



Company Announcement, June 16th, 2015

Successful Pilot Plant Operation – Kvanefjeld Project

HIGHLIGHTS

- **Successful operation of 26 tonne pilot plant for the Kvanefjeld beneficiation circuit**
- **Pilot plant achieved primary aim of producing 2 tonnes of rare earth rich mineral concentrate**
- **Mineral concentrate to be used in upcoming pilot plant operations of the refinery circuit**
- **Following ramp-up, pilot plant operated at feasibility design criteria level**
- **Third successful pilot plant operation of the beneficiation circuit demonstrates the effectiveness of the flotation methodology to generate a high-grade mineral concentrate from the extensive Kvanefjeld resources**
- **The high upgrade ratio achieved in beneficiation leads to high efficiency in the atmospheric leach circuit, with less than 10% of the run-of-mine ore to be treated in the refinery circuit**
- **Pilot plant operations conducted through the EURARE program, with leading laboratories and collaborators**

Background

Greenland Minerals and Energy Ltd ('GMEL' or 'the Company') is pleased to report on the successful pilot plant operation of the Kvanefjeld beneficiation circuit. The pilot plant operation was conducted through the EURARE program, at the laboratories of GTK Finland. The Kvanefjeld beneficiation circuit utilises froth flotation to produce a rare earth-rich mineral concentrate, and a zinc concentrate. This was the third pilot plant operation of the beneficiation circuit, with each run conducted at a larger scale.

The primary aim of this pilot plant operation was to generate 2 tonnes of rare earth-rich mineral concentrate as feed for upcoming refinery and separation pilot plants, also to be conducted through the EURARE program. In addition, it presented the opportunity to further test the flotation circuit at a larger scale, providing valuable information.

The beneficiation pilot plant processed 26 tonnes of ore over 100 hours to produce 2 tonnes of rare earth-rich mineral concentrate; the targeted amount.



After ramp-up, the circuit recovered >80% of the rare earths, and performed at feasibility design criteria.

Next Steps in the EURARE Program

The mineral concentrate will be utilised in a pilot plant operation of the refinery circuit that is scheduled to take place in Pori, Finland in September, 2015. The refinery pilot plant aims to generate a high-purity mixed rare earth concentrate.

The refinery pilot plant will build on continuous refining test work previously conducted by GMEL on flotation (mineral) concentrates, which has successfully produced high-purity rare-earth carbonates (>97% rare earth oxide after calcining). The intermediate rare earth product from the refinery pilot plant will be used in a subsequent rare earth separation pilot plant to be performed at Aachen University, Germany.

The pilot plant operations are all-important in the technical de-risking of the Kvanefjeld Project. The successful pilot plant operation of the beneficiation circuit demonstrates the effectiveness of the process flow sheet in upgrading the Kvanefjeld ore to a low-mass, high-grade mineral concentrate.

GMEL is pleased to be part of the EURARE program and contributing through the provision of sample material for test work, as well as expertise developed through the course of the Kvanefjeld feasibility program. The Kvanefjeld Project is supplying rare earth feedstock to a multi-stage process of producing rare earths using EU facilities.

The Kvanefjeld Beneficiation Circuit

The beneficiation circuit has been rigorously developed over a number of years. Extensive test work confirms the ability to cost-effectively concentrate the main rare earth minerals into less than 10% of the original ore mass, using a single, low-risk method in froth flotation. The second and third (most recent) pilot plants have incorporated Jameson cell technology.

The Jameson cell technology has been tested within two locations within the beneficiation circuit, and the results confirm the suitability of the Jameson cell technology for both duties. The results demonstrate that the Jameson cell is able to produce target grade concentrates, is easy to operate, and delivers a consistent performance.

The Jameson cell technology is clearly well-suited to the Kvanefjeld ore-type. The benefits include:

- High throughput and efficiency, with a small footprint
- No moving parts; simple to install and maintain
- Suited to the fast flotation kinetics seen with the unique Kvanefjeld ore
- Simplifies the flotation circuit, producing final grade concentrate in a single flotation step and reducing the number of high intensity conditioning and cleaning stages required, thereby minimising operational costs

- Proven in multiple pilot plant operations on Kvanefjeld to be simple and producing a consistent operation
- Importantly the Jameson cell is a commercially proven technology with direct scale-up from pilot scale to full scale. The hydrodynamic conditions for particle collection inside the downcomer and the separation in the tank are identical between laboratory, pilot plant and full-scale Jameson cells, thus scale-up is direct and proven. The technology has over 20 years of commercialisation with more than 300 installations across a range of mining applications globally.

