

## June 2020 Quarterly Report

Thursday 30<sup>th</sup> July 2020

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### Highlights:

- **Updated Environmental Impact Assessment lodged with Greenland Government**
  - Review process advanced, feedback received on all new studies
  - EIA review and update process scheduled for completion August 26th
  - Translation of EIA to Greenlandic and Danish progressing on schedule
  
- **Key Appointment of Executive General Manager - Mr Jørn Skov Nielsen**
  - Important step in building in-country organisational capacity at pivotal time
  - Brings extensive managerial experience with a deep knowledge of Greenland society and business sectors, as well as the Kvanefjeld Project
  - Internationally experienced in government-government and commercial negotiations; well positioned to assist in European commercial engagement
  
- **Economic and environmental benefits of Kvanefjeld by-product streams**
  - Low cost recovery of by-products will ensure low rare earth production costs
  - Reduce environmental impacts by converting a significant amount of uranium, zinc and fluorine to saleable products
  
- **Strengthening medium- to long-term outlook for critical rare earth demand and pricing**
  - Global production required to double through to 2030
  - Greenland well-positioned to enter supply and target key international markets, particularly Europe

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## June 2020 Quarterly Activities

Greenland Minerals Ltd ('GML' or 'the Company') is pleased to report on Q2, 2020 activities, and progress on the development of the Kvanefjeld rare earth project. Following the finalisation of additional EIA technical studies and the main EIA report in early Q2, all material was lodged with Greenland's Environmental Agency for Mineral Resource Activities (EAMRA). The review process is now well-advanced, with EAMRA advising the Company that the review process is scheduled to be completed by 26<sup>th</sup> August.

An important Q2 development was the appointment of Mr Jørn Skov Nielsen as Executive General Manager. Mr Nielsen has assumed a senior leadership role within Greenland Minerals, and his skill sets and experience have him ideally positioned to drive both in-country activities, and outreach into Europe. His appointment comes at an important time and is the start of building the Company's organisational capacity in Greenland in order to manage a growing range of activities to drive the successful development of the Kvanefjeld Project.

Through Q2 the Company has been active in updating the investment community through online meeting forums. In May, Managing Director John Mair participated in the 121 Group's UK/European investor forum where the Company received strong interest, as well as updating Australian investors. The Company has been invited to give an online presentation to the Rare Earth Industry Association (REIA) in September to provide and update on the status and outlook of the Kvanefjeld Project to European industry groups.

GML has otherwise been focussed on coordinating translations of updated EIA material, and preparing a range of project briefs to assist in stakeholder communications through a public consultation phase that will be undertaken upon completion of the EIA review process, and completion of report translations.

The Kvanefjeld Project, 100% owned by GML, 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. Kvanefjeld offers a new, simpler path to rare earth production than traditional highly-refractory sources.

The recovery of a series of by-products during the production of a rare earth intermediate product rich in critical magnet rare earths including **neodymium, praseodymium, terbium** and **dysprosium**, will ensure low rare earth production costs.

The Kvanefjeld Project is located near the southern tip of Greenland near existing infrastructure, including an international airport, and has year-round direct shipping access to the project area.

Greenland Minerals Ltd has an internationally diverse shareholder base. The largest shareholder (10.5%) is Shenghe Resources Holding Co Ltd, a leading international rare earth company that supplies end-user industries globally with high purity rare earth metals and oxides. Shenghe have also played a key role through technical proficiency in the successful restart of the Mountain Pass rare earth mine in the United States. Shenghe bring full rare earth value chain proficiency to the Kvanefjeld Project.

## **Kvanefjeld EIA – Reviews Well Advanced**

In late-May GML lodged the updated EIA for the Kvanefjeld Project with Greenland's Environmental Agency for Mineral Resource Activities (EAMRA). Following reviews of the EIA in 2019, the Company had commissioned a number of additional independent technical studies to address issues that it had been agreed with EAMRA merited some additional analysis. These technical studies which form part of the EIA reference list were provided to EAMRA along with updated EIA report.

Through June and July GML has received review feedback from EAMRA with minor technical recommendations that independent consultants have been able to efficiently address. EAMRA has advised the Company that they are on track to complete the review process by August 26<sup>th</sup>. The Company continues to work closely with EAMRA and their advisors to ensure a high-quality EIA to thoroughly address all environmental impacts associated with the Kvanefjeld Project.

