



Company Announcement, January 15<sup>th</sup>, 2018

## **Enhanced Rare Earth Leaching Method Established to Simplify Refinery, Reduce Capital and Operating Costs**

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### **HIGHLIGHTS:**

- **Extensive collaborative test work with Shenghe Resources Holding Co Ltd (Shenghe) validates simplification of the Kvanefjeld refinery circuit providing for significantly improved capital and operating costs**
  - **Successful development of a low temperature (atmospheric) HCl leach circuit that allows for less processing steps, smaller equipment, that delivers very high RE extractions**
  - **New methodology opens the opportunity for cost-effective import of reagent rather than onsite production**
  - **Strategy driven by the aim of simplifying the Greenland operation, reducing required support infrastructure and the in-country footprint while best aligning intermediate product with Shenghe's downstream processing technology**
  - **The refinery circuit improvements complement substantial increases in mineral concentrate grade as a result of flotation optimisation work by Shenghe in 2017**
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### **GMEL Managing Director Dr John Mair commented:**

*"The simplified refining circuit will bring numerous benefits to the Kvanefjeld Project, and draws on guidance from Shenghe to utilise Kvanefjeld's unique qualities to establish a highly competitive cost structure and align the project with downstream processing.*

*Coupled with major flotation improvements to produce a higher-grade, lower-mass mineral concentrate, the simplified refining circuit will result in smaller equipment sizing and less support infrastructure leading to a reduction of capital and operating costs.*

*The project enhancements will reduce the projects in-country footprint and impacts, whilst serving to increase the profitability which will be a great outcome for Greenland stakeholders and company shareholders alike. We look forward to updating progressively through 2018."*

## Refinery Circuit Optimisation – Enhanced Process Developed

**Greenland Minerals and Energy Ltd ('GMEL' or 'the Company')** is pleased to update on further significant improvements to the Kvanefjeld Project that result from technical optimisation program that is underway with leading rare earth company and major shareholder Shenghe Resources Holding Co Ltd (Shenghe).

The Kvanefjeld Project, 100% owned by GMEL, is underpinned by a JORC-code compliant resource of **>1 billion tonnes**, and an ore reserve estimate of 108 million tonnes to sustain an initial 37 year mine life. It is projected to be one of the largest producers globally of key magnet metals including neodymium, praseodymium, dysprosium and terbium.

Test work programs to optimise the Kvanefjeld Project were conducted in both China and Australia through 2017, under oversight of a joint technical committee. Test work to develop a simpler, enhanced leaching methodology was conducted in Australian laboratories.

Following reviews of the existing Kvanefjeld refining circuit, the technical committee identified a number of opportunities to simplify the leach process and re-address the reagent strategy. This aimed to reduce project infrastructure in Greenland, reduce the number of processing steps and equipment sizing, and best align intermediate product with downstream separation technology. Test work has been highly successful in validating the enhanced and simplified leaching method.

Key to the revised processing strategy has been the evaluation of hydrochloric acid (HCl) for direct concentrate leaching. This is a departure from the Feasibility Study process which uses sulphuric acid for direct leaching and hydrochloric acid for secondary leaching.

Previous attempts to use direct hydrochloric acid were met with issues owing to silica contamination. GMEL has now devised a method which allows the silica in the concentrate to be controlled in a single leaching step. This occurs while still extracting high levels of rare earths and uranium from the concentrate.

The new method mixes hydrochloric acid directly with mineral concentrate to produce a viscous paste. This viscous paste is then mixed for 30 minutes before being dissolved in water (water leach). In the viscous paste, the rare earths are dissolved and the silica is controlled by precipitation in a favourable form.

This is a remarkably elegant and simple method for extracting the rare earths which is not dependent on high temperature, high pressure or extreme chemical treatment that is otherwise the norm in rare earth production.

