

# **September 2019 Quarterly Report**

Thursday 31st October 2019

# **Highlights:**

- Updated EIA reviews completed, significant progress toward finalising EIA
  - ➤ Greenland's Environmental Agency for Mineral Resource Activities (EAMRA) has provided a structured approach to assist in finalising outstanding issues
  - Company views as an important development, as the strategy is focussed on closing the review process out, in a manner more in-line with other mining jurisdictions
  - Constructive information exchange underway with EAMRA
- Site visit by Shenghe and IMUMR geological personnel
  - ➤ Builds on 2018 field studies to increase knowledge base of project area
  - Follows on from highly successful project optimisation studies
- Stakeholder meetings conducted in South Greenland through October
  - Meetings held with Mayor's office, and business community
- Greenland Government puts positive new minerals strategy up for consultation
  - > Aimed to make case processing for licenses faster, simpler and more transparent
- \$7M capital raising successfully completed in July
  - > Strongly supported placement to institutional investors and existing shareholders
  - > Funds to progress ongoing technical development and complete permitting

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# **September 2019 Quarterly Activities**

The September Quarter saw international interest in Greenland continue to grow with increasing recognition of its strategic location, extensive endowment of mineral resources, and intent to work with foreign investors to develop its natural resource sector and diversify its economy. The Kvanefjeld Project, 100% owned by Greenland Minerals Ltd ('GML', or 'the Company') is positioned at the crest of this wave of interest owing to the extensive resources of rare earth elements, along with strong economic project parameters.

Through Q3 technical and media site visits continued at the Kvanefjeld Project area. Following United States Geological Survey (USGS) field activities in July, geologists from Shenghe Resources Holding Co Ltd (Shenghe) and the Institute of Multipurpose Use of Mineral Resources (IMUMR) visited the site to follow up on previous field-based studies. This involved working with GML personnel to learn more about the rare earth mineralisation and ore bodies based on field studies and the examination of drill cores.

In July GML conducted a share placement to institutional investors and existing shareholders to raise \$7M (AUD) before costs. The successful capital raise followed the completion of a highly successful feasibility optimisation program that resulted in a significant 40% reduction in both the capital and operating cost estimates. These optimisation outcomes have Kvanefjeld positioned with the lowest capital intensity, lowest unit costs of production and longest mine life of emerging ASX-listed rare earth projects. Metallurgical optimisation was guided by leading rare earth company and GML's major shareholder Shenghe Resources Holding Co Ltd. Ashanti Capital acted as Lead Manager of the Placement.

In August senior company representatives held meetings with Greenland's Ministry for Mineral Resources, and the Environmental Agency for Mineral Resource Activities (EAMRA), to run through the status of the broader permitting process, as well as updating on technical developments and the project strategy. This followed a series of meetings in Europe to address growing interest from European industry groups, as well as increased investor interest. There is increased recognition of the importance of stable, long-term supplies of rare earths to European industry, particularly magnet metals **neodymium**, **praseodymium**, **dysprosium** and **terbium**. Kvanefjeld is projected to be a significant, low-cost producer of all key magnet metals.

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 refractory sources.

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.

Shenghe Resources Holding Co Ltd (Shenghe), GML's largest shareholder, is a leader in RE processing technology, and one of the largest RE producers globally. Both companies are working to optimise Kvanefjeld, and develop the project as a low-cost, long-life cornerstone to future rare earth supply.



## **Kvanefjeld Project – Update on Permitting**

Project permitting remains a key point of Company focus. Over the last couple of years GML has worked through a guidance, or review phase, that is aimed at preparing social and environmental impact assessments for public consultation, and the subsequent production and approval of a white paper. The scope of the impact assessments is framed by the 'terms of reference', which were approved after public consultation in late 2015. The guidance process has taken place through a period during which there have been changes to the allocation of responsibilities among different Greenland government departments, and changes in key personnel within the government. This has negatively impacted continuity and efficiency in the processing of license applications, but these areas are now being addressed.

Changes to the administrative structure in 2019 that relates to mineral resources have aimed to centralise responsibilities with areas of Social Impact Assessments (SIA) and Impact Benefit Agreements (IBA) shifting from the Ministry of Industry and Energy, back to the Ministry for Mineral Resources and Labour.

