atmospheric leaching, formed the basis of the Company's Prefeasibility Study into Kvanefjeld, which was released in May 2012. The Prefeasibility Study indicated the clear potential for Kvanefjeld to be developed as a long-life, cost-competitive producer of heavy and light rare earth elements (REEs), uranium oxide and zinc.

Importantly, the process flow-sheet has been developed in conjunction with a systematic and comprehensive test work program, thereby providing a high level of confidence in its viability. The metallurgical development of the flow-sheet is well advanced and a significant level of process design work has already been completed.

Metallurgical Test Work Program Highlights

- *Completed over 250 tests relating to the concentrator (beneficiation) circuit*
- *Feasibility process design of concentrator circuit almost complete*
- *Completed over 50 tests relating to the refinery circuit*
- *Feasibility process design of refinery well advanced*

GMEL's test work programmes have been very effective in de-risking process design for both the concentrator and the refinery. As a result, the Company is now in a position to commence planning for the operation of pilot plant(s) as the next step in process development.

In addition, as a result of the work that has been completed on process design, process engineering for a feasibility study is well advanced.



GMEL's Metallurgical Advantages

Establishing a robust and technically feasible process flow-sheet is a critical step in any rare earth project, and one that ultimately determines which deposits can be commercially exploited, versus those which are highly refractory, complex, and, as a result, uneconomic. The two most important metallurgical attributes that a rare earth project requires in order to lay the foundations for commercial success are:

- 1. The ability to beneficiate ore into a high grade mineral concentrate; and*
- 2. The ability to achieve high recoveries of rare earths from concentrate without having to develop complex and expensive metallurgical processes.*

The Kvanefjeld flow-sheet embodies both of these attributes. The flow-sheet beneficiates Kvanefjeld ore with an industry-leading upgrade ratio and refines the mineral concentrate utilising a simple atmospheric acid leach process.

The flow-sheet produces high metal extractions *without* requiring complex and costly high-temperature mineral cracking processes (see process flow-sheet in Appendix 1) that are commonly required owing to the refractory nature of many rare earth deposits.

Metallurgical Test-Work

Step 1 - The Concentrator

The concentrator circuit consists of comminution followed by froth flotation and produces a mineral concentrate containing approximately 12% total rare earth oxide and 0.2% U₃O₈.

The status of the Company's concentrator test-work programme is as follows:

- ✓ Extensive studies have been conducted into the mineralogical characteristics of different zones within the orebody. Geometallurgical studies have also been performed and similar results have been observed for each ore type.
- ✓ Comminution test-work is complete. Six ore types and 2 waste rock types have been subjected to standard tests.
- ✓ Over 500 batch flotation tests have been completed and 3 confirmatory locked cycle tests have been performed. This programme of flotation test-work has significantly de-risked and optimised the flotation circuit.
- ✓ In August 2011 a pilot flotation plant was operated at SGS Oretest in Perth. The pilot plant treated 1.3 tonnes of ore, at a scale of 3500:1, and produced 50 kg of concentrate for use in the Company's hydrometallurgical test-work programme.

- ✓ Solid liquid separation test-work is also complete facilitating feasibility study standard design of key equipment.
- ✓ Test-work on the chemical stability of flotation tailings is nearing completion and it is expected that results will be available by year end. Interim results indicate that the flotation circuit produces solid tailings that are both benign and stable.

The next stage of the Company's concentrator test-work programme is a second pilot plant campaign. This campaign, targeted for November 2012, will treat 4 tonnes of ore and produce ~300 kg of rare earth-rich mineral concentrate. This concentrate will be used for further hydrometallurgical tests and as part of the Company's ongoing marketing activities.

Step 2 - The Refinery

The Company has validated an economically viable hydrometallurgical process for refining Kvanefjeld concentrates. The process utilises simple and proven equipment, the use of which significantly reduces the risk of scaling up from bench scale to commercial capacity.

- ✓ Over 60 bench-scale leach tests have been performed on Kvanefjeld concentrate. In addition, larger scale semi-continuous leach tests have been performed on larger samples [10 – 20 kgs] to examine scale up effects.
- ✓ The leach discharge slurry produced from the semi-continuous leach test-work has been used to evaluate the performance of downstream units of the preferred flow-sheet. The test-work has validated the suitability of the selected downstream circuits.
- ✓ Samples of rare earth intermediate products have been produced and are currently under evaluation as feed for further processing in rare earth separation plants.

The next stage of the Company's refinery test-work programme will comprise mini-pilot plant campaigns at ANSTO (Australian Nuclear Science and Technology Organisation) in Sydney. These campaigns, planned for 2013, will utilise concentrate produced from the flotation pilot plant campaign scheduled for November 2012.