The method is applicable owing to the non-refractory nature of the key RE mineral steenstrupine. Steenstrupine contains 25-30% REO, is enriched across the RE spectrum, and is only known to occur in

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**PERTH:** Unit 6, 100 Railway Road, Subiaco Western Australia 6008 **POSTAL:** PO Box 2006, Subiaco WA 6904

Telephone: +61 8 9382 2322 Facsimile: +61 8 9382 2788

**GREENLAND:** PO Box 156, Narsaq, Greenland 3921

**WEB:** [www.ggg.gl](http://www.ggg.gl) **EMAIL:** [info@ggg.gl](mailto:info@ggg.gl) **ABN:** 85 118 463 004

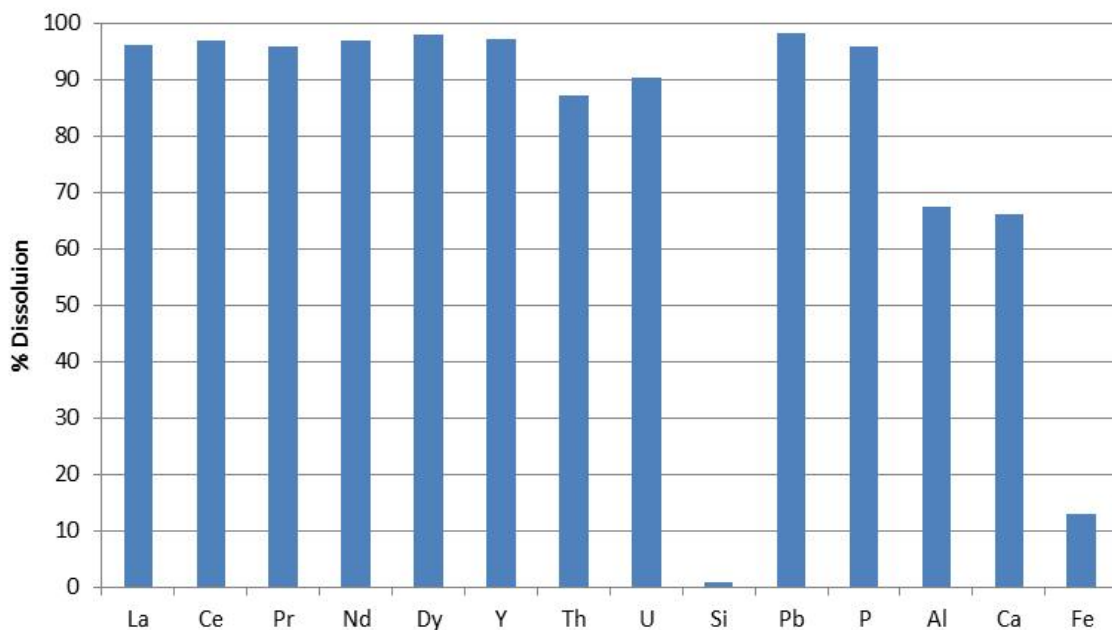
large quantities in the northern Ilmaussaq Complex that sits within the Company's exploration license in Greenland. It represents a very important new source of REE's, and is key to Kvanefjeld's strategic value.

### High Extraction Levels Achieved by New Leaching Method

Extensive laboratory test work has been performed since mid-2017 developing the hydrochloric acid soak to the point that it can be incorporated into Feasibility Studies. This laboratory test work has included small scale batch test work and larger scale acid soak tests.

The use of hydrochloric acid soak produces very high leach extraction results for rare earth elements as well as uranium (Figure 1). In addition, high concentrations of the rare metal gallium were also observed in the leach solution.

A range of parameters were examined to understand the acid soak method. It is a robust process which performs across a wide range of conditions. This will assist with the operability of the circuit if it can operate effectively across a wide range of process conditions.



**Figure 1.** Hydrochloric acid soak elemental extraction results. Solid liquid separation tests were performed to observe the ease of producing a clear pregnant leach solution. After examining a range of flocculants and coagulants good settling and clarity was observed. The resulting pregnant leach solution was also low in soluble silica making it suitable for downstream processing.

