GREENLAND
MINERALS AND ENERGY LTD

Strategic Metals For Global Industry

www.ggg.gl

February, 2014

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JORC Code Compliance – Consent of Competent Persons

The information in this report that relates to exploration results, geological interpretations, appropriateness of cut-off grades, and reasonable expectation of potential viability of quoted rare earth element, uranium, and zinc resources is based on information compiled by Jeremy Whybrow. Mr Whybrow is a director of the Company and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr. Whybrow has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Whybrow consents to the reporting of this information in the form and context in which it appears.

The geological model and geostatistical estimation for the Kvanefjeld deposit were prepared by Robin Simpson of SRK Consulting. Mr. Simpson is a Member of the Australian Institute of Geoscientists (AIG), and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Simpson consents to the reporting of information relating to the geological model and geostatistical estimation in the form and context in which it appears.

Note: This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

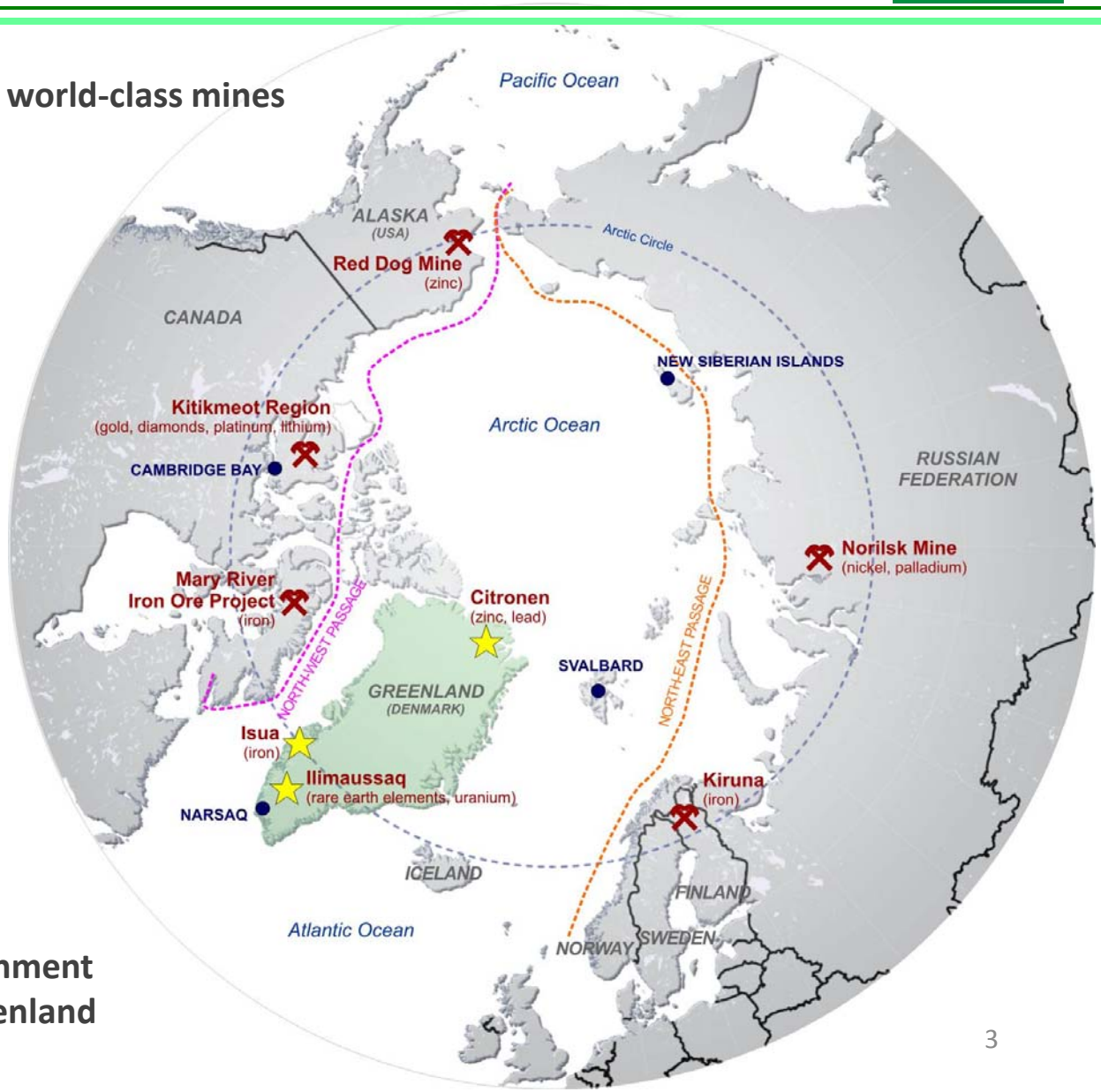
Increasing International Focus on Arctic Resources

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*



A growing number of countries are looking to participate in the establishment of a new generation of mines in Greenland

Who is interested in resources of the Arctic?

