

MATERIALS FOR AN ENERGY EFFICIENT FUTURE

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JORC Code (2012) Competent Person Statement – Mineral Resources and Ore Reserves

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.

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 12th, 2015. The ore reserves estimate was released in a Company Announcement on June 3rd, 2015. There have been no material changes to the mineral resource estimate, or ore reserves estimate since the release of these announcements.

Executive Summary – Kvanefjeld Rare Earth Project

A unique, world-class critical metal project

Long-life, low cost, large output of critical minerals:
Progressing toward a globally significant integrated producer

Advanced Stage of Development

>10 years of sustained research and development.
Permitting process advanced

>1 Billion Tonne JORC Resource

Initial 37 year mine life enabling infrastructure development. Year round shipping access

Strategic Partner Shenghe Resources

Largest shareholder is a major producer of rare earth products and supplier to international customers

Rare Earth Outlook

Strong demand outlook for magnet metals (Nd, Pr, Tb, Dy) and limited new supply sets the scene for price increases

Magnet Metals Nd – Pr – Tb - Dy

Largest projected output of key rare earth elements, economics strengthened via by-products – U, Zn

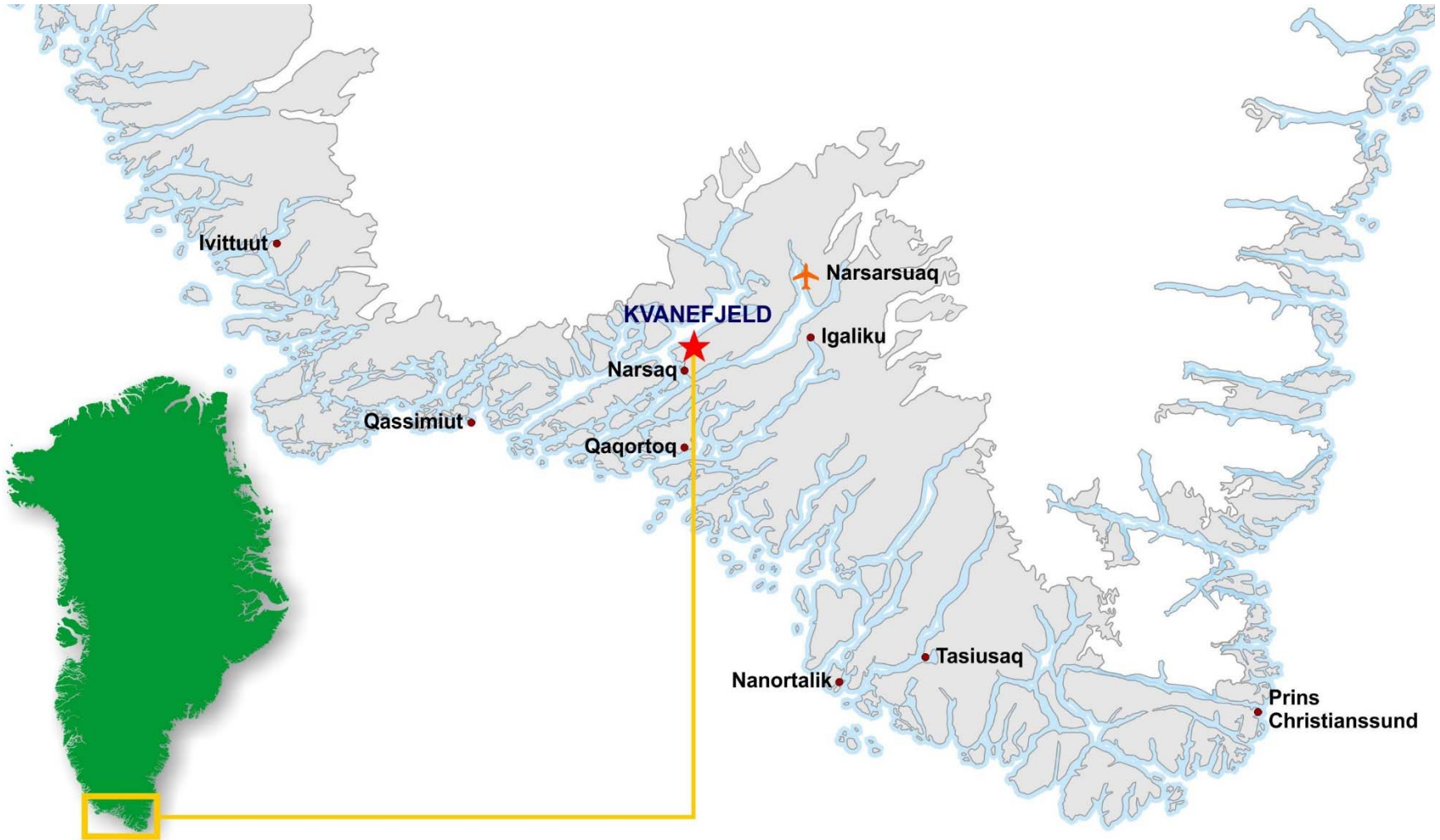
Regulatory Framework

Implemented by Greenland & Danish Governments to manage project and export of U by-products

Aligned With Global Agendas

Greenland set to provide critical minerals to facilitate key global agendas of electrification, energy efficiency, reduced carbon dependency

Kvanefjeld Project Setting



Kvanefjeld is located near existing infrastructure in southern Greenland, with year-round direct shipping access, airport nearby, and a mild climate; an optimal location

Kvanefjeld Project Setting

Direct shipping access to a world class ore body provides a major logistical advantage
New industry and economic growth important to southern Greenland municipality

Kvanefjeld Plateau
(670 Mt Resource, 108 Mt Reserve)