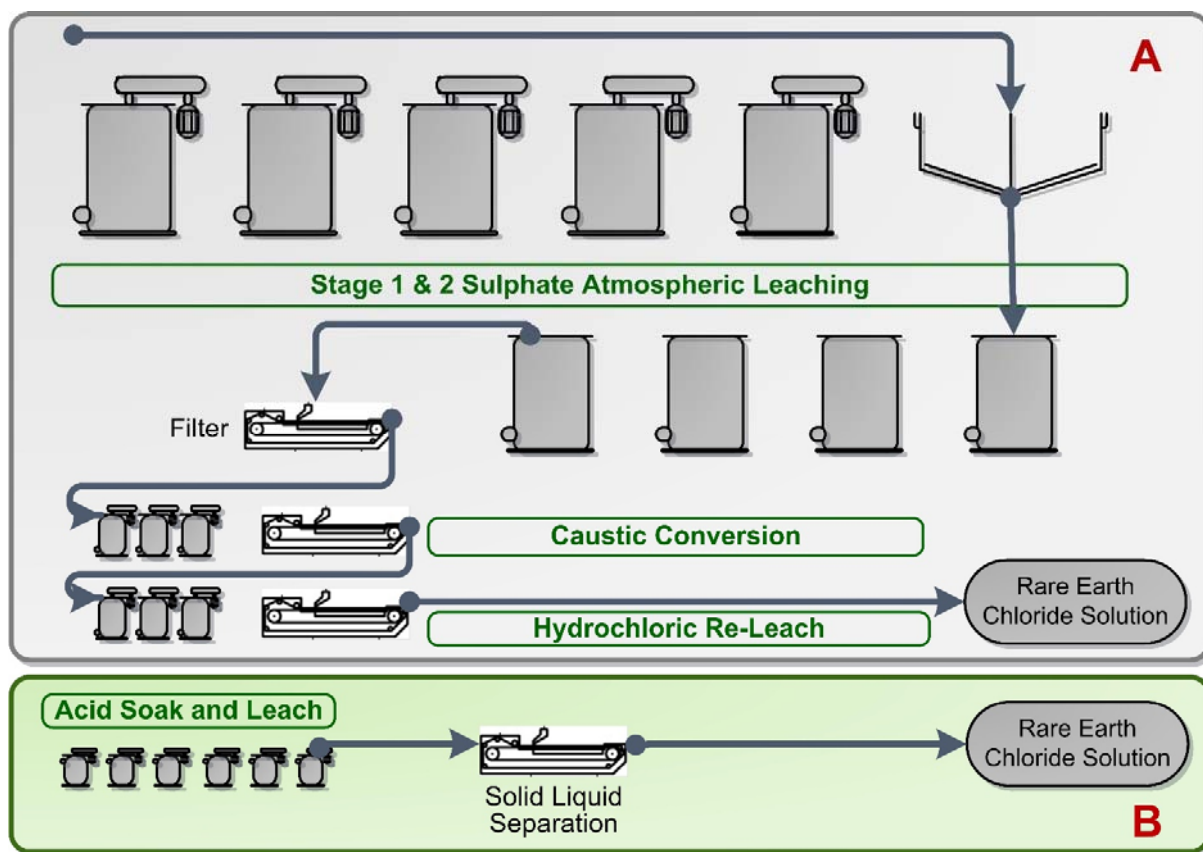
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**PERTH:** Unit 6, 100 Railway Road, Subiaco Western Australia 6008 **POSTAL:** PO Box 2006, Subiaco WA 6904

Telephone: +61 8 9382 2322 Facsimile: +61 8 9382 2788

**GREENLAND:** PO Box 156, Narsaq, Greenland 3921

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**Figure 2.** Comparison of the refinery circuit utilised in the Kvanefjeld Feasibility Study (A) and the new optimised circuit (B). The size of equipment needed for the Hydrochloric Acid Soak Process is much smaller than the previous flowsheet. The new flowsheet uses a single stage of leaching rather than three stages in the previous flowsheet. This simplifies the flowsheet leading to improved operability. The residence time (time needed for the leaching reactions to occur) is much lower for the acid soak with only 40 minutes of residence time required compared to over 24 hours with the previous flowsheet. This has a primary influence on the equipment sizing. The simplification and reduction in equipment size will significantly reduce the capital cost for the new refinery design.