Greenland – the gateway to the Arctic

- The **Arctic Council** is an intergovernmental forum that addresses Arctic issues
- Member States include countries that are geographically represented in the Arctic
- Numerous other countries have '***observer status***'

  This includes: China, South Korea, Japan, India, Singapore, France, Germany, Spain, Italy, UK, Poland, Netherlands

- **Recent widespread mainstream media coverage highlights Greenland's growing profile:**

  Financial Times Magazine: ***"The grab for Greenland"***

  Wall Street Journal: ***"Race for resources: Warm to investors, Greenland opens up"***

  Wall Street Journal: ***"Greenland seeks advice on uranium extraction"***

  Financial Times: ***"Greenland looks forward to rare earths bonanza"***

  The Guardian ***"Greenland gives green light for uranium, rare earths mining"***

  The Washington Post: ***"Greenland Targets $4B in funds to double its GDP"***

Greenland – An Important New Minerals Region

Pro-mining government making the big decisions and moving forward

- **In October, 2013 the Greenland Government repealed a long-standing zero-tolerance policy toward uranium**
- **Places Greenland on the path to uranium-producer status, opens up vast rare earth resources to exploitation**
- **As announced in January, 2014, Greenland and Denmark are now working to finalise a cooperation agreement on responsibilities associated with U production within the year**
- **Greenland aiming to be positioned to issue exploitation licenses for projects involving U/Th in 2016**
- **Greenland's Kvanefjeld REE-U project now the focus of regulatory bodies, as the development timeline firms**
- **The timing is aligned with strengthening demand and improving markets for uranium and critical REEs**

Schematic depiction of Kvanefjeld open pit, many years into mining

Greenland – An Important New Minerals Region

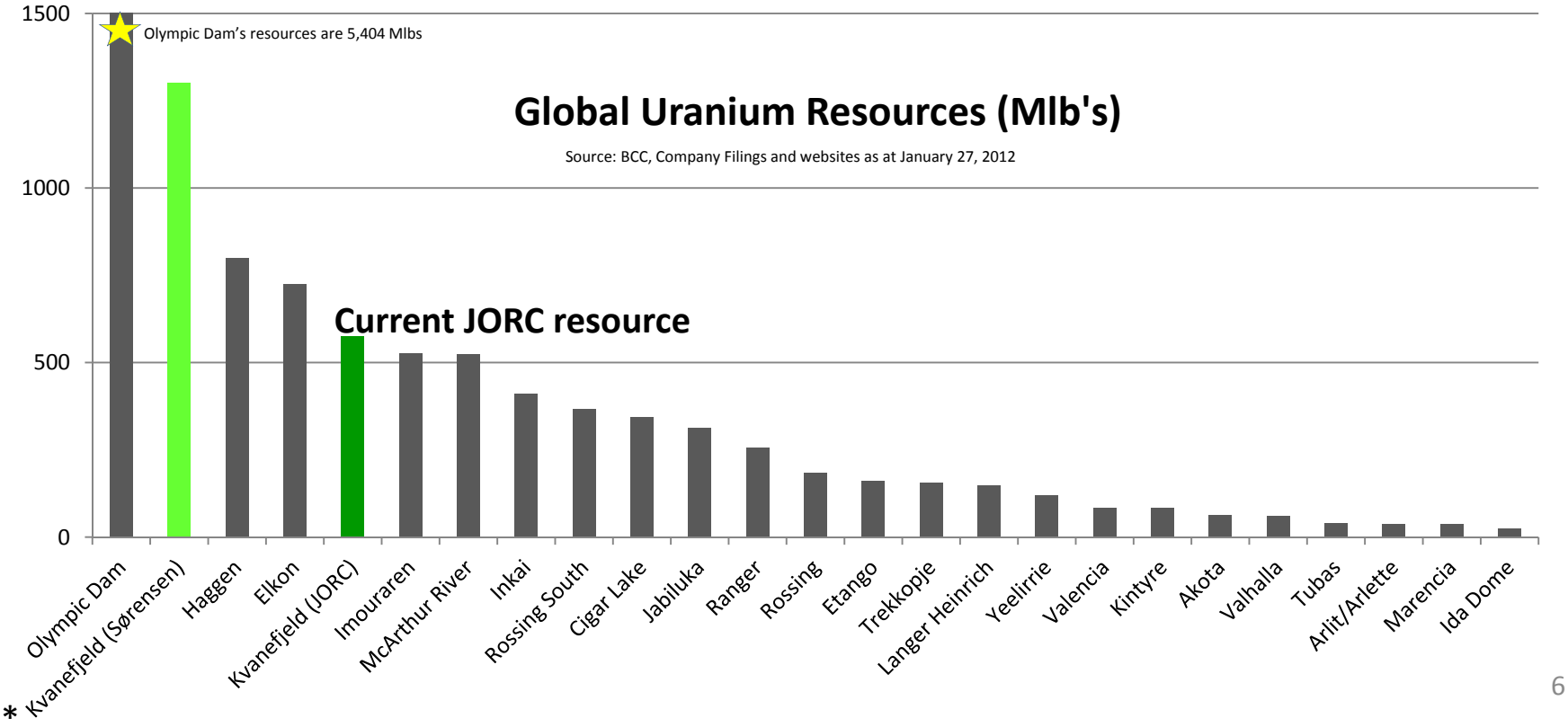
Why consider permitting the commercial exploitation of radioactive minerals?