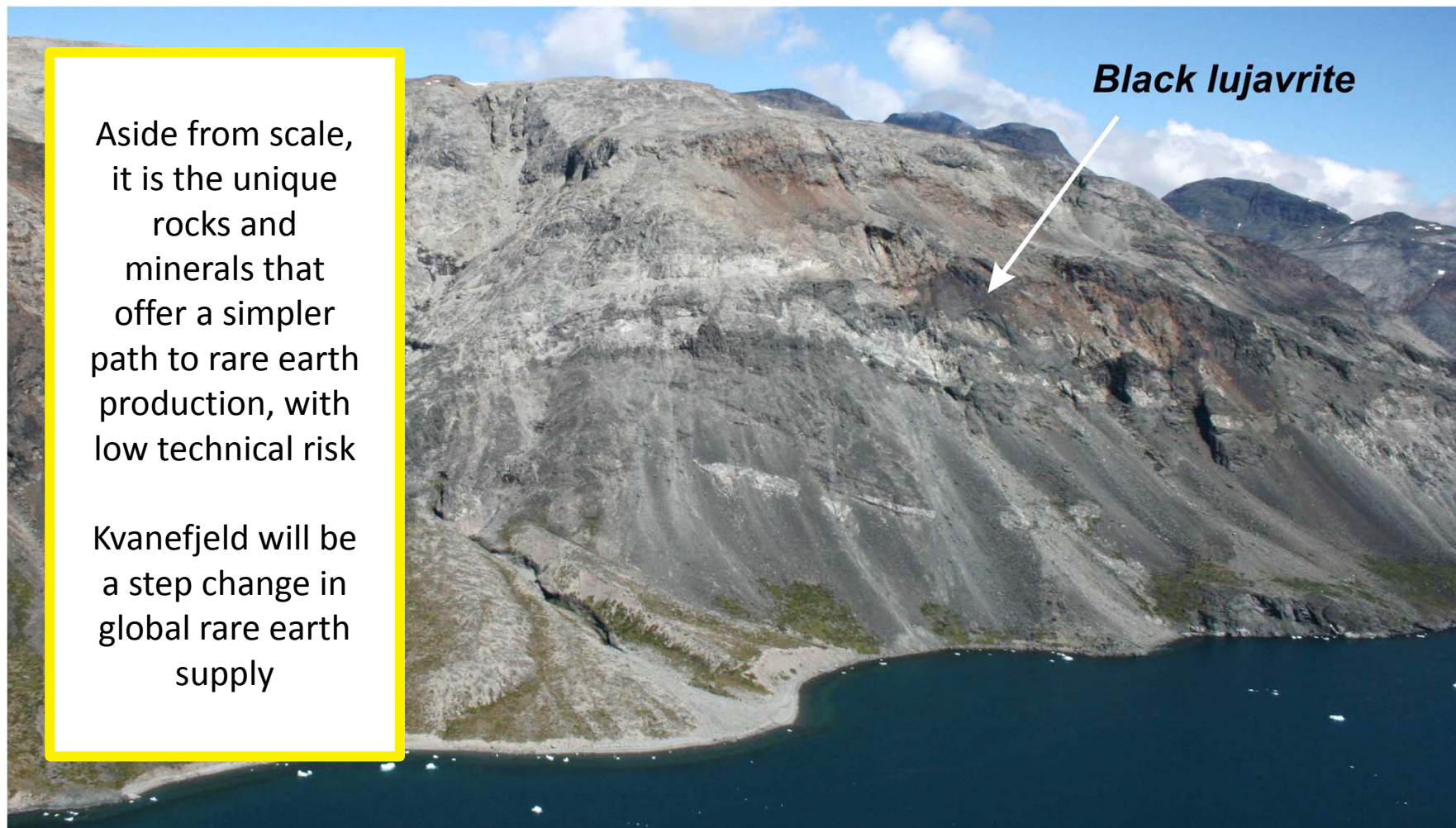


Centred on a Multi-Billion Tonne Outcropping Ore Seam

Aside from scale,
it is the unique
rocks and
minerals that
offer a simpler
path to rare earth
production, with
low technical risk