### Commercial Plant Optionality

Development of a simpler method for extracting the rare earths from Kvanefjeld RE mineral concentrate will provide a range of important benefits to the project. The elimination of sulphuric acid will remove the requirement for a sulphuric acid plant on site. Further investigations have revealed that it will be possible to transport hydrochloric acid directly to Greenland for use in the refinery. This will remove the requirement for a hydrochloric acid plant as well. Removal of reagent production facilities in Greenland will reduce capital costs.

Test work has established a method for the effective removal of uranium from the leach solution, allowing for the generation of saleable uranium product in Greenland. Feasibility studies will quantify the benefit

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of shipping an intermediate rare earth product as a chloride solution, which is ideal feedstock for latest technology separation plants. This approach eliminates solids handling and leaching steps common with other solid feedstocks, resulting in considerable cost benefits across the overall supply chain.

*The strategy draws on the efficiency and cost savings of importing reagent, and backloading the ship with RE chloride solution.*

Such a scenario can only be considered where direct shipping is available to the project area and ore minerals are of sufficient grade and can be directly leached; all unique attributes of the Kvanefjeld Project.

GMEL looks forward to providing further updates on the positive benefits that arise from the highly successful optimisation test work program. The test work has been successful in identifying ways to improve efficiency through significant mineral concentrate grade increases and a simpler leaching methodology. These developments serve to maximise the unique attributes of the Kvanefjeld Project, and demonstrate the benefits of the Company's collaboration with Shenghe.

Importantly, the alignment of intermediate rare earth product form with downstream separation facilities provides for an extremely efficient processing chain from mine to final high purity rare earth oxides and metals.

#### **Kvanefjeld Project: Optimisation Program Overview**

In early 2017 a technical committee was established with representatives from GMEL and Shenghe to oversee a test work program that aims to improve the metallurgical performance, simplify the processing route and related infrastructure, and improve the cost structure of the Kvanefjeld Project. Shenghe have leading technical expertise in all aspects of the rare earth value chain from mine to the production of high-purity oxides and metals.

Drawing on Shenghe's leading technical expertise and deep industry understanding, the optimisation program aimed to maximise key attributes of the Kvanefjeld Project. The large, bulk nature of the ore bodies allows for simple open cut mining with low strip ratio. Additionally, direct shipping access to the project area means that reagents can be cost-effectively delivered to the refinery circuit and rare earth concentrate can efficiently be exported out, aligned with Shenghe's processing facilities. Finally, the key RE mineral steenstrupine is non-refractory and, therefore, amenable to simple processing.

On the 7<sup>th</sup> of December the Company announced substantial improvements to the flotation circuit and mineral concentrate grades ("Shenghe Delivers Major Improvement in Metallurgical Performance for Kvanefjeld"). This significant optimisation, combined with the simplified leaching methodology now established forms the basis for a revision of the feasibility study and adjustment of the development strategy with substantial project benefits to result.

**-ENDS-**

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Statement of Identified Mineral Resources, Kvanefjeld Project, Independently Prepared by SRK Consulting (February, 2015)