Once EAMRA is satisfied, the Ministry for Mineral Resources and Labour will be notified, who manage the remainder of the licensing process. The development strategy for Kvanefjeld has sought to apply Best Available Technology and Best Environmental Practice. Specialist independent consultancy Shared Resources has overseen EIA updates.

## **Progress Toward a Mining License**

Other project reporting that relates to licensing include the Social Impact Assessment (SIA) and Maritime Safety Study have been accepted and translated to Greenlandic and Danish. Translations of the updated EIA are underway and managed from the Company's Nuuk office. Another key requirement for the granting of a mining license is the effective documentation of a deposit of exploitable minerals in the license area, and that this has been approved by the Greenland Government. The Ministry has provided written confirmation that GML's documentation (mineral resource and feasibility reports) for the Kvanefjeld Project (exclusive exploration license EL 2010/02) has been approved. GML looks forward to advising on the timing of a public consultation period.

In a recent feature article in the Danish newspaper Information on July 4<sup>th</sup>, Mr Vittus Qujaukitsoq, Minister of Finance, Jens-Frederik Nielsen, Minister of Business and Mineral Resources and Jess Svane, Minister of Labor, Research and the Environment outlined the Greenland Governments clear intent to move into mining to drive greater economic independence and prosperity.

## **Key Appointment in Greenland**

In early July, the Company announced the appointment of Mr Jørn Skov Nielsen as Executive General Manager. Mr Nielsen will play a key leadership role, driving many of the Company's in-country activities pertaining to the Kvanefjeld rare earth project (the 'Project'), particularly around licensing and regulation in Greenland and Denmark, as well as strategic and commercial developments into Europe.

Mr Nielsen is an economist with extensive managerial experience stemming from over a decade working in a cross section of senior roles within the Greenland administration, including the role of Deputy Minister for various areas such as industry, trade, energy, mineral resources, research and labour. In this capacity he has led government delegations and presented to influential audiences in Asia, Europe, North America and Australia to promote the interests of Greenland and attract foreign investment.

Mr Nielsen brings experience in international government-government and commercial negotiations. Importantly, Mr Nielsen possesses a deep understanding of the Greenlandic society and business sectors. This knowledge, along with his career experience has him extremely well placed to join the Company at a pivotal time to bolster in-country leadership and organisational capacity.

Upon appointment, Jørn Skov Nielsen commented,

*'I look forward to being part of the high-quality work undertaken by Greenland Minerals in the development of a project with far-reaching strategic and commercial significance for Greenland and on a global scale.*

*It is a unique industrial project that has the potential to become a world leader in the extraction of rare earth metals, thus contributing to improved energy efficiency, increasing renewable power generation capacity, and reducing greenhouse gas emissions on a world scale. The project further has a strong perspective in terms of supporting a long-term sustainable development of Greenland's business community, employment and knowledge building '.*

## **Rare Earth Sector Outlook – Strong Development Window Approaching**

The consensus of opinion amongst market analysts is that the impact of the COVID 19 pandemic on the rare earth market will be significant but of relatively short duration. At a meeting of the European RE Industry Association (REIA), of which the Company is a member, ADAMAS Intelligence reported significant falls in EV sales, an important market for rare earth magnets, in the first half of 2020. The falls were most significant in Asia but sales in Europe and the US were also well down. However, ADAMAS forecast a strong recovery in 2021 and 2022. Growth in EV sales is the key to meeting mandated vehicle emission targets around the world.

Despite the impact of the pandemic on the demand, in particular for magnet metals, prices for the full suite of rare earth elements has so far held its own over the course of 2020.

The longer-term picture for rare earths remains extremely robust. ADAMAS is forecasting that global annual demand for magnet rare earth oxides (Nd, Pr, Dy, Tb) will increase by 150% through to 2030. Meeting this demand will require current global production to double.

When this is considered together with increasing production costs in China, it is clear that there will be considerable upward pressure on prices over time. This outlook creates an optimal development window

for the Kvanefjeld Project given its advanced status, favourable production profile across all key magnet RE's, and competitive cost structure.

### **By-Products Set to Deliver Economic and Environmental Benefits**

When developed, Kvanefjeld will be one of the world's largest producers of rare earths (REs), producing in excess of 30,000 tpa of rare earth oxide (equivalent) in an intermediate product. The intermediate product will contain very significant quantities of the critical magnet RE's (**neodymium, praseodymium, terbium, dysprosium**).