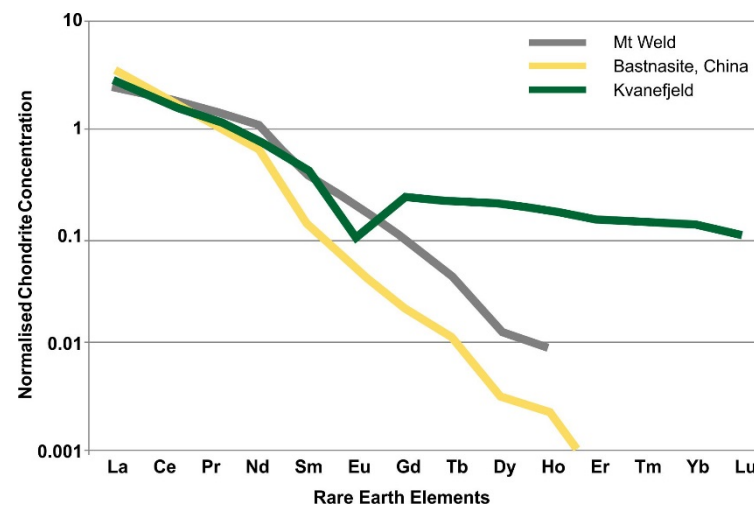
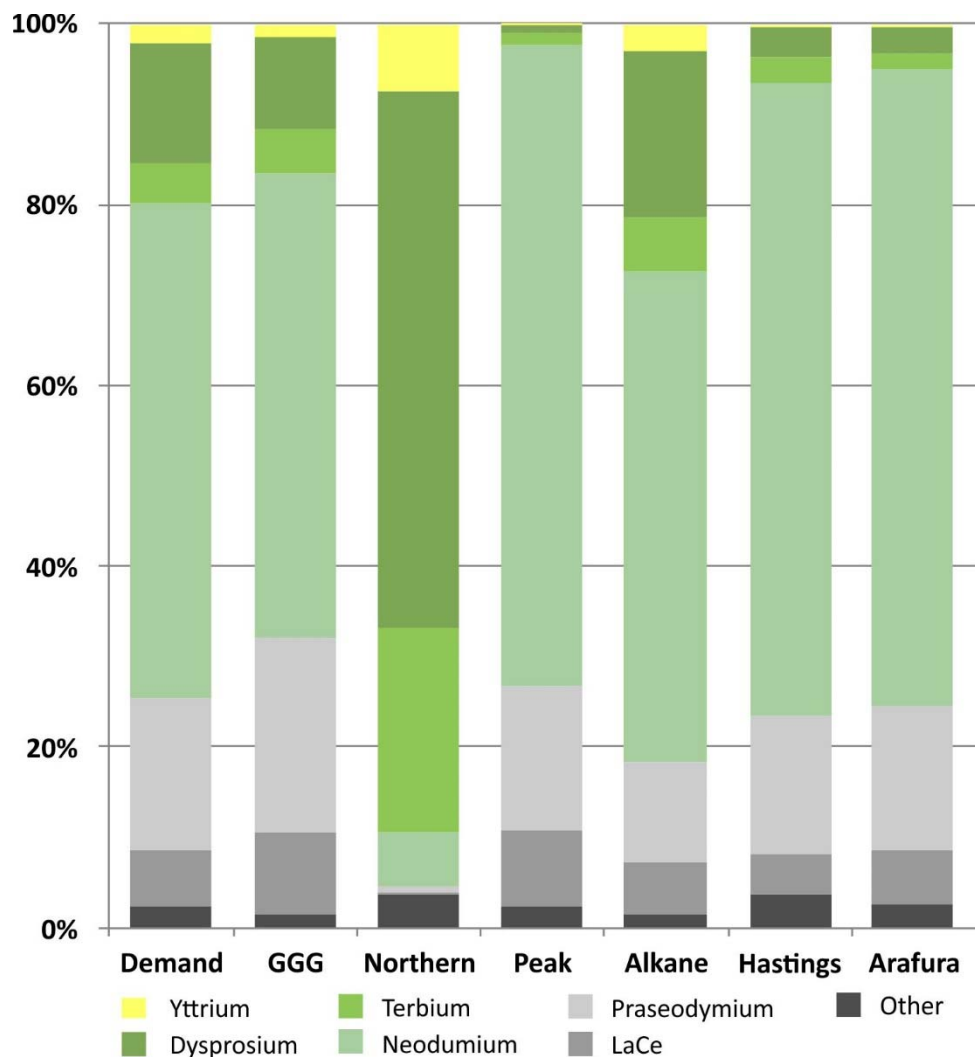
Kvanefjeld will be
a step change in
global rare earth
supply