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U <sub>3</sub> O <sub>8</sub> ppm) <sup>1</sup>	Classification	M tonnes Mt	TREO <sup>2</sup> ppm	U <sub>3</sub> O <sub>8</sub> ppm	LREO ppm	HREO ppm	REO ppm	Y <sub>2</sub> O <sub>3</sub> ppm	Zn ppm	TREO Mt	HREO Mt	Y <sub>2</sub> O <sub>3</sub> Mt	U <sub>3</sub> O <sub>8</sub> M lbs	Zn Mt
<b><i>Kvanefjeld - February 2015</i></b>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95.21	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	171.97	0.71
150	Inferred	222	10,000	205	8,800	365	9,200	793	2,180	2.22	0.08	0.18	100.45	0.48
150	Total	673	10,900	248	9,600	400	10,000	881	2,270	7.34	0.27	0.59	368.02	1.53
200	Measured	111	12,900	341	11,400	454	11,800	1,048	2,460	1.43	0.05	0.12	83.19	0.27
200	Indicated	172	12,300	318	10,900	416	11,300	970	2,510	2.11	0.07	0.17	120.44	0.43
200	Inferred	86	10,900	256	9,700	339	10,000	804	2,500	0.94	0.03	0.07	48.55	0.22
200	Total	368	12,100	310	10,700	409	11,200	955	2,490	4.46	0.15	0.35	251.83	0.92
250	Measured	93	13,300	363	11,800	474	12,200	1,105	2,480	1.24	0.04	0.10	74.56	0.23
250	Indicated	134	12,800	345	11,300	437	11,700	1,027	2,520	1.72	0.06	0.14	101.92	0.34
250	Inferred	34	12,000	306	10,800	356	11,100	869	2,650	0.41	0.01	0.03	22.91	0.09
250	Total	261	12,900	346	11,400	440	11,800	1,034	2,520	3.37	0.11	0.27	199.18	0.66
300	Measured	78	13,700	379	12,000	493	12,500	1,153	2,500	1.07	0.04	0.09	65.39	0.20
300	Indicated	100	13,300	368	11,700	465	12,200	1,095	2,540	1.34	0.05	0.11	81.52	0.26
300	Inferred	15	13,200	353	11,800	391	12,200	955	2,620	0.20	0.01	0.01	11.96	0.04
300	Total	194	13,400	371	11,900	471	12,300	1,107	2,530	2.60	0.09	0.21	158.77	0.49
350	Measured	54	14,100	403	12,400	518	12,900	1,219	2,550	0.76	0.03	0.07	47.59	0.14
350	Indicated	63	13,900	394	12,200	505	12,700	1,191	2,580	0.87	0.03	0.07	54.30	0.16
350	Inferred	6	13,900	392	12,500	424	12,900	1,037	2,650	0.09	0.00	0.01	5.51	0.02
350	Total	122	14,000	398	12,300	506	12,800	1,195	2,570	1.71	0.06	0.15	107.45	0.31

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<b>Sørensen - March 2012</b>														
150	Inferred	242	11,000	304	9,700	398	10,100	895	2,602	<b>2.67</b>	0.10	0.22	<b>162.18</b>	0.63
200	Inferred	186	11,600	344	10,200	399	10,600	932	2,802	<b>2.15</b>	0.07	0.17	<b>141.28</b>	0.52
250	Inferred	148	11,800	375	10,500	407	10,900	961	2,932	<b>1.75</b>	0.06	0.14	<b>122.55</b>	0.43
300	Inferred	119	12,100	400	10,700	414	11,100	983	3,023	<b>1.44</b>	0.05	0.12	<b>105.23</b>	0.36
350	Inferred	92	12,400	422	11,000	422	11,400	1,004	3,080	<b>1.14</b>	0.04	0.09	<b>85.48</b>	0.28
<b>Zone 3 - May 2012</b>														
150	Inferred	95	11,600	300	10,200	396	10,600	971	2,768	<b>1.11</b>	0.04	0.09	<b>63.00</b>	0.26
200	Inferred	89	11,700	310	10,300	400	10,700	989	2,806	<b>1.03</b>	0.04	0.09	<b>60.00</b>	0.25
250	Inferred	71	11,900	330	10,500	410	10,900	1,026	2,902	<b>0.84</b>	0.03	0.07	<b>51.00</b>	0.20
300	Inferred	47	12,400	358	10,900	433	11,300	1,087	3,008	<b>0.58</b>	0.02	0.05	<b>37.00</b>	0.14
350	Inferred	24	13,000	392	11,400	471	11,900	1,184	3,043	<b>0.31</b>	0.01	0.03	<b>21.00</b>	0.07
<b>All Deposits – Grand Total</b>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	<b>1.72</b>	0.06	0.14	<b>95.21</b>	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	<b>3.42</b>	0.13	0.28	<b>171.97</b>	0.71
150	Inferred	559	10,700	264	9,400	384	9,800	867	2,463	<b>6.00</b>	0.22	0.49	<b>325.66</b>	1.38
<b>150</b>	<b>Grand Total</b>	<b>1010</b>	<b>11,000</b>	<b>266</b>	<b>9,700</b>	<b>399</b>	<b>10,100</b>	<b>893</b>	<b>2,397</b>	<b>11.14</b>	<b>0.40</b>	<b>0.90</b>	<b>592.84</b>	<b>2.42</b>

