



GREENLAND
MINERALS AND ENERGY LTD

Developing the world's premier specialty metals project



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JORC Code (2012) Compliance – Consent of Competent Persons

Competent Person Statement

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

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

Developing Kvanefjeld – Greenland's World Project

Set To Deliver the Raw Materials for An Energy Efficient Future



- **The world's largest undeveloped resource of rare earth elements and uranium** (JORC-code, 2012, compliant), **with huge upside** (>1 Billion tonnes defined, <20% of project area evaluated)
- **A primary product stream of high-purity critical rare earth concentrates** (Nd, Pr, Eu, Dy, Tb, Y)
- **By-production of U_3O_8 , lanthanum and cerium, zinc and fluorspar**
- **By-product revenue streams will see Kvanefjeld become the lowest-cost producer of critical rare earth's globally**
- ***Positioned for permitting and development pipeline as uranium and RE prices rise***



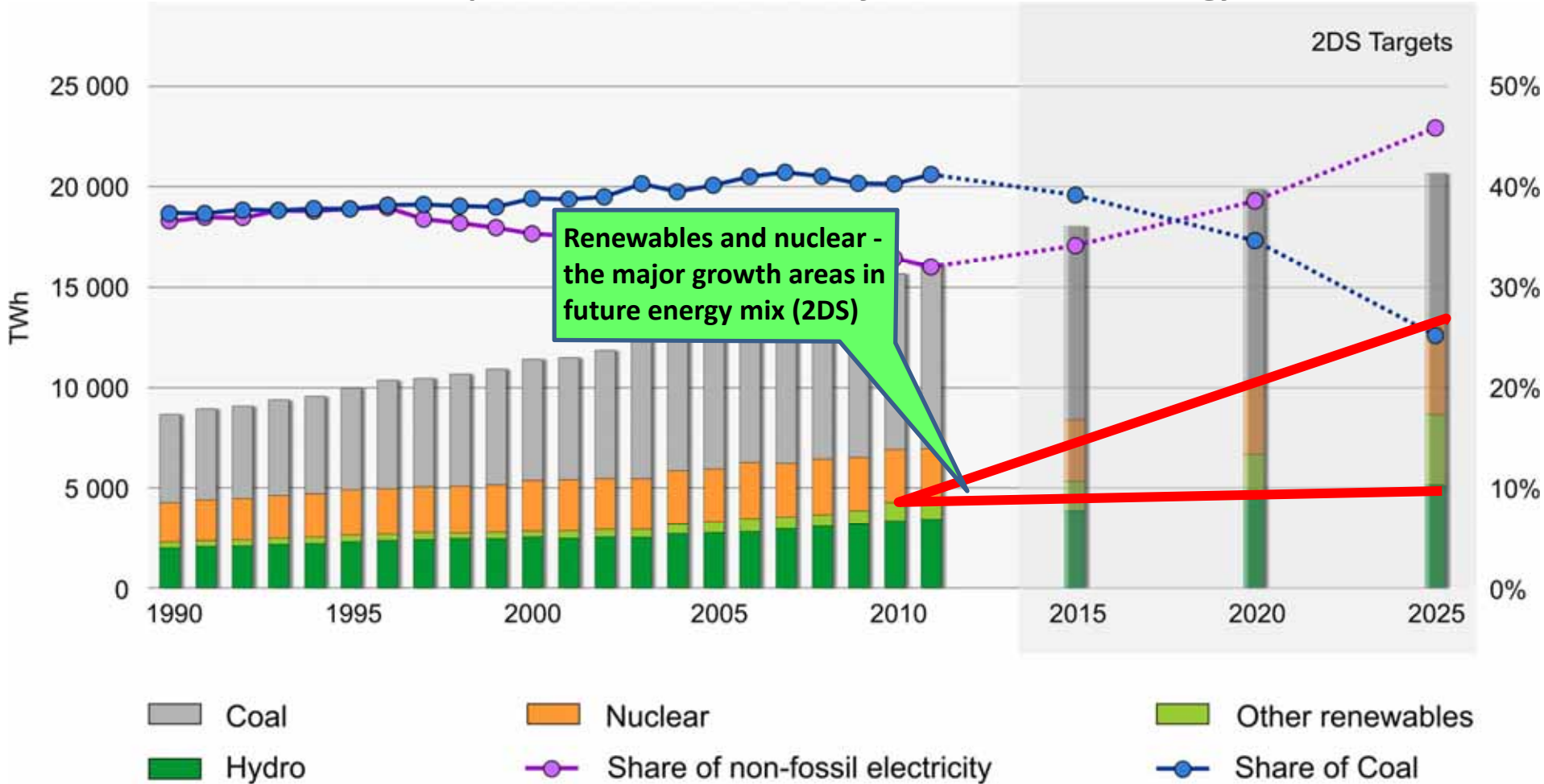
View over the Narsaq Valley that will host much of the project infrastructure, toward the North Atlantic Ocean

Kvanefjeld Rare Earth – Uranium Project

Leveraged To a Clean and Efficient Energy Future



UN declaration, September 2014 “Coal has no future in the world energy mix”

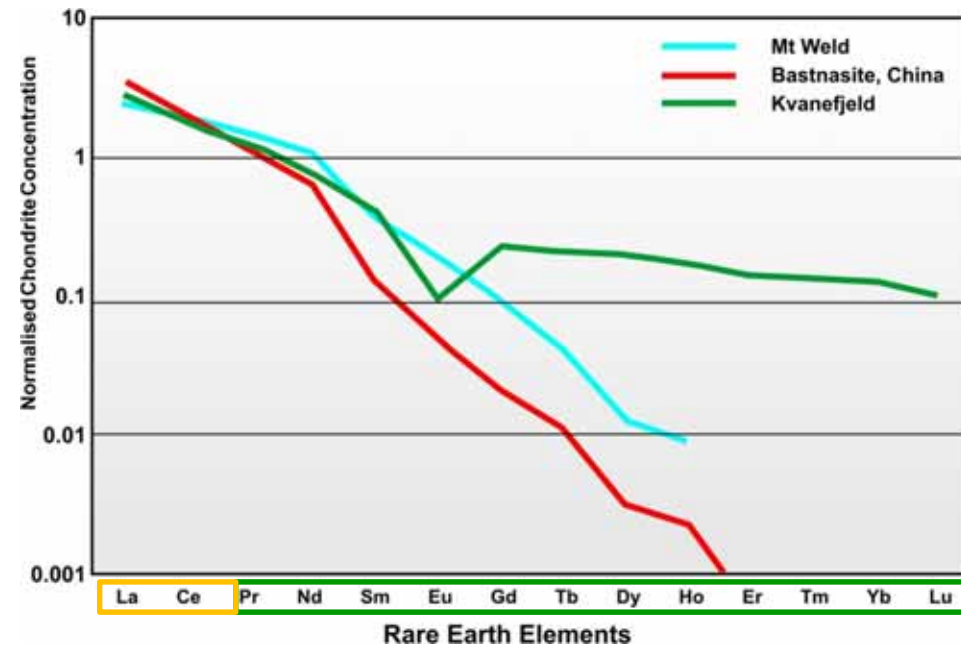
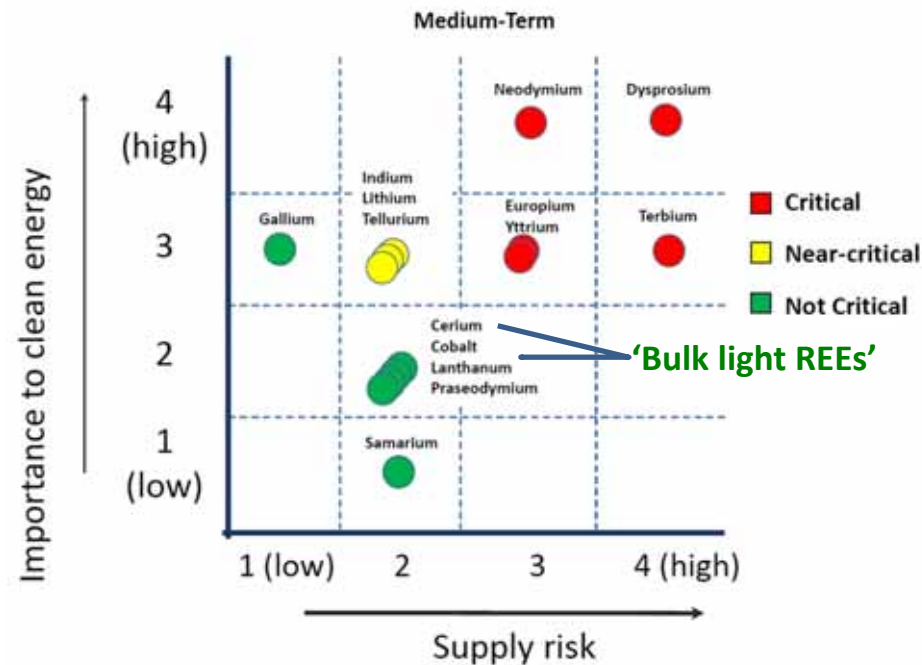