A new minerals strategy has also been put forward for consultation by the Greenland Government to streamline the permitting process and make it faster, simpler and more transparent. This reflects a growing awareness that more can be done to improve the regulatory conditions for the minerals industry, and improvements are required. In the Company's view, it is positive to see industry feedback taken on board.

For GML, a lot of progress has been made in 2019 on finalising the Kvanefjeld mining license application for public consultation. The SIA and Maritime Safety Study (MSS) have been accepted for public consultation. The latest feedback on the EIA, received in mid-October, has been presented in a considerably more structured approach with feedback focussed on isolating a small number of priority areas (Type 1 issues) where further information has been requested prior to a public consultation. This presents a much clearer and more structured path forward.

The SIA, MSS and EIA have been translated into Greenlandic and Danish. GML continues an active dialogue with stakeholders in southern Greenland in relation to the status and content of the impact assessments, and the project outlook. Recent meetings were held in October with the Mayor of Southern Greenland Kista Isaken and Deputy Mayor Carsten Hansen. In June 2019, current versions of the SIA and EIA were presented to the southern Greenland municipality in three languages by company representatives and a lead independent consultant.

#### **EIA Feedback**

The latest feedback from Greenland's EAMRA (received October, 2019) has separated outstanding environmental issues into two categories: Type 1; those where EAMRA require more information before the EIA can be accepted for public consultation; and Type 2; which can be answered after the process of formal public consultation has been completed.



This approach will bring the EIA approval process closer to permitting practices in other countries where issues relating to final design and to engineering and construction, which are not salient to significant environmental risk, are dealt with in the final approvals process.

The Type 1 issues have been addressed in previous EIA work but have been assessed by EAMRA as being capable of further refinement. In anticipation of this, the Company has engaged external consultants who will manage and complete the additional work. It is anticipated that the additional work programmes can be completed in a three-month period after which they will be presented to EAMRA for review.

Most of the additional work is related to tailings storage facilities: more detailed modelling of scenarios for embankment failure; more detailed review of seismic conditions to validate long term stability of tailings structures; and a request to investigate the viability of an alternative "dry closure" option for the planned tailings facility.

In June, the International Council on Mining and Metals (ICMM), the United Nations Environment Programme (UNEP) and the Principles for Responsible Investment (PRI) co-convened a global tailings review to establish global best practices on tailings storage facilities. It is anticipated that the review will be completed by the end of 2019. The Company acknowledges that it is appropriate for its plans for tailings to be tested against the highest standards and has commenced a review of the design and operations of tailings management at Kvanefjeld to ensure compliance with updated standards.

Type 2 issues will be incorporated in ongoing work around flowsheet design and continuous technical improvement as well as in optimisation studies for the mine and processing facilities.

Further meetings are planned with EAMRA and the DCE in order to finalise the EIA in a timely manner. The Company looks forward to providing updates as additional studies are completed and a schedule is established for public consultation.

## **Technical Work Programs**

The summer period in Greenland has seen a steady flow of visitors to the Kvanefjeld Project site that reflects the growing profile of the project. Across late June and early July, a field work program led by the US Geological Survey investigated the local and regional geology, including the examination of drill cores and broader geophysical surveys.

In August, geologists from Shenghe and IMUMR were onsite for several weeks as part of ongoing field studies that feed into the broader technical work that has been underway with GML over the last 3 years. This visit provided the opportunity to walk through the outcomes of the optimised civil engineering strategy that concluded late in 2018, and to discuss the status of environmental studies in consideration of the proposed project layout.

Environmental baseline surveys for both water and dust monitoring are ongoing.