The Project will also recover a series of by-products in the course of producing the RE intermediate product. In addition to rare earths the Project will produce commercially significant quantities of uranium oxide, zinc concentrate, and fluorspar. At current prices, rare earths are forecast to contribute over 90% of Project revenues, however, the marginal cost of by-product recovery is low and the by-product revenue generated ensures that unit RE production costs are very low. In addition, the recovery of by-products has the effect of removing environmentally adverse elements from the Project's tailings streams thereby reducing the Project's overall environmental impact.

#### **Uranium**

The Kvanefjeld deposit contains a very large but low-grade uranium resource, a significant proportion of which is hosted within the main RE minerals. In order to produce a saleable RE product it is necessary to remove the uranium and the refinery section of the flowsheet includes a uranium recovery circuit. The uranium will be recovered as uranium peroxide ( $UO_4$ ) and will meet the specifications set by uranium conversion facilities.

The annual cost of removing approximately 475 tpa of uranium will be less than US\$5M. Uranium sales will add in excess of US\$45Mpa to Project revenue. A significant addition to revenue, many multiples of the cost of recovery.

Uranium will be exported directly from Greenland.

Uranium production will reduce the environmental impact of the Project locally and will contribute to the reduction of global greenhouse gas emissions. Recovering uranium during processing reduces the quantity of uranium disposed in tailings and reduces residual radioactivity in the Project area. Management of uranium that is not recovered during processing is addressed in GML's environmental impact assessment (EIA) which is currently under review by Greenland's Environmental Agency for Mineral Resource Assessment (EAMRA)

#### **Zinc**

Zinc occurs throughout the Kvanefjeld deposit at a grade of approximately 0.23%. The zinc is recovered in a flotation concentrate at the first stage in the RE production process. Without the removal of zinc prior to RE flotation, additional chemical treatment stages would be required in the refinery circuit.

The zinc concentrate will contain ~50% zinc which is comparable to other zinc concentrates traded internationally. The Project will produce ~6,000tpa of zinc in concentrate which will generate approximately US\$6mpa (1% of revenue) after allowing for treatment charges.

The removal and sale of zinc lessens the environmental impact of the Project by reducing the amount of zinc sulphide in tailings placed in the Project's tailings storage facility.

### **Fluorspar**

The Kvanefjeld deposit contains the water soluble mineral villaumite which is the main source of fluoride in the Project area. In the upper portions of the deposit, much of the villaumite has been dissolved by groundwater and as a result the levels of fluoride in groundwater are naturally elevated.

Fluoride dissolved from ore is important in the RE flotation process and process water is recycled to produce the optimum concentration of fluoride. Fluorspar is precipitated from a bleed stream from this water cycle process. The fluorspar precipitate is thickened, filtered and washed.

Kvanefjeld will produce metallurgical grade fluorspar (Metspar) which is used in the production of steel, cement and ceramics. The Project will be a minor producer of Metspar (approximately 12,500tpa) but production will be relatively high grade. At a price of approximately US\$300 per tonne, the production of fluorspar will add approximately US\$4 million per year.

The production of fluorspar reduces the amount of fluoride to be managed within the Project area and the management of residual fluorine is addressed in the EIA, currently under review.

### **Economic Implications**

Annually, by products will generate almost US\$60M in annual revenue for the Project, the equivalent of a credit against the cost of producing REs of approximately US\$1.90/kg of RE or 40% of the cost of producing a RE intermediate product in Greenland. This benefit will ensure Kvanefjeld is low-cost, globally significant producer of RE's.

### **Greenland's Role in New RE Supply Chains**

GML has been operating in Greenland, with a focus on the Kvanefjeld rare earth project since 2007. The project has been systematically investigated, and today, Kvanefjeld is one of the world's most important emerging rare earth projects and is well positioned to see Greenland become a globally significant supplier of materials that are key to an energy efficient, and environmentally sustainable future.

The Kvanefjeld Project is founded on a unique geological environment in southern Greenland, that contains vast mineral resources enriched in critical rare metals. At a planned processing rate of 3 million tonnes/year, Kvanefjeld will be a globally significant producer of light RE magnet metals neodymium and praseodymium (combined Nd-Pr oxide of 5,690t/a) as well as being a significant producer of the strategically significant heavy RE's terbium and dysprosium (44t/a and 270t/a respectively). Rare earth

production costs will be low owing to favourable metallurgy, coupled with additional revenue streams generated through the by-production of uranium, zinc and fluorspar (metspar).