Source: International Energy Agency (IEA)

The 2°C scenario (2DS) describes an energy system with an emissions trajectory to limit warming to 2°C by 2050

Kvanefjeld Rare Earth – Uranium Project

Set to Hold a Dominant Role in Future Rare Earth Production



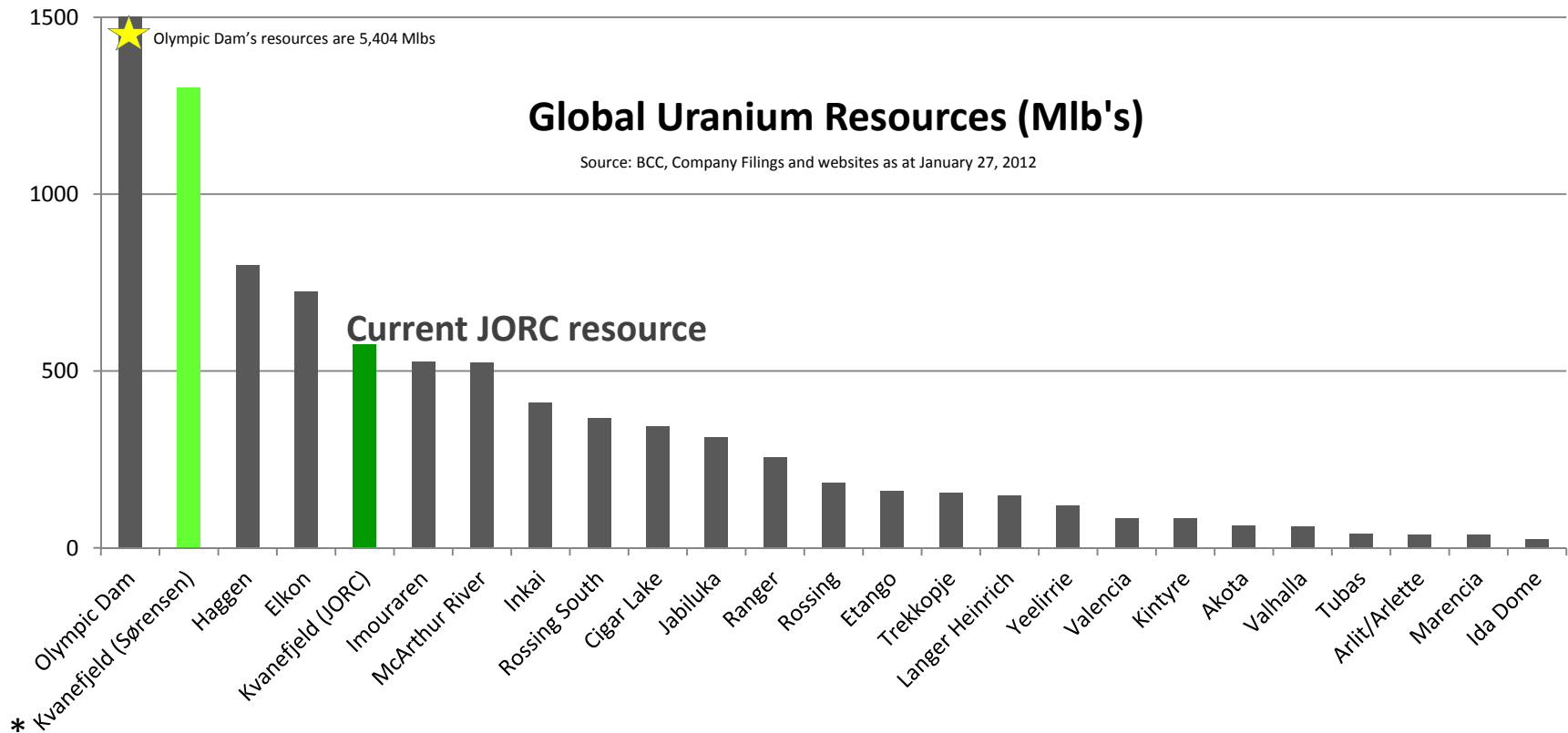
- Kvanefjeld is enriched across the rare earth spectrum, in market relevant proportions
- Unique non-refractory ore minerals, conducive to simple, low technical risk processing
- Primary product stream of critical rare earths, La and Ce as by-products, minimal market risk
- Process flow sheet also produces U_3O_8 , zinc concentrate, and fluorspar by-products
- Resource scale to dominate the low-end of the cost curve by market volume

Kvanefjeld Uranium Resources

An Enormous Energy Resource



- Kvanefjeld (Ilimaussaq) - Global (JORC) uranium resource of **593 Mlbs U_3O_8** @150ppm U_3O_8 cut off
- Nuclear Power is increasingly recognised as an all-important base load power source – U & in future Th
- **<20%** of prospective ground in northern Ilimaussaq complex evaluated



*Geological resource estimate generated by Henning Sørensen, published by the IAEA, of >1.3Blb's @ 150ppm U_3O_8 cut-off

Kvanefjeld – Ideally Located in South Greenland

Direct Shipping Access Year-Round, Airport Nearby



Overview of the Erik Aappalaartup Nunaa Peninsula (or Narsaq Peninsula), south Greenland, view is toward the north
The Kvanefjeld project is easily accessed by ship from the North Atlantic, year round
The distance from Narsaq town to Narsarsuaq Airport is 45 km

Project Area: Northern Ilmaussaq Complex

An Extraordinary Resource Base, With Huge Upside



- Several large-scale, bulk-tonnage resources defined: Kvanefjeld, Sørensen and Zone 3.

- The deposits represent the outcropping expressions of a mineralised system that geological evidence indicates is interconnected at depth

- Mineralisation is hosted by lujavrite, with the mineral **steenstrupine** the dominant host to both uranium and REEs.

- Low mining costs due to outcropping, bulk tonnage deposits, highest grades near surface (>400ppm U_3O_8 , >1.4% TREO)



Project overall resource inventory:

(JORC-code 2012 compliant, Prepared by SRK Consulting)

1.01 Bt containing 593 Mlbs U_3O_8 , 11.13 Mt TREO, 2.42 Mt zinc

TREO includes: **0.4 Mt heavy REO, 0.9 Mt yttrium oxide**

Kvanefjeld Deposit:

Global resource:

673 Mt @ 248 ppm U_3O_8 , 1.1% TREO, 0.23% zinc

Measured resource:

143 Mt @ 303 ppm U_3O_8 , 1.2% TREO, 0.24% zinc

Including:

54 Mt @ 403 ppm U_3O_8 , 1.4% TREO, 0.24% zinc

Sørensen Deposit:

Global resource:

242 Mt @ 304 ppm U_3O_8 , 1.1% TREO, 0.26% zinc

Zone 3 Deposit:

Global resource:

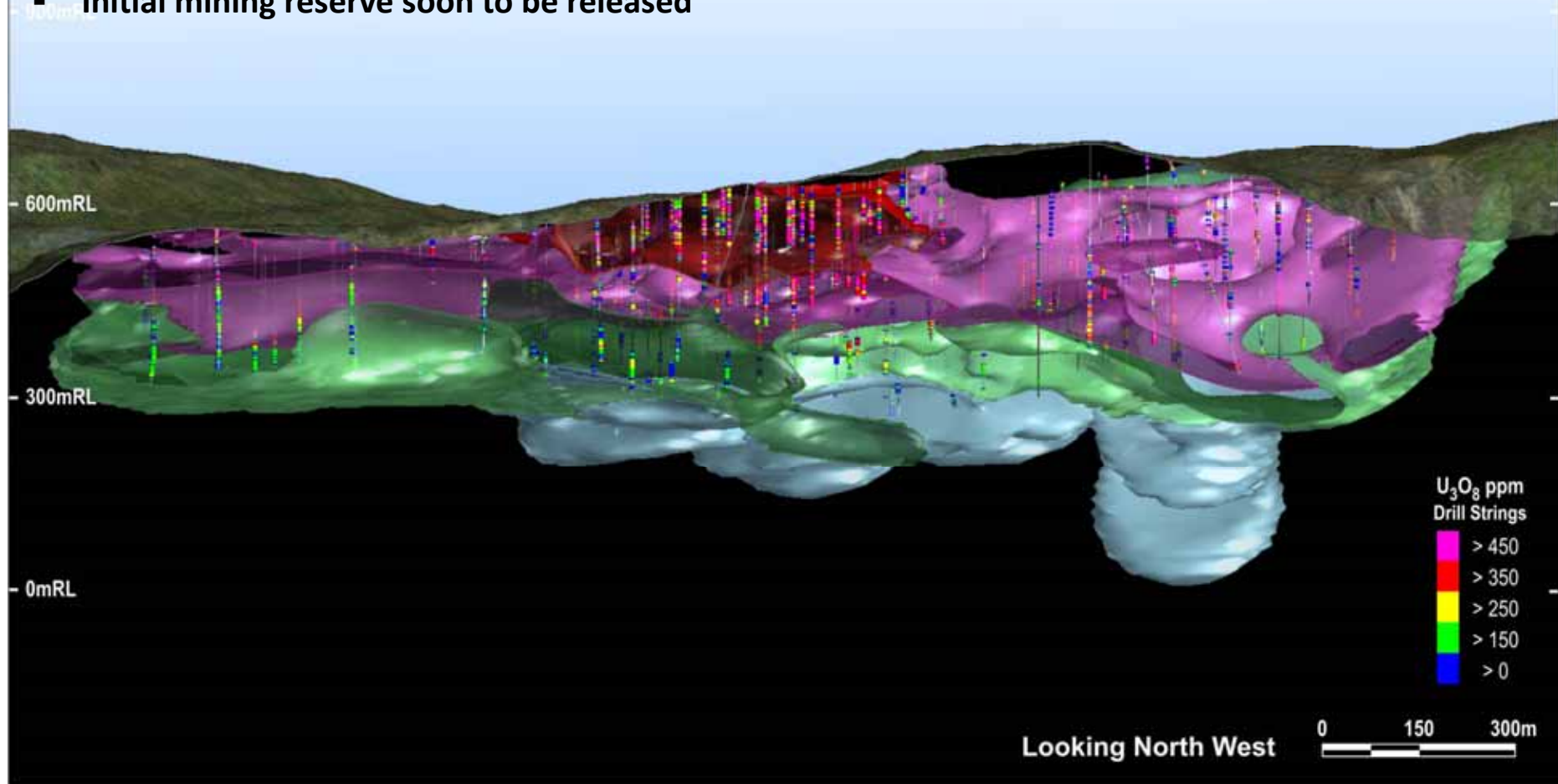
95 Mt @ 300 ppm U_3O_8 1.16% TREO

The Kvanefjeld Deposit

Large-Scale, Outcropping Ore Body, Start Point of Operations

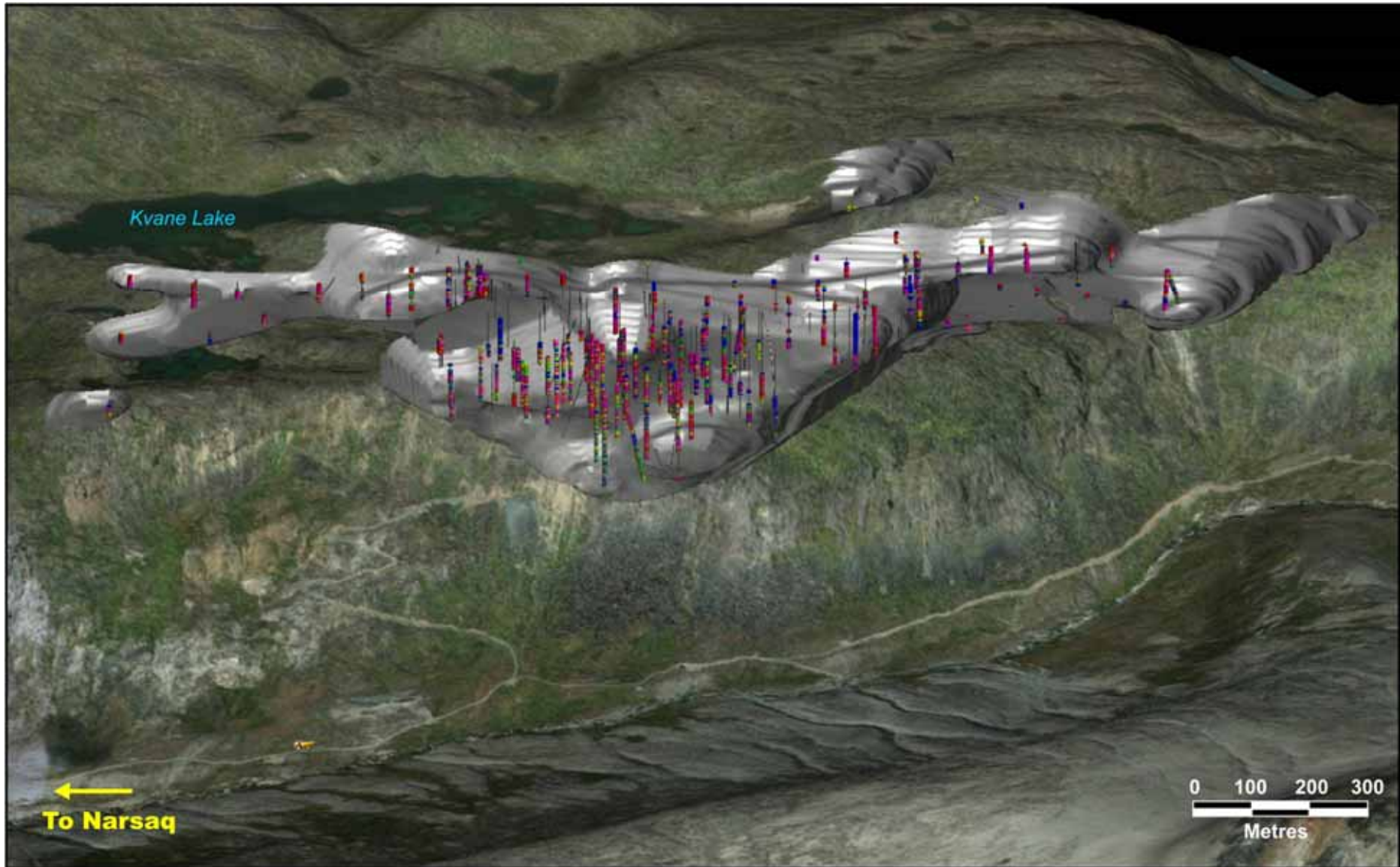


- Long section through the Kvanefjeld resource model
- 143 million tonnes defined in the 'measured category' – near surface – high grades
- Initial mining reserve soon to be released