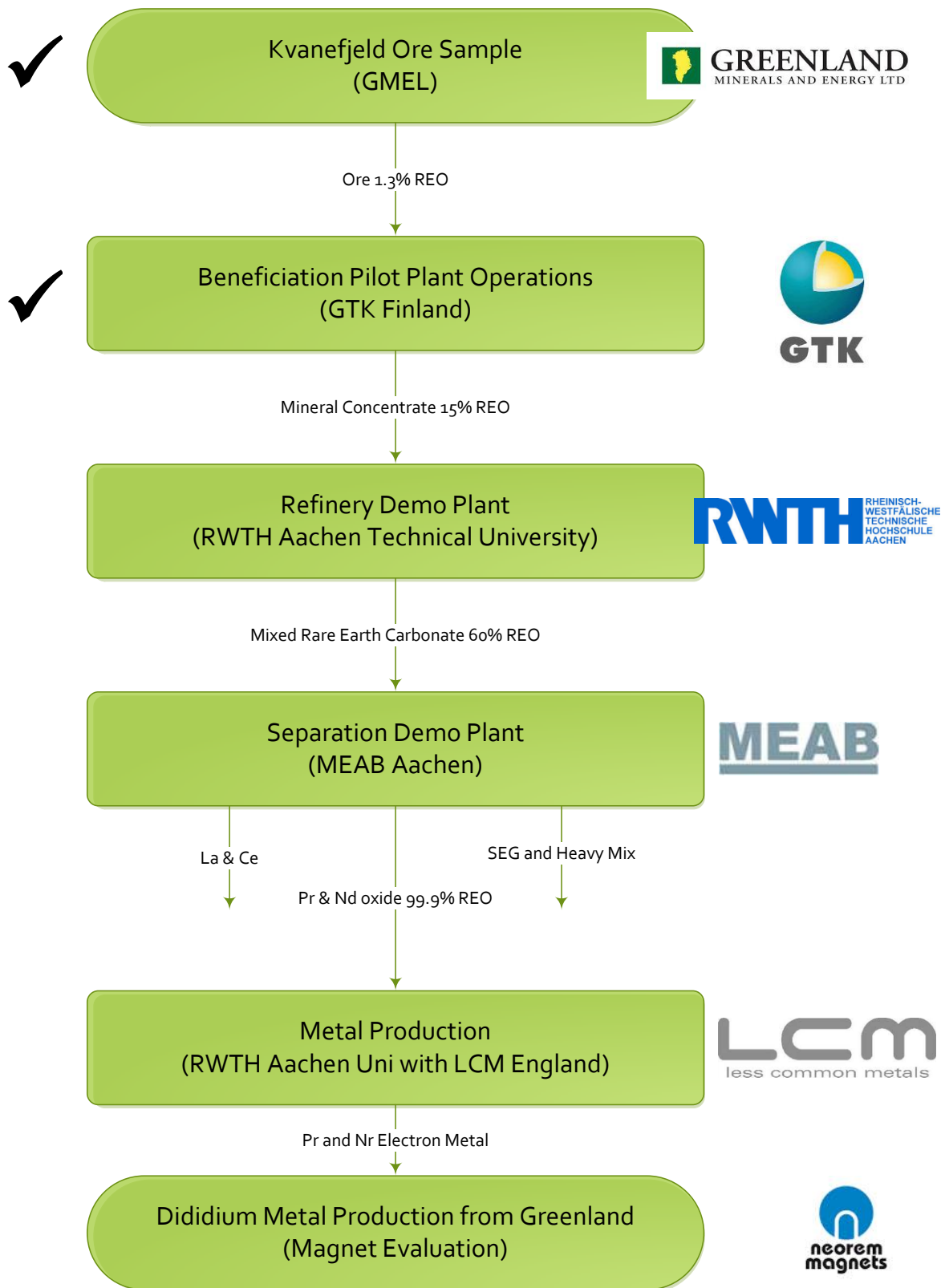
About the EURARE Program

Rare earths have been identified as critical minerals for many current and emerging technologies for which the European Union would like to encourage European supply sources. EURARE is an acronym for a Research and Development project funded by the European Union. Total funding is €9 million spent over 5 years. It forms part of the 7th Framework Programme for Research and Technical Development supporting the EU's Raw Materials initiative. The official purpose of the EURARE project is:

Development of a sustainable exploitation scheme for Europe's Rare Earth ore deposits – New environmentally friendly approaches in minerals processing.

The Kvanefjeld Project is supplying rare earth feedstock to a multi-stage process of producing rare earths using EU facilities. The ore for the pilot plant was exported from Greenland in 2014 and transported to Outokumpu, Finland. The beneficiation pilot plant was operated in Q2, 2015 at GTK Laboratories. The concentrate produced by the pilot plant will be used in a refinery pilot plant in Finland in September 2015. The intermediate product from the refinery pilot plant will be used in a rare earth separation pilot plant to be performed at Aachen University, Germany. From the separation plant final rare earth oxides will be produced demonstrating that the EU has the deposits and the technology to provide its own supply chain of critical materials.

Material Flow During EURARE Demonstration Work Package for Kvanefjeld Ore



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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 stands to be the world's premier specialty metals project. A pre-feasibility study was finalised in 2012, and a comprehensive feasibility study was completed in May, 2015. The studies demonstrate the potential for a large-scale, long-life, cost-competitive, multi-element mining operation. Through 2015, GMEL is focussed on completing a mining license application in order to commence project permitting, in parallel to advancing commercial discussions with development partners. 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.

Competent Person Statement

The information in this report that relates to Mineral Resources is based on information compiled by Robin Simpson, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Simpson is employed by SRK Consulting (UK) Ltd ("SRK"), and was engaged by Greenland Minerals and Energy Ltd on the basis of SRK's normal professional daily rates. SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence. Mr Simpson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Robin Simpson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The mineral resource estimate for the Kvanefjeld Project was updated and released in a Company Announcement on February 12th, 2015. There have been no material changes to the resource estimate since this announcement.