Black Iujavrite



Kvanefjeld – A Complete Rare Earth Project

Nd - Pr - Dy - Tb



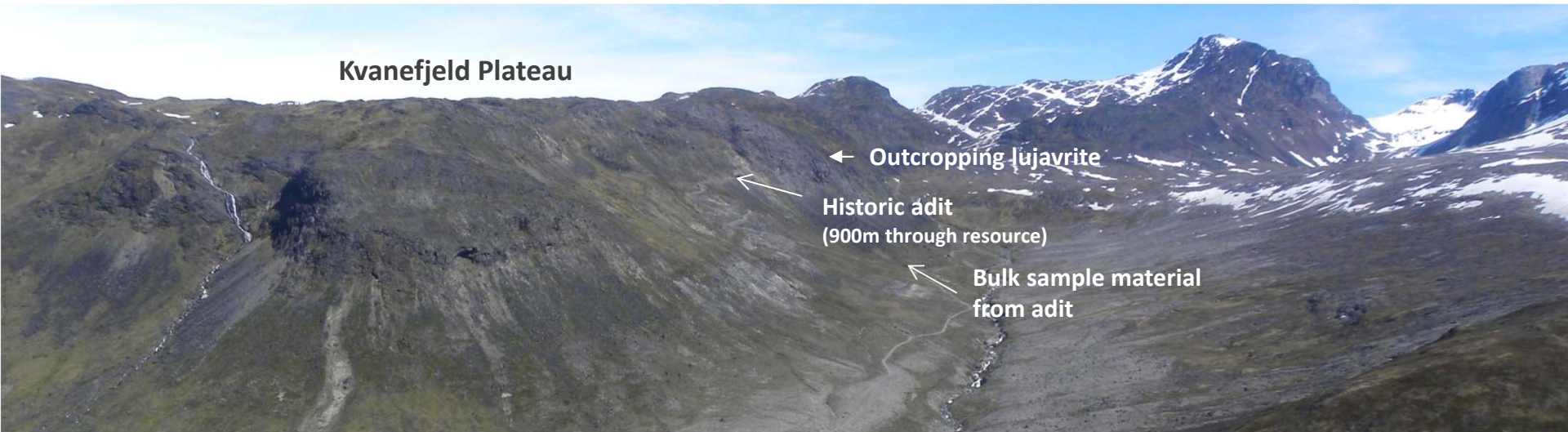
Rare earth plot highlighting the enrichment across the rare earth spectrum. Kvanefjeld is compared to Mt Weld, and typical bastnasite.

Kvanefjeld's enrichment across the RE spectrum creates a strong alignment with RE market, through exposure to Nd, Pr, Dy and Tb: a complete RE project.

Demand approximates the current rare earth market by value (volume x current price).
Projected output value distribution of select ASX-listed companies

Advanced Project Status

Extensive Research and Development



Prefeasibility
Study

Feasibility
Study

Updated
Feasibility
Study

Metallurgical
optimisation guided
by Shenghe

Updated operating
& capital costs for
optimised project

2012

2013

2014

2015

2016

2017

2018

2019

Pilot Plant
Operations

Engineering
optimisation
to minimise
civil costs

Rare Earth Value Chain Integration

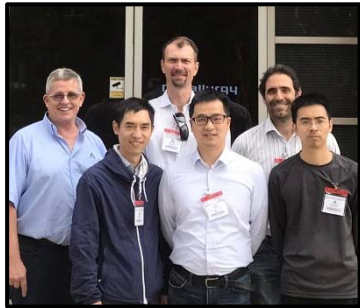
-  Working with major shareholder to integrate Kvanefjeld with rare separation capacity and international customer network
-  Shenghe is one of the largest, and fastest growing rare earth companies globally
-  Major supplier to international end-user industries – high purity metals and oxides
-  Aiming to jointly develop Kvanefjeld as a new cornerstone to international rare earth supply
-  Looking to strengthen ties with European Industry - a major new demand centre for REE's



Shenghe founder Mr Wang Quangen, and John Mair, October 2017 Shenghe HQ, Chengdu

Metallurgical Optimisation

A Shenghe – Greenland Minerals Collaboration



Test work programs conducted in both China and Australia



Flotation improvements generate a higher-grade, low-volume RE mineral concentrate



SHENGHE

TEST WORK

IMPROVEMENTS

FLOTATION

CIRCUIT

Guided by Shenghe, draws on world-leading rare earth processing technology



Major improvements developed to both flotation and refinery circuits



Single stage atmospheric leach circuit (refinery circuit)

RESULTS

Improved recoveries, 40% reduction in annual operating costs

Unit costs of <US\$4/kg of REO, net of by-product credits

(lowest of undeveloped REE projects in ASX-listed companies)



A team of leading international engineering firms visited Kvanefjeld in August 2018 for collaborative onsite surveys/studies

Nuna Logistics, Tetra Tech, PDN Engineers, China-CCC

Follow-up studies have resulted in a **44% reduction** in civil construction costs to US \$175M – including indirect costs and contingencies