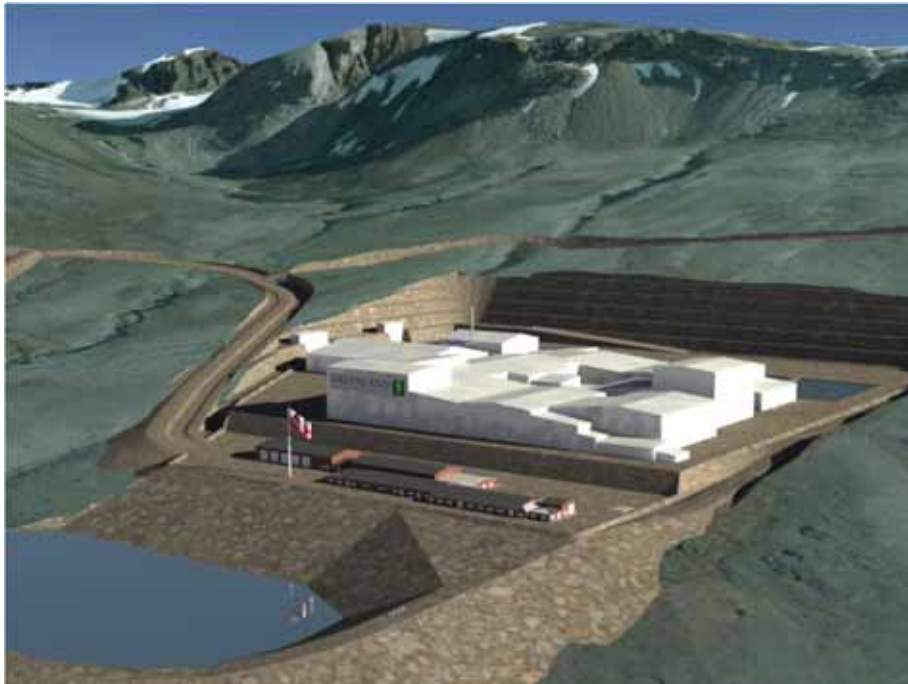
Kvanefjeld Deposit

Projected Pit Model After More Than 35 Years of Operation



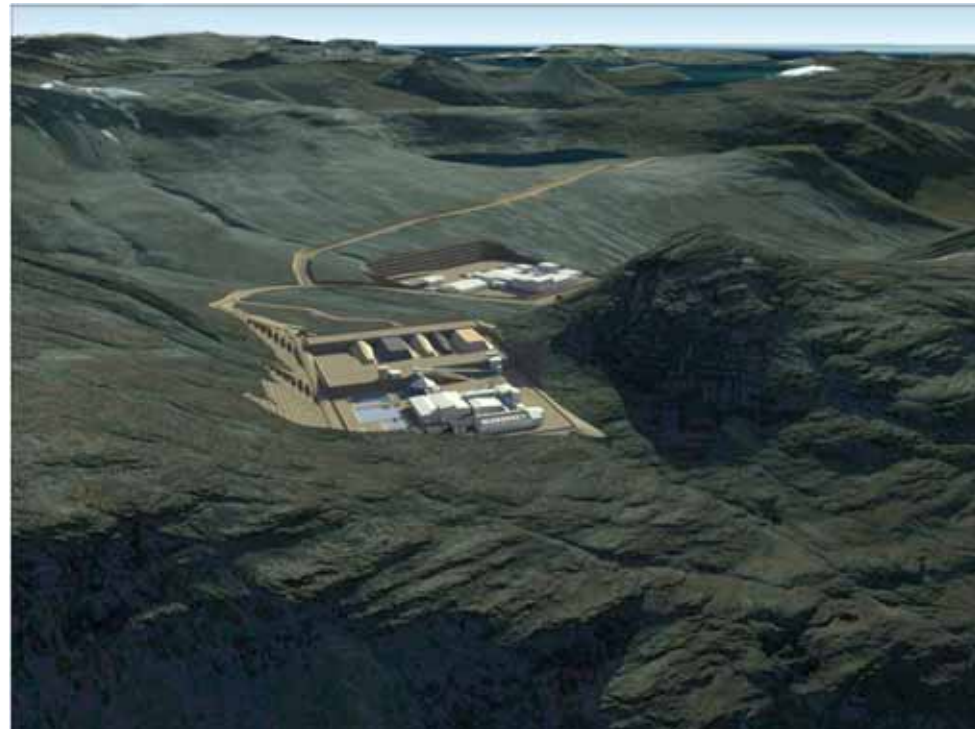
Advanced Feasibility Program

Comprehensive Feasibility Study Nearing Completion, EIA, SIA Advanced



- Pre-Feasibility Study – March 2012
- Mine and Concentrator Study – March 2013
- Feasibility Study – imminent release
- Environment and Social Impact Assessments to be completed early Q3 2015

- Detailed Engineering Design for Kvanefjeld Completed by Tetra Tech
- Image Above – Refinery Facility
- Image Right – View Over Comminution and Concentrator Circuit, Toward Refinery



Large-Scale Pilot Plant Operations

Kvanefjeld Project – A Lead Project For the EU-Backed EURARE Program



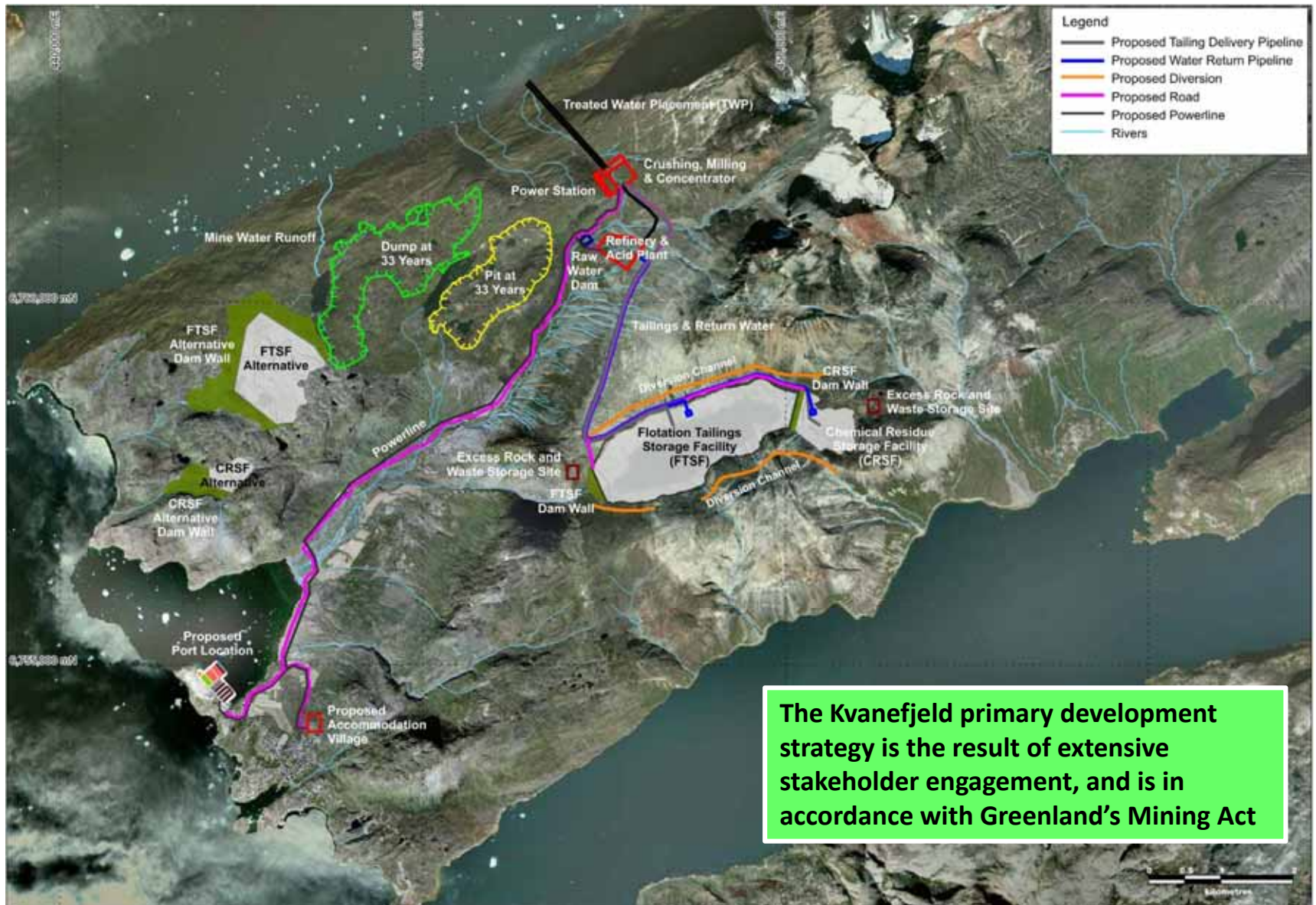
Jameson flotation cell – (Xtrata Technologies)

Second beneficiation pilot plant campaign, 1:2000 scale

- Ongoing test work on Kvanefjeld has been conducted through the EURARE program
- In April 2015, the *third* pilot plant operation of the beneficiation circuit was successfully conducted, GMEL will update when laboratory results are in.
- Pilot plant operation of refinery circuit set for August – both pilot operations will assist in moving toward bankable status
- Immense benefit to GMEL to work with top laboratories and to have funding support
- These operations follow on from previous pilot plant operations of the flotation circuit and continuous operations of the refinery circuit.