<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>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.

**Kvanefjeld Ore Reserves Estimate – April 2015**

Class	Inventory (Mt)	TREO (ppm)	LREO (ppm)	HREO (ppm)	Y <sub>2</sub> O <sub>3</sub> (ppm)	U <sub>3</sub> O <sub>8</sub> (ppm)	Zn (ppm)
Proven	43	14,700	13,000	500	1,113	352	2,700
Probable	64	14,000	12,500	490	1,122	368	2,500
<b>Total</b>	<b>108</b>	<b>14,300</b>	<b>12,700</b>	<b>495</b>	<b>1,118</b>	<b>362</b>	<b>2,600</b>

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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). A pre-feasibility study was finalised in 2012, and a comprehensive feasibility study was completed in 2015 and updated following pilot plant operations in 2016. The studies highlight the potential to develop Kvanefjeld as a long-life, low cost, and large-scale producer of rare earth elements; key enablers to the electrification of transport systems.

GMEL is working closely with major shareholder and strategic partner Shenghe Resources Holding Co Ltd to develop Kvanefjeld as a cornerstone of future rare earth supply. An exploitation (mining) license application for the initial development strategy has been undergoing review by the Greenland Government through the latter part of 2016 and through 2017.

In 2017, GMEL has been undertaking technical work programs with Shenghe Resources Holding Co Ltd that aim to improve the metallurgical performance, simplify the development strategy and infrastructure footprint in Greenland, enhance the cost-structure, and ensure that Kvanefjeld is aligned with downstream processing. In addition, the Company continues its focus on working closely with Greenland's regulatory bodies on the processing of the mining license application, and maintaining regular stakeholder updates.

**Dr John Mair**  
**Managing Director**  
**+61 8 9382 2322**

**Christian Olesen**  
**Rostra Communication**  
**+45 3336 0429**

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.

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### **Competent Person Statement – Mineral Resources Ore Reserves and Metallurgy**

*The information in this report that relates to Mineral Resources is based on information compiled by Mr 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 information in the statement that relates to the Ore Reserves Estimate is based on work completed or accepted by Mr Damien Krebs of Greenland Minerals and Energy Ltd and Mr Scott McEwing of SRK Consulting (Australasia) Pty Ltd. The information in this report that relates to metallurgy is based on information compiled by Damien Krebs.*

*Damien Krebs is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the type of metallurgy and scale of project under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report in the form and context in which it appears.*

*Scott McEwing is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report 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 12<sup>th</sup>, 2015. The ore reserve estimate was released in a Company Announcement on June 3<sup>rd</sup>, 2015. There have been no material changes to the resource estimate, or ore reserve since the release of these announcements.