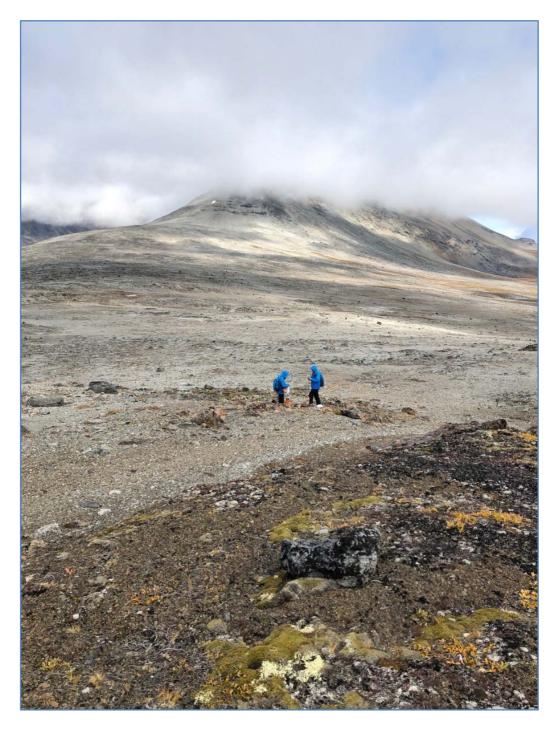


**Figure 1.** Geologists from Shenghe and IMUMR with Ib Laursen (GML site manager), below the Kvanefjeld plateau.



Figure 2. Examining the unique rocks and minerals on the Kvanefjeld plateau.





**Figure 3.** Geologists evaluating outcrops in the 'neck area' of the Taseq Basin that is the site for proposed tailings embankment structures. The area is underlain by impervious crystalline rock, providing a solid substrate for long-term, stable embankment structures.



#### **Technical Work – Laboratory**

Following the completion of major technical studies that have focussed on metallurgical flowsheet optimisation (reported on in Q1 and Q2, 2019), laboratory work has shifted to further improve radionuclide removal. This has been highly successful with the elimination of thorium and residual uranium from intermediate rare earth concentrate, without rare earth losses. This process also removes other non-radioactive species to improve the overall purity of intermediate rare earth concentrates. Test work in this area is ongoing and will ensure that intermediate products can be exported to a number of facilities for further processing to produce individual rare earth oxides and metals.

SGS Oretest Laboratories (Perth) has also been successful in producing uranium oxide (non-commercial quantities) from Kvanefjeld ore utilising the optimised flowsheet. A detailed chemical analysis was performed on the resulting uranium precipitate which confirmed that it meets all relevant specifications for a commercial uranium oxide product (meets all the specifications of the Orano and ConverDyn converters). SGS Oretest Laboratories is an independent laboratory which has full accreditation in radiation testing and as a storage facility.

## Capital Raising: Successful Placement Secures \$7M

In July, GML conducted as successful capital raise to secure \$7M (before costs). Ashanti Capital acted as Lead Manager of the Placement, with shares placed to both prominent institutional and sophisticated investors (Company announcement, July 31<sup>st</sup>, 2019). These investors included both new and existing shareholders.

The placement was limited to institutional and sophisticated investors in accordance with Section 708 Corporations Act with shares issued within the Company's Listing Rule 7.1 capacity. The participation of numerous Australian funds is a strong endorsement of the Company's significant progress in advancing Kvanefjeld toward development and as the outlook for the rare earth sector continues to strengthen.

## **Outlook for Q4**

The December quarter will see a productive close to 2019. Additional work programs that will address Type 1 EIA issues areas will soon be underway, and a number of teleconference/meetings with EAMRA are being scheduled.

The Company is looking to continue an engagement program with European industry to explore off-take and participation opportunities as interest increases in establishing clear supply lines of materials deemed critical to industry.

Meetings are being planned with Shenghe in Copenhagen, where both companies are looking to participate in a Greenland focussed event, organised by Danish Industry. This will provide an excellent



opportunity for meetings with a cross section of both government and industry representatives from Greenland and Denmark. Discussions continue with Shenghe in regard to advancing the downstream processing strategy.

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

GML is at the forefront of a strategic evolution in rare earth supply. Major changes are coming to global RE supply, with China looking to cap primary production in 2020, at a point when demand is set to surge. Prior to establishing a strategic relationship with leading rare earth company Shenghe in 2016, the Company had been actively engaging the Chinese rare earth industry for a number of years; a process which provided strong insight into how the industry was reshaping.