The Kvanefjeld Project – Infrastructure Layout

Public Pre-Hearing Conducted Late 2014, Terms of Reference Set



The Kvanefjeld primary development strategy is the result of extensive stakeholder engagement, and is in accordance with Greenland's Mining Act

Kvanefjeld Rare Earth Strategy – Alignment With NFC

One of the few projects globally, aligned with an established RE industry participant



- **NFC – An optimal partner for the Kvanefjeld Project**
 - ✓ Pioneered RE separation in China = Separation technology and capacity
 - ✓ New 7000t/a facility planned with all approvals in place – matches Kvanefjeld concentrate output
 - ✓ Highly reputed EPC contractor, experienced in financing and building mines and refineries worldwide
 - ✓ Strong financial backing – subsidiary of CNMC (~US\$30bn/a revenue)
 - ✓ Ambition to become a dominant player in global RE supply – looking to ex-China project to align with
- **Through 2014 both parties conducted extensive technical exchange, site visits, with NFC participating in Kvanefjeld Feasibility Study**
- **Combined strengths of GMEL and NFC will create the largest and most cost-competitive critical rare earth supply chain globally**

The Kvanefjeld Project

Final Milestones to Take Kvanefjeld Up to Project Financing Now Readily Achievable



2015:

- Complete Feasibility Study, finalise Environment, Social Impact Assessments
This completes documentation for project permitting
- Firm up project permitting and development timeline with Greenland Government
- Pilot plant operations of both concentrator and refinery circuits through EURARE
- Progress relations with NFC – move toward commercial negotiations, product and marketing strategy
- Continue engagement program to firm up uranium partner – stage one off-take, evaluate expansion/growth strategy options
- Maintain stakeholder engagement program, to ensure Greenland is fully informed of the next steps, and the opportunities involved in Kvanefjeld project

Rare Earth Market Outlook

Strong Growth Indices for Key Demand Drivers



- **Signs that demand is on the up [both inside and outside China]**
- Chinese wind turbine production in 2014 was a record, up 20%
- Electric vehicle production in China up **400%** in 2014, Jan 2015 was **500%** higher than Jan 2014
- After the first “export quota crunch” exports fell sharply, 2012 exports were 52% of quota, quotas pretty much unchanged but in 2014 exports were **91%** of quota
- 2014 exports of magnets from China up ~15%, 2015 expected to also be very good
- **Demand will respond to a reduction in prices, some of the demand destruction visited on the industry in 2011/12 is now being recovered**

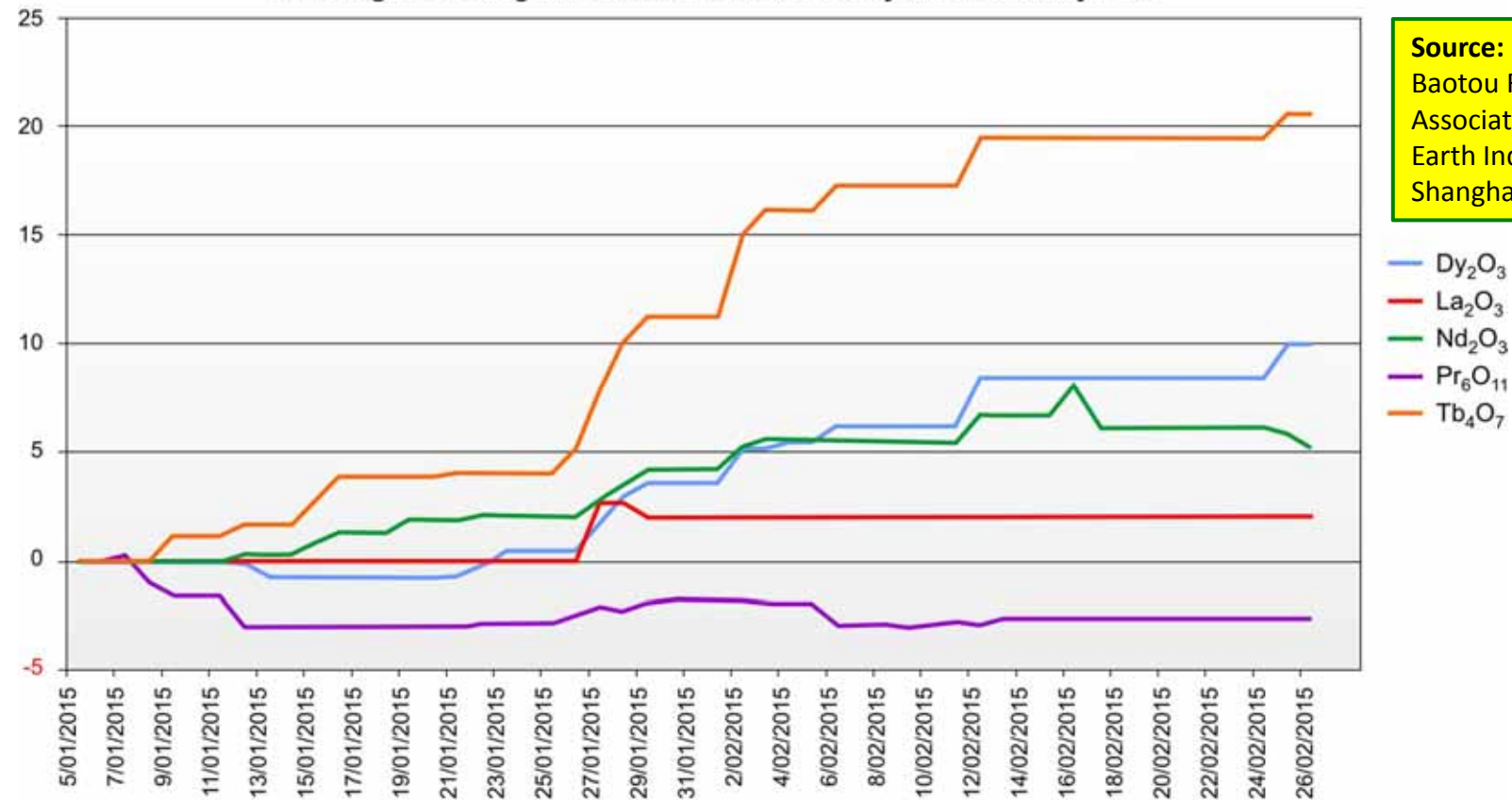
Rare Earth Market Outlook

Structural Changes In China Starting to Have A Pricing Impact



- Tighter regulatory framework for the industry e.g. environmental standards
- Clamp down on illegal activity, arrest, confiscation is having an effect
- New licensing regime, will still control exports – just not with quotas

% Change in Average REO Prices from 5 January to 26 February 2015



Source:

Baotou Rare Earth Exchange
Association of China Rare
Earth Industry
Shanghai Metals Market

Uranium Industry and Nuclear Power



Nuclear Power: Critical To the Base Load Global Energy Mix

Industry:

- 11% of world electricity production is nuclear
- 437 nuclear power plants (377.7 GWe) operable
- **70** nuclear power plants under construction
- **183** nuclear power plants in planning phase for construction within 10 years
- *Nuclear power is a substantial source of low GHG emission energy now and for the future*