Greenland has prolific polymetallic resources of Uranium and Rare Earth Elements

Kvanefjeld (Ilimaussaq) - Global (JORC) **uranium resource of 575 Mlbs U_3O_8** @150ppm U_3O_8 cut off

Coincident REE resources of 10.8 Mt – ***one of the world's largest with huge upside***

<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

Greenland Minerals and Energy Ltd

ASX-listed, Greenland-focussed mineral explorer and developer

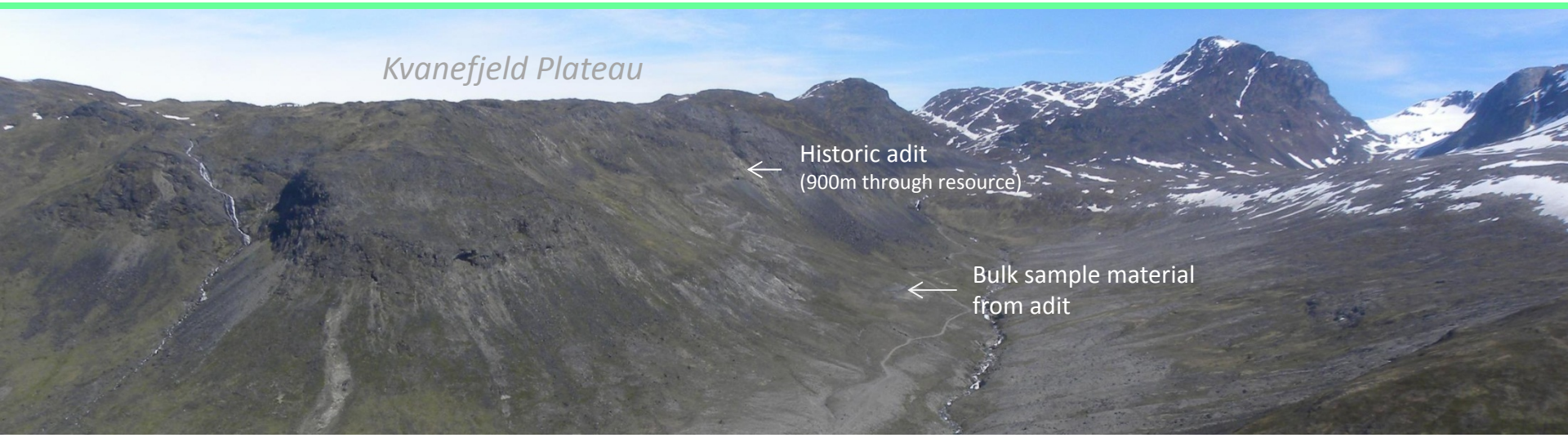
Key Asset: **Kvanefjeld** multi-element project (REEs, uranium, zinc):

- One of the world's most strategically important mineral projects - 100% owned by GMEL
- Project underpinned by one of world's largest REE-uranium resources with major upside
- Highly accessible – bulk ore bodies favourably located in southern Greenland near towns, harbours and airport
- A non-refractory ore type conducive to simple, cost-effective processing with low-technical risk
- 2013 - Feasibility level 'Mine and Concentrator Study' demonstrates long-life, cost-competitive production of rare earths and uranium; the start point of a mining project that will continue to evolve for decades
- Greenland is politically stable and pro-mining; attracting increasing international interest