Major reductions in civil construction costs accompany cost reductions achieved through metallurgical optimisation to reduce overall capital costs substantially

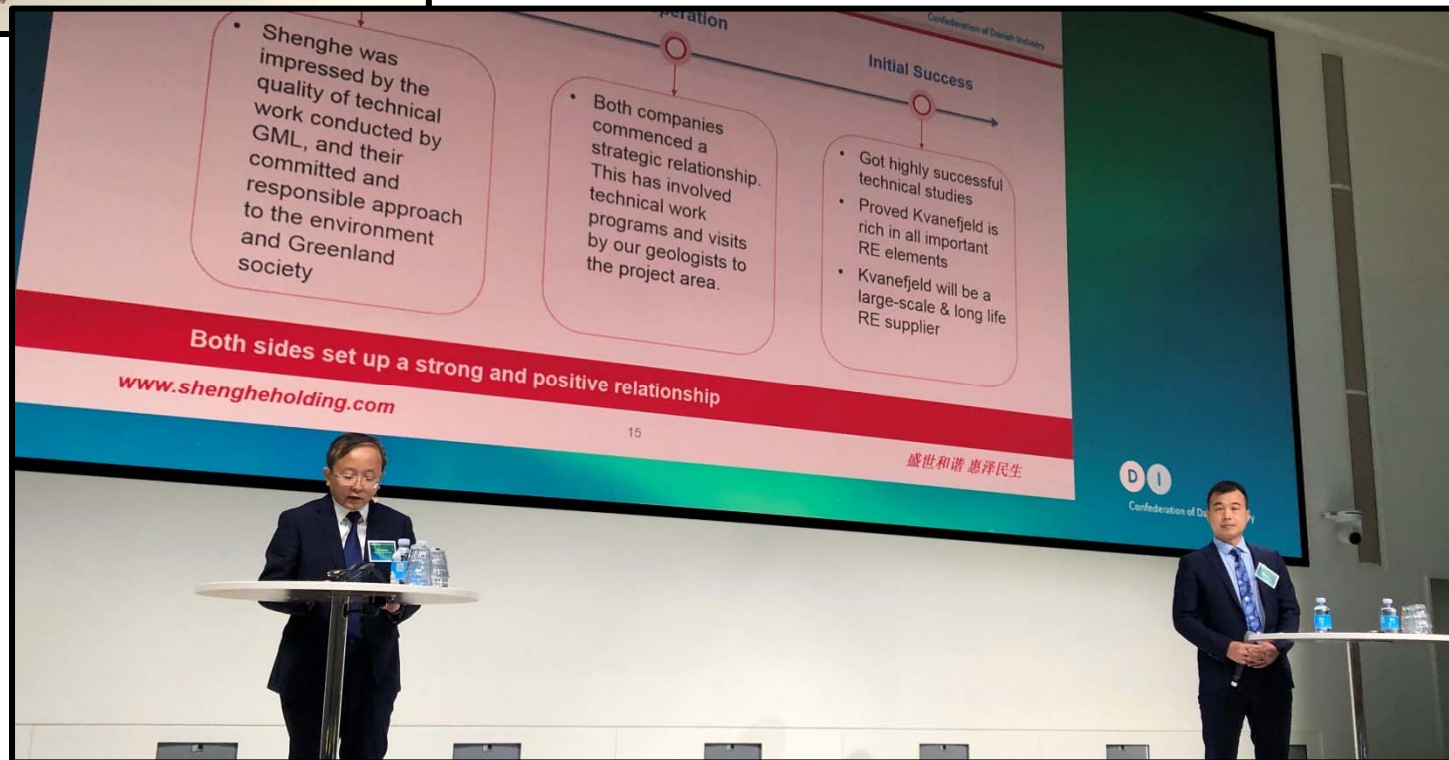
Optimised Feasibility Study - 2019



Rare Earth Value Chain Integration – Path to Market



- Shenghe Chairman Mr Hu Zesong presented at the 2019 Confederation of Danish Industry's Greenland Conference
- GML – Shenghe updated Greenland, Danish governments on project status and development strategy
- With technical optimisation complete – focus on commercial development