After several years of decline, the U₃O₈ spot price (in USD) commenced an upward rebound in 2014

Uranium Market Outlook

A Resurgence In Uranium Price and Market Interest Now Inevitable



- Japanese reactor re-starts will begin in 2015
- Additional 100 GWe nuclear capacity will be commissioned in next ten years
- Uranium consumption will increase from 70,300 Mt U_3O_8 to around 105,000 Mt U_3O_8 in next ten years
- Uranium supply growth is *significantly below future requirements* – at least 15% shortfall in ten years without new mines
- Prices will need to double from today's range (US\$38/lb – US\$40/lb) over next five years to underwrite essential new production
- **Uranium prices will strengthen significantly to support new production**

Greenland Minerals and Energy Ltd

ASX-Listed, Greenland-Focused Mineral Explorer and Developer



Board

Non-Executive Chairman	Tony Ho
Managing Director	Dr John Mair
Non-Executive Director	Simon Cato
Non-Executive Director	Jeremy Whybrow
Non-Executive Director	Michael Hutchinson

Top Shareholders

Global X Uranium ETF	52M
Tracor Limited	42M
Rimbal Pty Ltd	39M

Capital Structure

Shares outstanding	683.1M
Options outstanding	105.7M* ex \$0.2, June 30 2016
	7.5M ex \$0.2, Feb 24 th 2018
	7.5M ex \$0.25, Feb 24 th 2018
Share price (14/05/2015)	A\$0.09
52 week range	A \$0.05-\$0.17
Undiluted market capitalization	A\$60.8M
Net Cash (31/03/15)	A\$3.9M*
Undiluted enterprise value	A\$56M
* \$0.568M	R&D rebate since received



Increasing International Focus on Arctic Resources

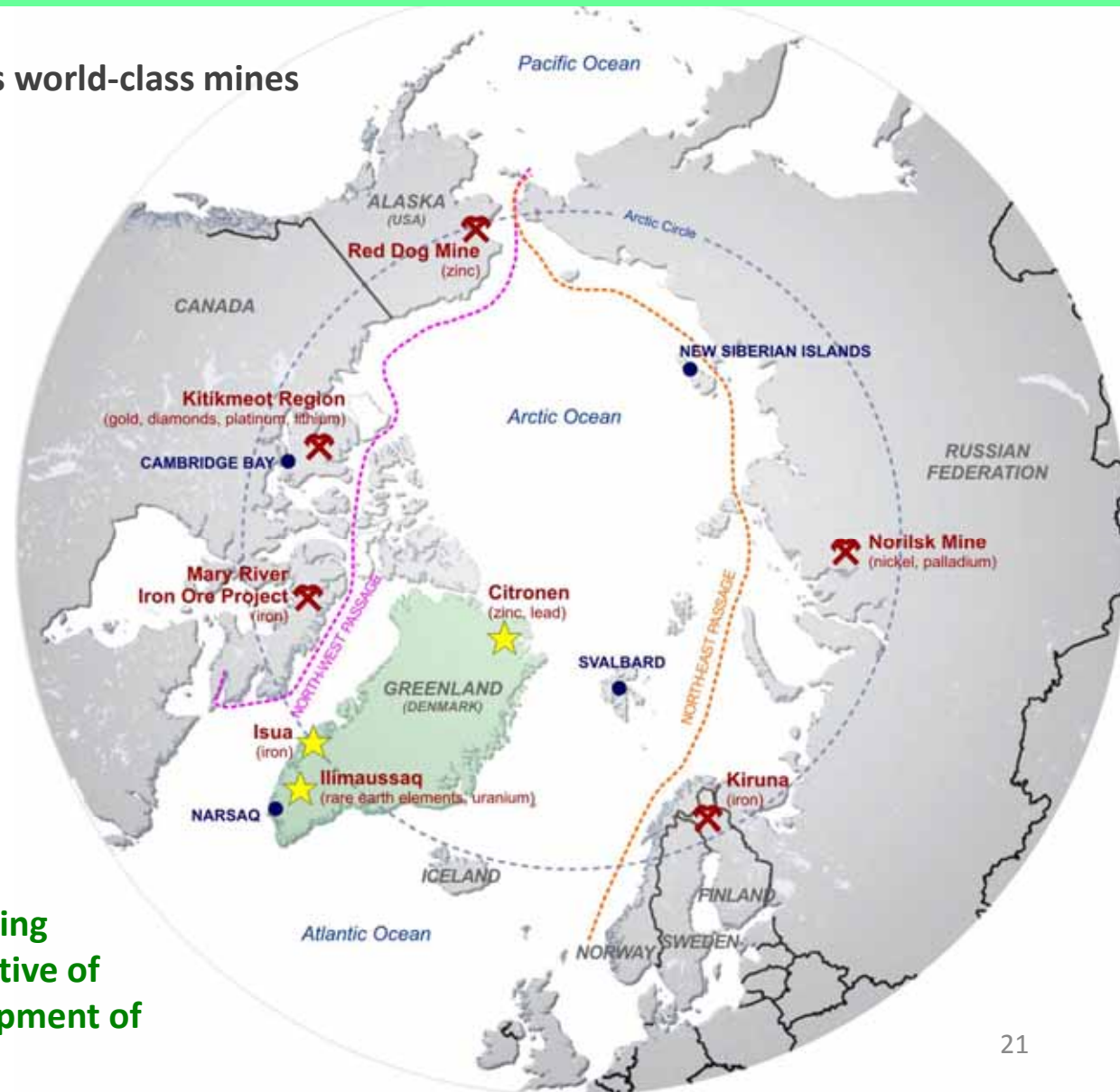
Greenland – the gateway to the Arctic

The Arctic region is host to numerous world-class mines

Greenland is increasingly the centre point of Arctic resource focus due to:

- *Political stability with increasing independence*
- *Political push to move toward a natural resource-based economy*
- *Numerous mineral resource projects awaiting development*
- *Mining licenses being issued*
- *Opening of Arctic shipping lanes providing access to Asia-Pacific*

Greenland is governed by a pro-mining coalition government that is supportive of uranium production and the development of the Kvanefjeld Project





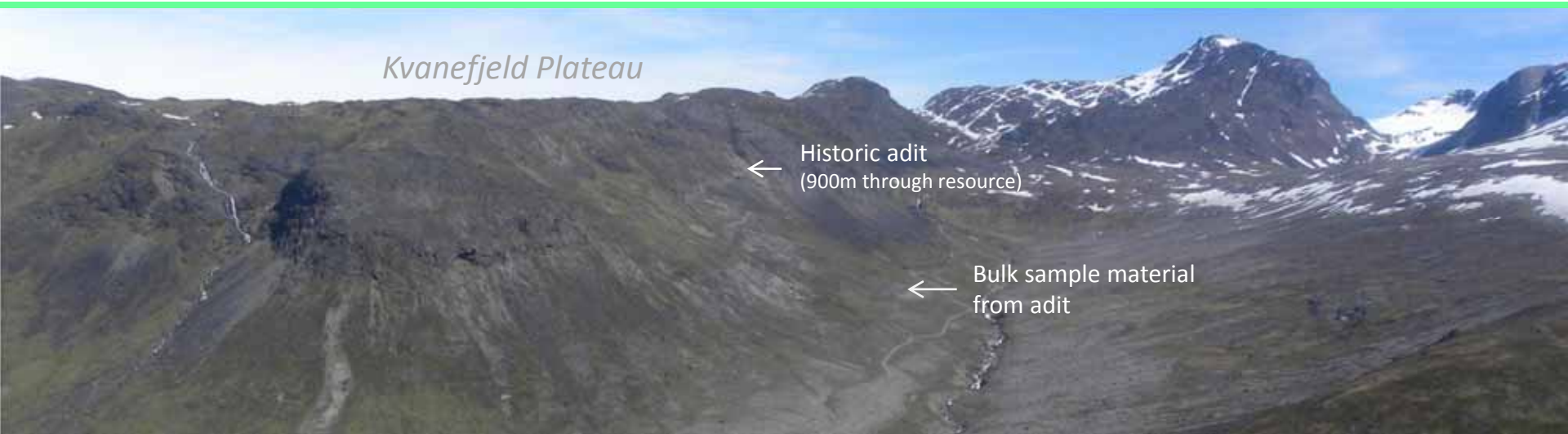
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Kvanefjeld – A World-Class Project 60 Years in the Making