Kvanefjeld has an initial mine life of 37 years, based on a 108 million tonne ore reserve (JORC 2012), however, this represents only ~10% of the broader resource based. There is clear scope to be expand production and extend the project mine life.

The Kvanefjeld Project has been systematically assembled drawing on a collective of specialist expertise from around the world. This includes leading technical and metallurgical input from major shareholder (10.5%) and leading international rare earth company Shenghe Resources Holding Co. Extensive stakeholder engagement has shaped the development strategy. Studies into environmental and social impacts have been undertaken by independent special consultancies in close communication with Greenland regulatory bodies.

Kvanefjeld is ideally placed to be developed to meet growing rare earth demand. Significantly, Kvanefjeld would be Greenland's first world-class mining operation and the flagship of Greenland's emerging minerals industry.

Authorised for release by:

Dr John Mair

Managing Director

**-ENDS-**



## **About Shenghe Resources Holding Co. Ltd**

**Shenghe Resources Holding Co. Ltd** (SSE 600392), (Shenghe) is a public company exclusively focused on mining and processing rare earth ores, and producing high purity rare earth oxides, metals and alloys along with a range of rare earth products. Shenghe is listed on Shanghai Stock Exchange (since 2012) and, as at 28 July 2017 had 1.76 billion shares on issue and a market capitalization of approximately RMB 16 billion or AUD 3.2 billion.

Shenghe has a diversified background of its major shareholders. As at 20 June, 2017, the Institute of Multipurpose Utilization of Mineral Resources (IMUMR), a state owned scientific research institute specializing in mineral resources, holds 14.04%, Mr Wang Quangen, former engineer of IMUMR holds 6.85% and the Sichuan Giastar Enterprise Group, a private company involved in the agricultural industry holds 5.52%.

Shenghe is headquartered in Chengdu, Sichuan Province and is a single industry company with mining and processing activities in a number of Chinese centres and has commenced the strategy of extending business outside China to increase the focus on overseas resources and international markets. Shenghe is involved at all levels of the rare earth industry, from mining through processing to the production of end products. Significantly, Shenghe also holds Chinese production quotas for the mining and separation/refining of rare earths.

For Shenghe, investment in GML is aimed to secure access to rare earth resources outside of China which are capable of supporting a range of rare earth businesses, facilitating long term internationally focussed growth opportunities.

## **About the Kvanefjeld Project**

The Kvanefjeld Project is centred on the northern Ilimaussaq Intrusive Complex in southern Greenland. The project includes several large-scale multi-element resources including Kvanefjeld, Sørensen and Zone 3. Global mineral resources now stand at **1.01** billion tonnes (JORC-code 2012 compliant).

The deposits are characterised by thick, persistent mineralisation hosted within sub-horizontal lenses that can exceed 200m in true thickness. Highest grades generally occur in the uppermost portions of deposits, with overall low waste-ore ratios.

Less than 20% of the prospective area has been evaluated, with billions of tonnes of lujavrite (host-rock to defined resources) awaiting resource definition.

While the resources are extensive, a key advantage to the Kvanefjeld project is the unique rare earth and uranium-bearing minerals. These minerals can be effectively beneficiated into a low-mass, high value concentrate, then leached with conventional acidic solutions under atmospheric conditions to achieve particularly high extraction levels of rare earths. This contrasts to the highly refractory minerals that are common in many rare earth deposits that require technically challenging and costly processing. The rigorously developed process route for Kvanefjeld has been the subject of several successful pilot plant campaigns. Uranium and zinc will be recovered as by-products at low incremental costs.

The Kvanefjeld project area is located adjacent to deep-water fjords that allow for shipping access directly to the project area, year-round. An international airport is located 35km away, and a nearby lake system has been positively evaluated for hydroelectric power.

Rare earth elements (REEs) are used in a wide variety of applications. Most notably, rare earth elements make the world's strongest permanent magnets. The magnet industry continues to be a major growth area, owing to the essential requirement of high-powered magnets in electric cars, renewable energy sources such as wind turbine, along with many common place electrical applications.

Magnetism is the force that converts electricity to motion, and vice-versa in the case of renewable energy such as wind power. In recent years growth in rare earth demand has been limited by end-user concerns over pricing instability and surety of supply; however, demand has returned and the outlook continues to strengthen.