Kvanefjeld has a number of key attributes that, when integrated with Shenghe's downstream processing technology and capacity, can play an important role in new supply networks. These include:

- √ Scale largest code-compliant rare earth resource, ore reserve for initial 37-year mine life
- ✓ Simple mining with 1:1 strip ratio over initial 37-year mine life
- ✓ Multiple by-product revenue streams to strengthen project economics (U₃O<sub>8</sub>, zinc, fluorspar)
- ✓ Composition ideal production profile across key rare earths Nd, Pr, Tb, Dy
- ▼ RE minerals that allow for simple processing, which will be maximised by technical optimisation underway with Shenghe
- ✓ Strong economic metrics, low capital intensity and operating costs in a positive global macro environment
- ✓ Favourable country and project location with ice-free direct shipping access, international airport nearby
- ✓ Regulatory framework implemented to manage project operation and export controls

-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 are 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 conduct 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.

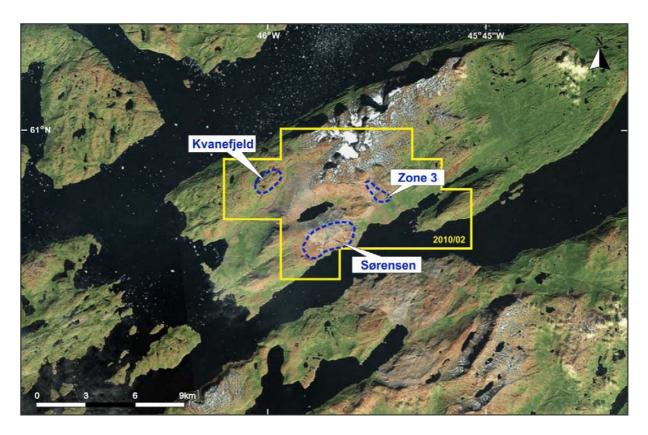
#### Location

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.

<b>Exploration License</b>	Location	Ownership							
EL 2010/02	Southern Greenland	Held by Greenland Minerals A/S, a fully owned subsidiary of GML.							
Capital Structure – As at 30 September 2019									
Total Ordinary shares	Total Ordinary shares 1,190,982,53								
Unquoted options exerc	4,000,000								
Employee performance rights (subject to vesting hurdles – refer announcement 22 Dec 2016) 6,000,0									
Employee performance rights (subject to vesting hurdles – refer									
1 ' ' '	announcement 8 Jun 2019) 8,600,00								

Please visit the company's website at <a href="www.ggg.gl">www.ggg.gl</a> where recent news articles, commentary, and company reports can be viewed.

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

Multi-Element Resources Classification, Tonnage and Grade Contain											tained Me	etal		
<b>Cut-off</b>	Classification	M tonnes	TREO <sup>2</sup>	U <sub>3</sub> O <sub>8</sub>	LREO	HREO	REO	$Y_2O_3$	Zn	TREO	HREO	$Y_2O_3$	U <sub>3</sub> O <sub>8</sub>	Zn
$(U_3O_8 ppm)^1$		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt
Kvanefjeld - Fe	bruary 2015													
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

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

	Multi-Element Resources Classification, Tonnage and Grade										Cont	ained Me	etal	
<b>Cut-off</b>	Classification	M tonnes	TREO <sup>2</sup>	U <sub>3</sub> O <sub>8</sub>	LREO	HREO	REO	$Y_2O_3$	Zn	TREO	HREO	$Y_2O_3$	U <sub>3</sub> O <sub>8</sub>	Zn
$(U_3O_8 ppm)^1$		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt
Sørensen - Mai	rch 2012													
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
Zone 3 - May 2	012													
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
All Deposits – 0	Grand Total													
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>	1010	11,000	266	9,700	399	10,100	893	2,397	11.14	0.40	0.90	592.84	2.42

<sup>&</sup>lt;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.

# Kvanefjeld Ore Reserves Estimate - April 2015

Class	Inventory (Mt)	TREO (ppm)	LREO (ppm)	HREO (ppm)	Y₂O₃ (ppm)	U₃O <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
Total	108	14,300	12,700	495	1,118	362	2,600

<sup>&</sup>lt;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.



#### 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 (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.

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 -17 and was updated in 2018 following addition supporting studies.

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. This enhanced the project cost-structure and ensured 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.

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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.

#### 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