Built on a comprehensive technical foundation



Subject of 20+ years of state-sponsored R&D (1960's – 1983)

- Uranium focus, >\$50 M (today's dollars) invested historically – advanced process development

Seven years of R&D conducted by GMEL (2007 – present)

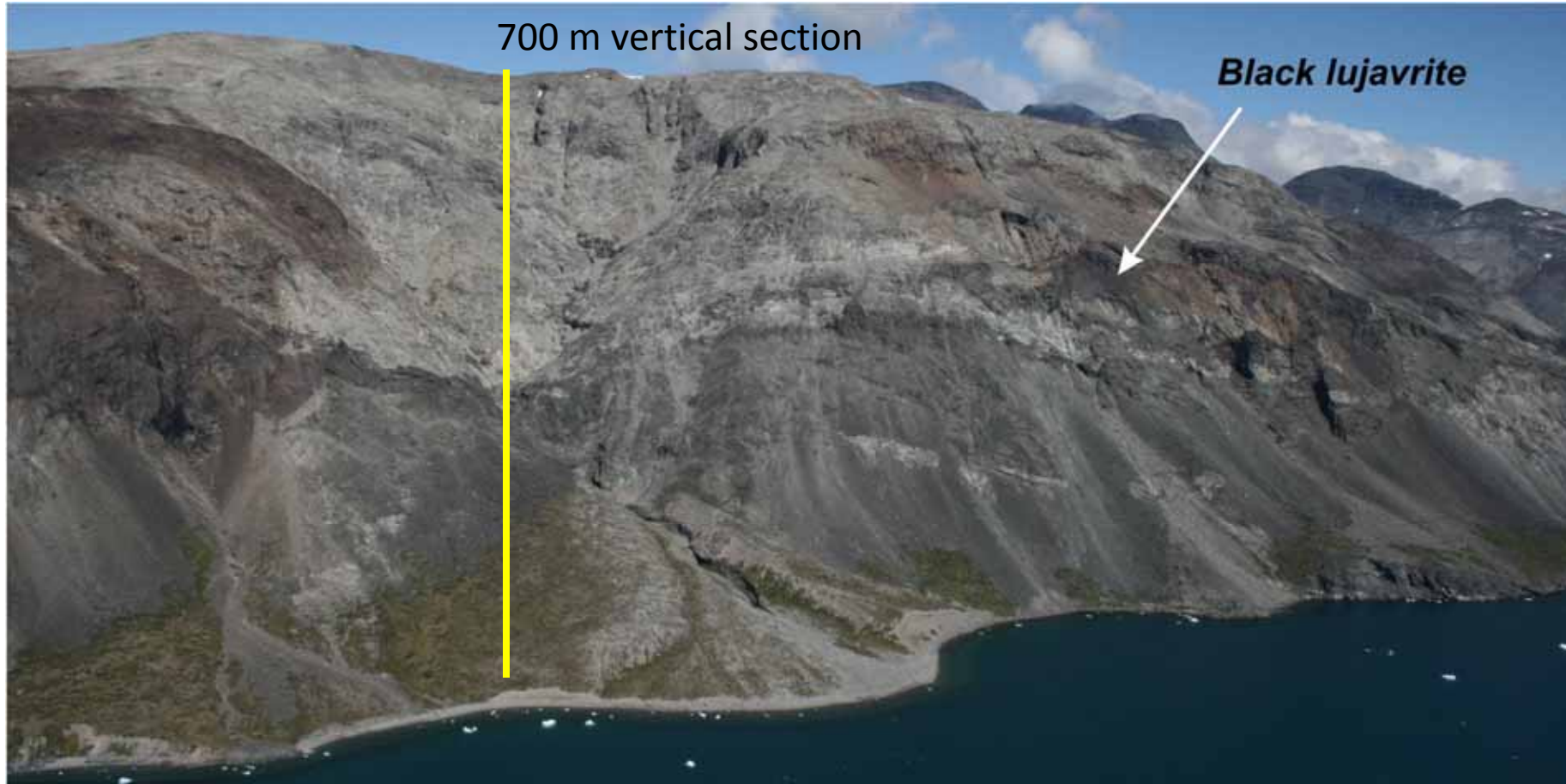
- Multi-element focus – REEs, uranium, zinc +, >\$80 M (AUD) invested
- PFS complete 2012, concentrator circuit pilot-plant successfully operated 2012,
- Refinery flow sheet further developed 2013, rigorously tested to pre pilot-plant stage
- Widely recognized as a potential long-life, cost-competitive specialty metals project
- Environmental and Social Impact Assessments underway – permitting to commence in 2015

Kvanefjeld Multi-Element Project

Ilimaussaq Complex – A Unique Geological Phenomenon



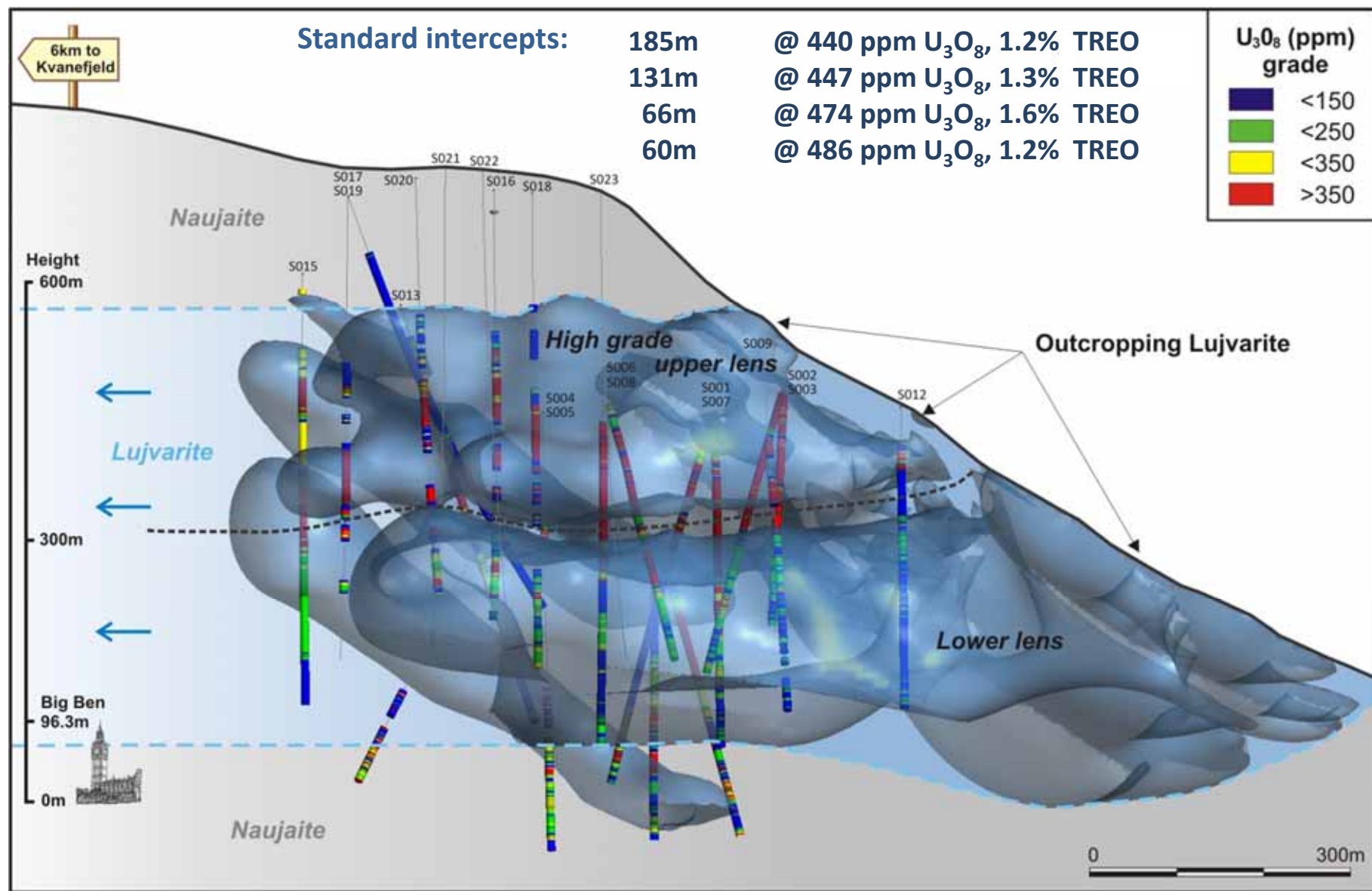
Northern Ilimaussaq Complex – Sørensen Deposit – 242 Mt