Kvanefjeld plateau

Project Permitting - Review phase nearing completion

Social Impact Assessment

Reviewed, updated and accepted for public consultation

Environmental Impact Assessment

Reviewed, additional supporting studies set for completion late Q1 2020

Thorough and rigorous approach to impact assessments:

Environmental Impact Assessment

GHD (International), Orbicon (Denmark/Greenland), Arcadis, Danish Hydraulic Institute, Environmental Resource Management, DTU, Blue Water Shipping, Wood Group

Social Impact Assessment

Shared Resources (International), NIRAS (Denmark)



Kvanefjeld Project is located in Kommune Kujalleq (Southern Greenland Municipality), behind the town of Narsaq

Over 10 years of stakeholder engagement in the local community, including important input into project 'Terms of Reference', approved in 2015

In March 2019 MoU entered with municipality and local business council to negotiate a participation agreement to cover community involvement and capacity development

Stakeholder meetings with specialist consultants and company representatives conducted in June, presentation of impact assessments to municipality

Kvanefjeld Project Overview



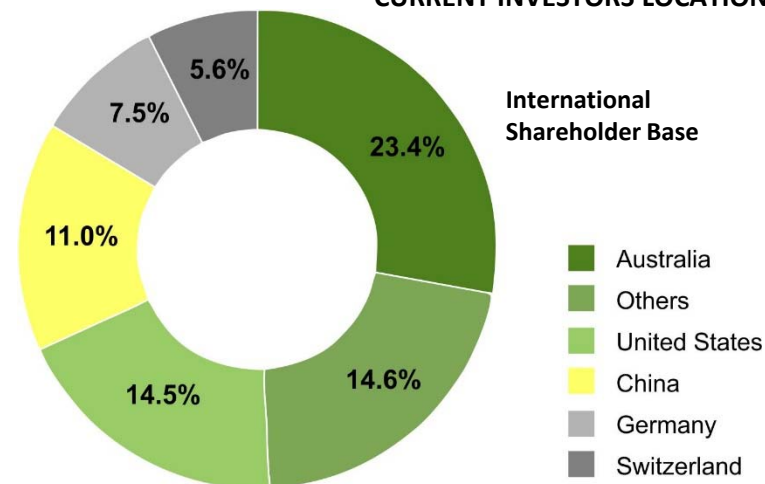
- ☐ >1 billion tonne multi-element resource, largest REO inventory under JORC code
- ☐ Initial 37 year mine life, scope for significant extension, expansion
- ☐ Close to existing infrastructure with year round shipping access
- ☐ Simple configuration and processing, low technical risk
- ☐ Globally significant supplier of **Nd, Pr, Dy, Tb**, with U, Zn by-product credits
- ☐ Highly competitive economic metrics – long life, lowest cost quartile production
- ☐ Major shareholder is a fully-integrated RE producer with international focus

Appendix

Corporate Snapshot



CURRENT INVESTORS LOCATION



Board

Non-Executive Chairman	Tony Ho
Managing Director	Dr John Mair
Non-Executive Director	Simon Cato
Non-Executive Director	Xiaolei Guo

Top Shareholders

Shenghe Resources Holdings	125M shares
Tracor Limited	53M shares

Capital Structure

Shares outstanding	1,190 M
Market capitalization	A\$142M (@12 cents)

Kvanefjeld Project Ownership - 100%

Statement of Identified Mineral Resources (JORC – Code Compliant 2012)