Kvanefjeld provides an excellent opportunity to introduce a large, stable supplier at prices that are readily sustainable to end-users. In addition, rare earths from Kvanefjeld will be produced in an environmentally sustainable manner further differentiating it as a preferred supplier of rare earth products to end-users globally. These factors serve to enhance demand growth.

## **Tenure, Permitting and Project Location**

### ***Tenure***

Greenland Minerals Ltd (ABN 85 118 463 004) is a company listed on the Australian Securities Exchange. The Company has conducted extensive exploration and evaluation of license EL2010/02. The Company controls 100% of EL2010/02 through its Greenlandic subsidiary.

The tenement is classified as being for the exploration of minerals. The project hosts significant uranium, rare earth element, and zinc mineral resources (JORC-code compliant) within the northern Ilimaussaq Intrusive Complex.

Historically the Kvanefjeld deposit, which comprises just a small portion of the Ilimaussaq Complex, was investigated by the Danish Authorities. GML has since identified a resource base of greater than 1 billion tonnes, including the identification and delineation of two additional deposits. The Company has conducted extensive metallurgical and process development studies, including large scale pilot plant operations.

### ***Permitting***

Greenland Minerals Limited is permitted to conduct all exploration activities and feasibility studies for the Kvanefjeld. The company's exploration license is inclusive of all economic components including both REEs and uranium.

A pre-feasibility study was completed in 2012, and a comprehensive feasibility study completed in 2016. A mining license application was handed over to the Greenland Government in December 2015, which addresses an initial development strategy. The project offers further development opportunities owing to the extensive mineral resources.

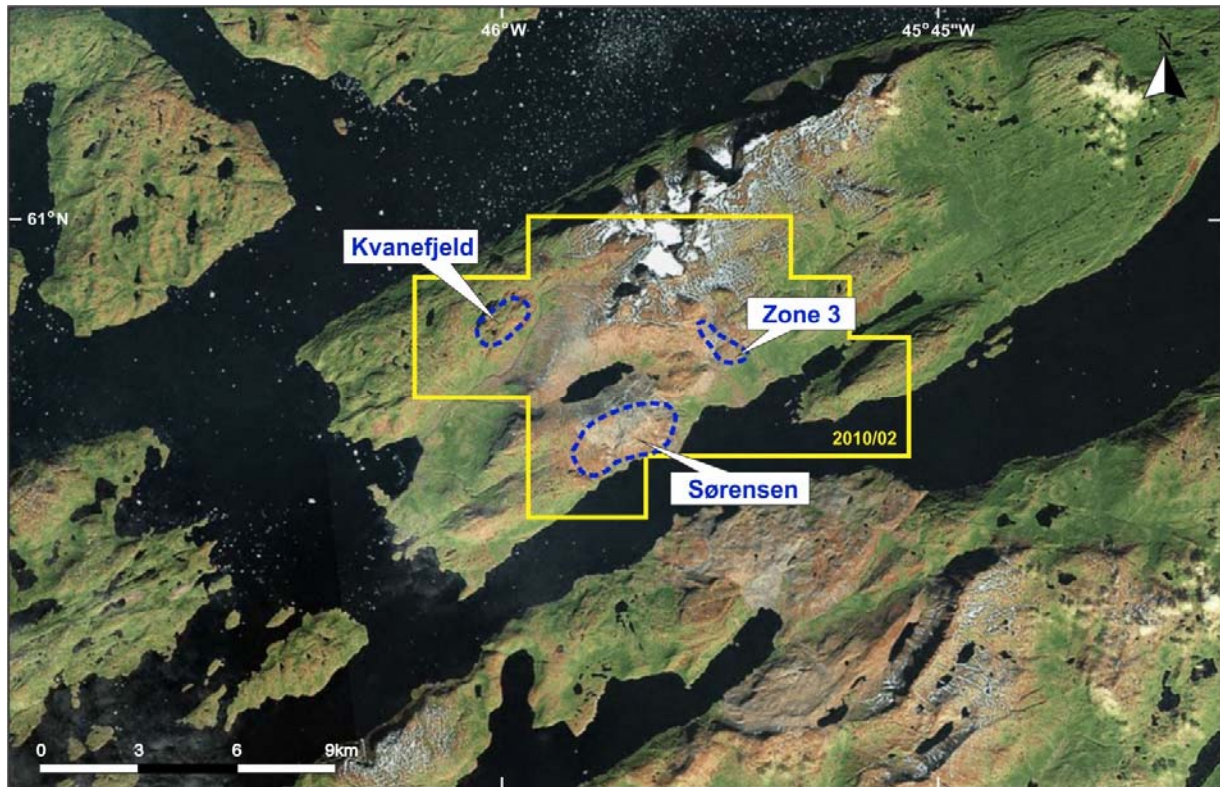
### ***Location***

The exploration lease covers an area of 80km<sup>2</sup> in Nakkaalaaq North on the southwest coast of Greenland. The project is located around 46° 00'W and 60 55'N.