Lujavrite forms as internal panel – slow crystallisation of U and rare-element rich magma resulted in the upper sections being strongly enriched, forming a ‘mega’ ore seam extending over **50 square km’s**. Locally true thicknesses at >150 ppm U_3O_8 cut-off **exceed 200 m**

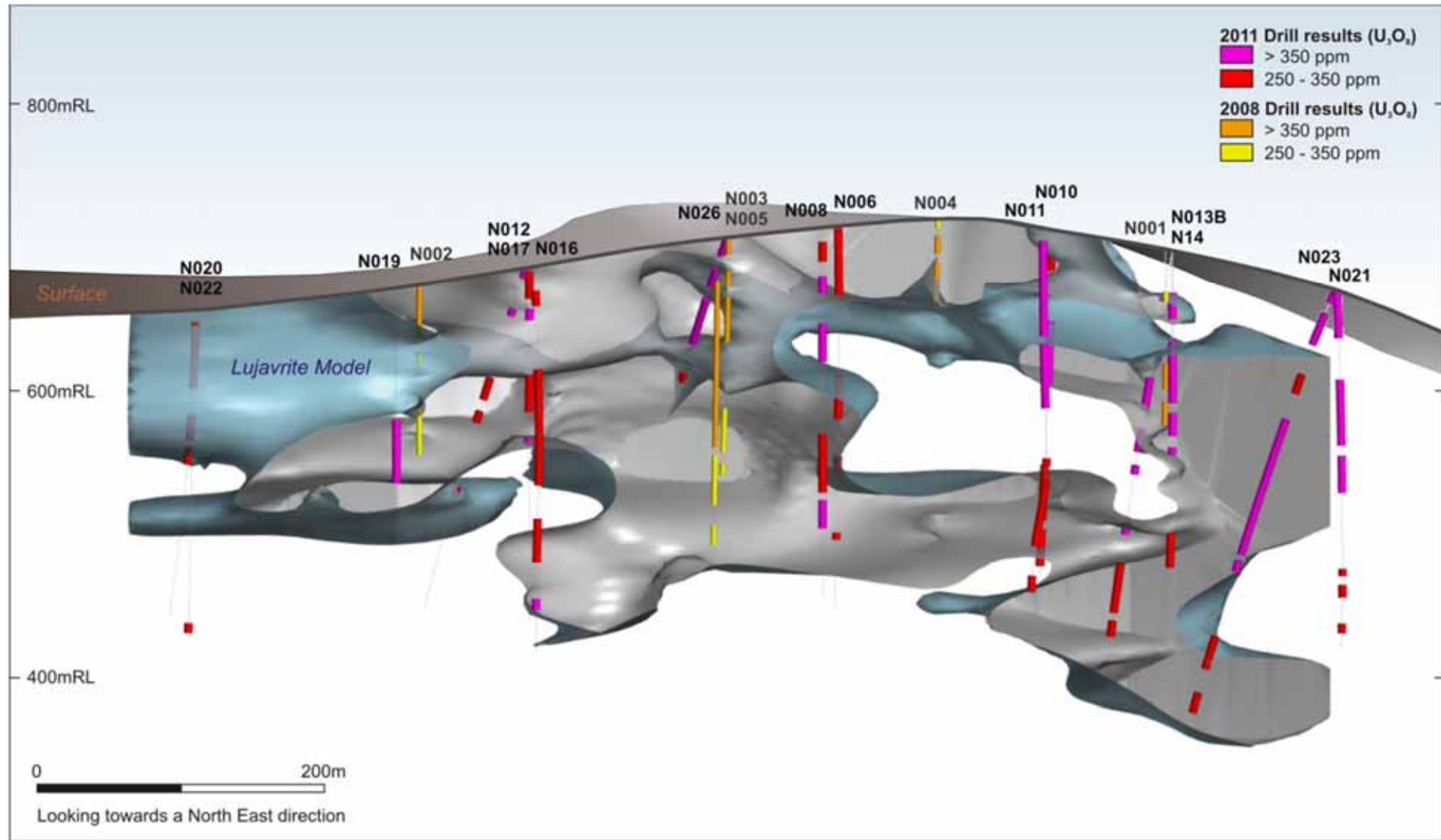
Kvanefjeld Multi-Element Project

Sørensen Deposit – Initial JORC resource of 242 Mt – Open to the north



Kvanefjeld Multi-Element Project

Zone 3 Deposit – Initial JORC resource of 95 Mt – Remains Open



Kvanefjeld Multi-Element Project

Simple effective processing route rigorously developed for an ideal new ore-type



1. Concentration by flotation increases the grades 10 times – successful pilot plant operations
2. Kvanefjeld's uniquely favourable minerals are unstable and leach under atmospheric conditions

Step 1 – Mineral Beneficiation - Flotation

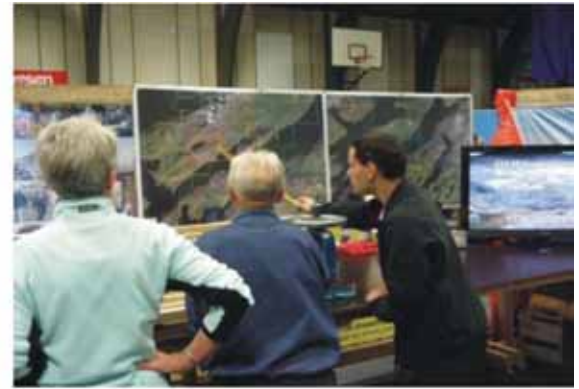
- Main ore minerals can be effectively concentrated using flotation, commercially available reagents
- Method has been successfully piloted, twice
- **Industry leading upgrade ratio** – 8.5% mass pull, 10 x REO and 6 x U_3O_8 grades in concentrate
- High upgrade ratio via single method transforms, massive, bulk resources into low-mass, high-grade mineral concentrate ~15% TREO and >2500ppm U_3O_8
- Rejection of non-value minerals that constitute >90% of starting mass minimises reagent consumption in hydrometallurgical leach, to deliver high efficiency and competitive production costs

Step 2 – Hydrometallurgical Leaching

- Flotation concentrate minerals yield >90% extraction of U and heavy REEs in sulphuric acid leach, under atmospheric conditions
- No high-temperature 'acid bake' or 'caustic crack' required
- Solvent extraction recovery of U and RE concentrates
- GMEL submitted patent applications over leach methodology
- Scaled-up, continuous test-work delivers clean RE concentrates, **97%** REO with **15%** as heavies
- All impurities effectively managed through the leach process; circuit de-risked and awaiting final pilot run

Greenland Minerals and Energy - Community Engagement

Qaqortoq Open Day – Outlining the steps in Kvanefjeld's development path



Kvanefjeld Project - Resources

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



Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off	Classification	M tonnes	TREO ²	U ₃ O ₈	LREO	HREO	REO	Y ₂ O ₃	Zn	TREO	HREO	Y ₂ O ₃	U ₃ O ₈	Zn
(U ₃ O ₈ ppm) ¹		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt
Kvanefjeld - February 2015														
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

Kvanefjeld Project - Resources

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



Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off	Classification	M tonnes	TREO ²	U ₃ O ₈	LREO	HREO	REO	Y ₂ O ₃	Zn	TREO	HREO	Y ₂ O ₃	U ₃ O ₈	Zn
(U ₃ O ₈ ppm) ¹		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	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.