Conclusion

GMEL has always considered that metallurgical success would be the key to unlocking the value in the vast Kvanefjeld resource. The Company is very pleased that it's investment in

metallurgical test-work and process design has provided the data upon which a customized and technically sound process has been developed for the Kvanefjeld project.

Performing the pilot plant campaigns will allow the completion of the Kvanefjeld Feasibility Study in 2013.

Yours faithfully,



Roderick McIlree

Managing Director

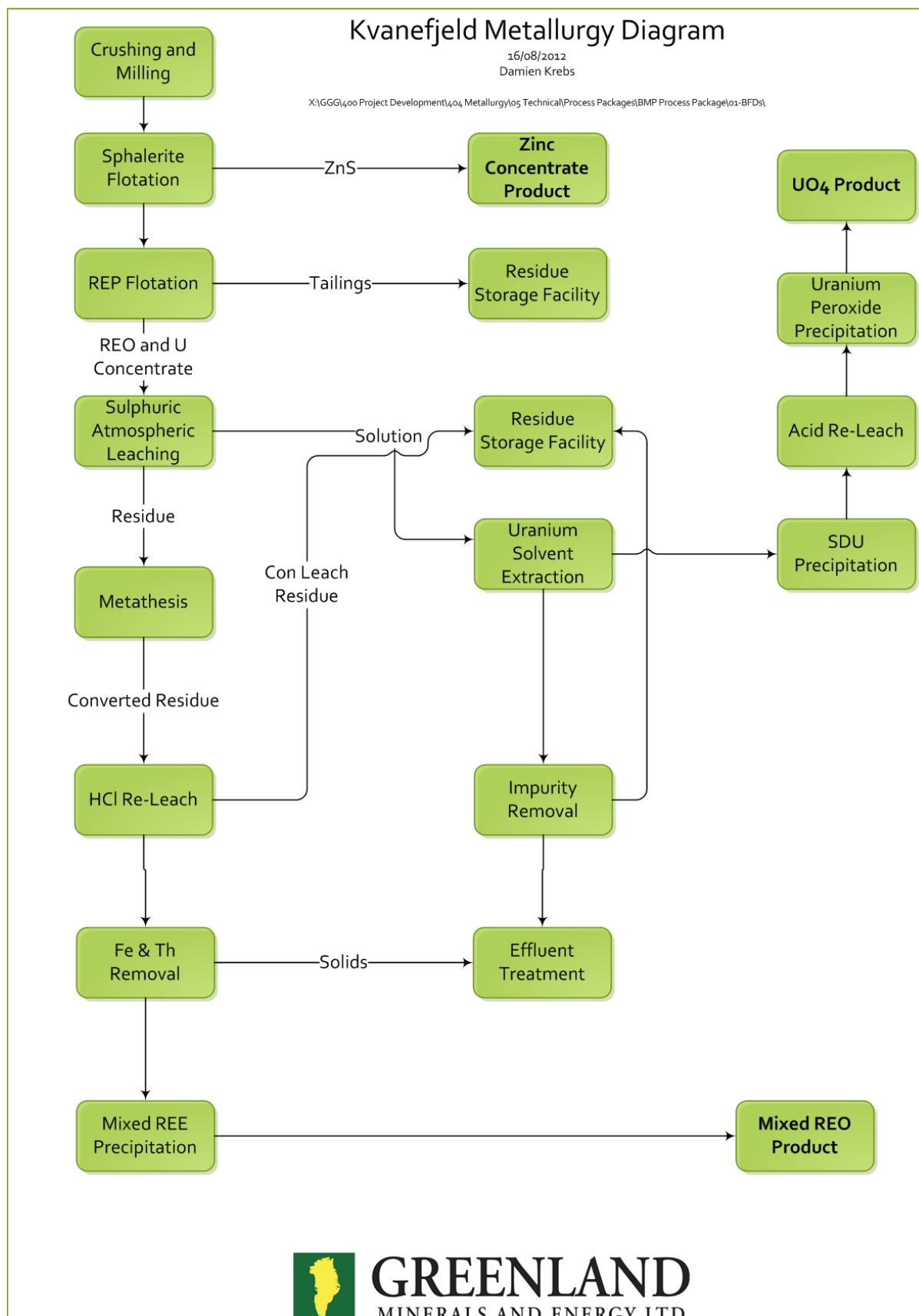
Greenland Minerals and Energy Ltd

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. A comprehensive pre-feasibility study has demonstrated the potential for a large-scale, cost-competitive, 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 stakeholder discussions on the social and economic benefits associated with the development of the Kvanefjeld Project.



REP = Rare Earth Phosphate mineral concentrate (dominantly steenstrupine and closely related minerals). REP contains 12% TREO and 0.2% U₃O₈.