The town of Narsaq is located approximately 8 kilometres to the south west of the license area. Narsaq is connected to Narsarsuaq International Airport by commercial helicopter flights operated by Air Greenland. Local transport between settlements is either by boat or by helicopter.

The Company has office facilities in Narsaq where storage, maintenance, core processing, and exploration and environmental activities are managed.

Access to the Kvanefjeld plateau (at approximately 500m asl) is generally gained by helicopter assistance from the operations base located on the edge of the town of Narsaq. It is possible to access the base of the plateau by vehicle and then up to the plateau by a track.



Overview of GML's 100% controlled license EL2010/02. A mining license application has been lodged.

Exploration License	Location	Ownership
EL 2010/02	Southern Greenland	Held by Greenland Minerals A/S, a fully owned subsidiary of GML.
<b>Capital Structure – As at 30 June 2020</b>		
Total Ordinary shares		1,190,982,530
Unquoted options exercisable at \$0.15 on or before 31 March 2021		4,000,000
Employee performance rights (subject to vesting hurdles – refer announcement 8 Jun 2019)		8,600,000

Please visit the company's website at [www.ggg.gl](http://www.ggg.gl) where recent news articles, commentary, and company reports can be viewed.

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

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

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

Cut-off (U <sub>3</sub> O <sub>8</sub> ppm) <sup>1</sup>	Multi-Element Resources Classification, Tonnage and Grade									Contained Metal				
	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>Sørensen - March 2012</b>														
150	Inferred	242	11,000	304	9,700	398	10,100	895	2,602	2.67	0.10	0.22	162.18	0.63
200	Inferred	186	11,600	344	10,200	399	10,600	932	2,802	2.15	0.07	0.17	141.28	0.52
250	Inferred	148	11,800	375	10,500	407	10,900	961	2,932	1.75	0.06	0.14	122.55	0.43
300	Inferred	119	12,100	400	10,700	414	11,100	983	3,023	1.44	0.05	0.12	105.23	0.36
350	Inferred	92	12,400	422	11,000	422	11,400	1,004	3,080	1.14	0.04	0.09	85.48	0.28
<b>Zone 3 - May 2012</b>														
150	Inferred	95	11,600	300	10,200	396	10,600	971	2,768	1.11	0.04	0.09	63.00	0.26
200	Inferred	89	11,700	310	10,300	400	10,700	989	2,806	1.03	0.04	0.09	60.00	0.25
250	Inferred	71	11,900	330	10,500	410	10,900	1,026	2,902	0.84	0.03	0.07	51.00	0.20
300	Inferred	47	12,400	358	10,900	433	11,300	1,087	3,008	0.58	0.02	0.05	37.00	0.14
350	Inferred	24	13,000	392	11,400	471	11,900	1,184	3,043	0.31	0.01	0.03	21.00	0.07
<b>All Deposits – Grand Total</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	559	10,700	264	9,400	384	9,800	867	2,463	6.00	0.22	0.49	325.66	1.38
150	<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>

## **ABOUT GREENLAND MINERALS LTD.**

Greenland Minerals 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 Rare Earth Project. 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 demonstrated the unique and highly advantageous strengths of the Kvanefjeld Project and outlined the potential for Kvanefjeld to be developed as a long-life, low cost, and large-scale producer of rare earth elements; key enablers to the electrification of transport systems.

GML 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 was reviewed by the Greenland Government through 2016-19 and was updated in 2019.

In 2017-18, GML undertook technical work programs with Shenghe Resources Holding Co Ltd that improved the metallurgical performance and simplified the development strategy and infrastructure footprint in Greenland, with optimised Feasibility Study outcomes announced in mid-2019. This defined a significantly enhanced project cost-structure and a direct alignment 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.

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Greenland Minerals 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 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 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