## Appendix 1. Kvanefjeld Project, JORC 2012 Table 1.

The following section is provided to ensure compliance with the JORC (2012) requirements for the reporting of exploration results

### Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	<i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i>	The rock material used for the test work was stockpiled rock extracted from an exploratory adit that runs through the Kvanefjeld mineral resource for approximately 950m. Rock extracted from the adit is stored in series of stockpiles below the adit entrance. Three stockpiles were selected as being representative based on geochemical evaluation, and a 34 tonne bulk sample was collected. A 200 kg sub-sample from the bulk sample was used for this specific test work program.
Sampling Techniques Continued	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	The geochemistry and metallurgical behaviour of the bulk sample used is well understood. The bulk sample material has been used for both laboratory bench-scale test work and pilot plant work performed in 2012 and 2015 respectively. The metallurgical behaviour of the bulk sample is consistent with that sourced from drill cores.
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	The samples were produced with small scale mining, from a horizontal adit. The horizontal adit was undertaken to produce mine like samples. These samples are logged with horizontal depth and have all been sampled for chemical assay. The location and geochemistry of the adit samples were correlated with the geochemistry from exploration drill cores to ensure representivity.
Drilling Techniques	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i>	No drilling performed specific to this work.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	No drilling performed specific to this work.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	No drilling performed specific to this work.

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	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	No drilling performed specific to this work.
<i>Logging</i>	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	No drilling performed specific to this work.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	No drilling performed specific to this work.
	<i>The total length and percentage of the relevant intersections logged.</i>	No drilling performed specific to this work.
<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	No drilling performed specific to this work.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	Dry crushed and rotary split using a mechanical splitter.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	No drilling performed specific to this work.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	All samples were crushed to minus 3 mm before being split out with a rotary sampling device. No grab samples or large rock samples were taken.
	<i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i>	Previous metallurgical test work has been performed on the ore samples to demonstrate their behaviour was representative.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The grain size of the target value mineral is 75 micrometers on average. The ore provided was all crushed to minus 3 mm prior to sub-sampling using a mechanical splitter to produce the delivered sample.
<i>Quality of assay data and laboratory tests</i>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The test work was performed at ALS Laboratories in Perth. ALS is an independent laboratory with an in-house analytical facility. The concentrates used were assayed with sodium peroxide fusion, three acid digest and ICP-MS. Fluoride assays were by ion selective probe.
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the</i>	No site geophysical tools used.

**PERTH:** Unit 6, 100 Railway Road, Subiaco Western Australia 6008 **POSTAL:** PO Box 2006, Subiaco WA 6904

Telephone: +61 8 9382 2322 Facsimile: +61 8 9382 2788

**GREENLAND:** PO Box 156, Narsaq, Greenland 3921

**WEB:** [www.ggg.gl](http://www.ggg.gl) **EMAIL:** [info@ggg.gl](mailto:info@ggg.gl) **ABN:** 85 118 463 004

	<i>analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	ALS has their own internal quality control procedures to allow them to be a certified ISO laboratory for exploration as well as metallurgical assays.
Verification of Sampling and Assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No drilling performed specific to this work.
	<i>The use of twinned holes.</i>	No drilling performed specific to this work.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	No drilling performed specific to this work.
	<i>Discuss any adjustment to assay data.</i>	No drilling performed specific to this work.
Location of data points	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	No drilling performed specific to this work.
	<i>Specification of the grid system used.</i>	No drilling performed specific to this work.
	<i>Quality and adequacy of topographic control.</i>	No drilling performed specific to this work.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	No drilling performed specific to this work.
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	No drilling performed specific to this work.
	<i>Whether sample compositing has been applied.</i>	No drilling performed specific to this work.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	No drilling performed specific to this work.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have</i>	No drilling performed specific to this work.

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	<i>introduced a sampling bias, this should be assessed and reported if material.</i>	
<i>Sample Security</i>	<i>The measures taken to ensure sample security.</i>	The chain of custody of the samples was managed by GMEL. Samples are stored in a registered facility operated by GMEL in Perth Western Australia.
<i>Audits or Reviews</i>	<i>The results of ay audits or reviews of sampling techniques and data.</i>	No additional audits were completed other than the routine quality control tests with standards at the laboratory.