Cut-off (U ₃ O ₈ ppm) ¹	Multi-Element Resources Classification, Tonnage and Grade									Contained Metal				
	Classification	M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
<i>Kvanefjeld - February 2015</i>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	172	0.71
150	Inferred	222	10,000	205	8,800	365	9,200	793	2,180	2.22	0.08	0.18	100	0.48
150	Grand Total	673	10,900	248	9,600	400	10,000	881	2,270	7.34	0.27	0.59	368	1.53
200	Measured	111	12,900	341	11,400	454	11,800	1,048	2,460	1.43	0.05	0.12	83	0.27
200	Indicated	172	12,300	318	10,900	416	11,300	970	2,510	2.11	0.07	0.17	120	0.43
200	Inferred	86	10,900	256	9,700	339	10,000	804	2,500	0.94	0.03	0.07	49	0.22
200	Grand Total	368	12,100	310	10,700	409	11,200	955	2,490	4.46	0.15	0.35	252	0.92
250	Measured	93	13,300	363	11,800	474	12,200	1,105	2,480	1.24	0.04	0.10	75	0.23
250	Indicated	134	12,800	345	11,300	437	11,700	1,027	2,520	1.72	0.06	0.14	102	0.34
250	Inferred	34	12,000	306	10,800	356	11,100	869	2,650	0.41	0.01	0.03	23	0.09
250	Grand Total	261	12,900	346	11,400	440	11,800	1,034	2,520	3.37	0.11	0.27	199	0.66
300	Measured	78	13,700	379	12,000	493	12,500	1,153	2,500	1.07	0.04	0.09	65	0.20
300	Indicated	100	13,300	368	11,700	465	12,200	1,095	2,540	1.34	0.05	0.11	82	0.26
300	Inferred	15	13,200	353	11,800	391	12,200	955	2,620	0.20	0.01	0.01	12	0.04
300	Grand Total	194	13,400	371	11,900	471	12,300	1,107	2,530	2.60	0.09	0.21	159	0.49
350	Measured	54	14,100	403	12,400	518	12,900	1,219	2,550	0.76	0.03	0.07	48	0.14
350	Indicated	63	13,900	394	12,200	505	12,700	1,191	2,580	0.87	0.03	0.07	54	0.16
350	Inferred	6	13,900	392	12,500	424	12,900	1,037	2,650	0.09	0.00	0.01	6	0.02
350	Grand Total	122	14,000	398	12,300	506	12,800	1,195	2,570	1.71	0.06	0.15	107	0.31

Statement of Identified Mineral Resources (JORC – Code Compliant 2012)

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U ₃ O ₈ ppm) ¹	Classification	M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
Sørensen - March 2012														
150	Inferred	242	11,000	304	9,700	398	10,100	895	2,602	2.67	0.10	0.22	162	0.63
200	Inferred	186	11,600	344	10,200	399	10,600	932	2,802	2.15	0.07	0.17	141	0.52
250	Inferred	148	11,800	375	10,500	407	10,900	961	2,932	1.75	0.06	0.14	123	0.43
300	Inferred	119	12,100	400	10,700	414	11,100	983	3,023	1.44	0.05	0.12	105	0.36
350	Inferred	92	12,400	422	11,000	422	11,400	1,004	3,080	1.14	0.04	0.09	85	0.28
Zone 3 - May 2012														
150	Inferred	95	11,600	300	10,200	396	10,600	971	2,768	1.11	0.04	0.09	63	0.26
200	Inferred	89	11,700	310	10,300	400	10,700	989	2,806	1.03	0.04	0.09	60	0.25
250	Inferred	71	11,900	330	10,500	410	10,900	1,026	2,902	0.84	0.03	0.07	51	0.20
300	Inferred	47	12,400	358	10,900	433	11,300	1,087	3,008	0.58	0.02	0.05	37	0.14
350	Inferred	24	13,000	392	11,400	471	11,900	1,184	3,043	0.31	0.01	0.03	21	0.07
Project Total														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	172	0.71
150	Inferred	559	10,700	264	9,400	384	9,800	867	2,463	6.00	0.22	0.49	326	1.38
150	Grand Total	1010	11,000	266	9,700	399	10,100	893	2,397	11.14	0.40	0.90	593	2.42

¹There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U₃O₈ has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

²Total 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.