Drilling at the 242Mt Sørensen Deposit, Kvanefjeld Project, South Greenland

Greenland Minerals and Energy Ltd

ASX-Listed, Greenland-Focussed Mineral Explorer and Developer



Board

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

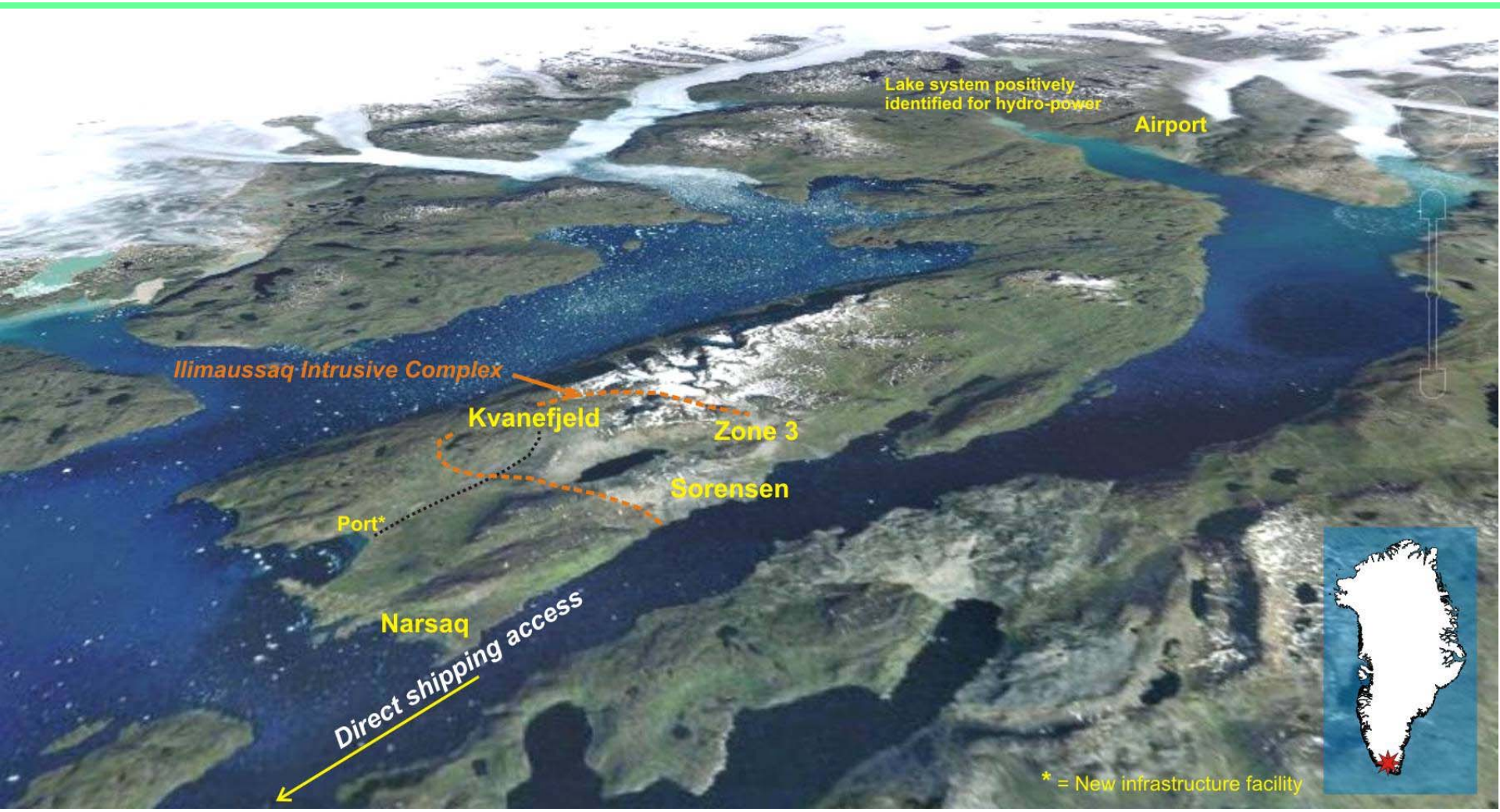
Capital Structure

Shares outstanding	571.2M
Options outstanding	38M*
Share price (02/09/2013)	A$0.205
52 week range	A $0.18-$0.46
Undiluted market capitalization	**A$120M**
Net Cash (30/12/13)	A$5.3M
Undiluted enterprise value	**A$115M**

- 7m performance options - $1.75 exp 2013, 5m options - $0.75 exp Oct 2014, 25.8m quoted options ex $0.60

Kvanefjeld Multi-Element Project

Project geography – 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

Kvanefjeld Multi-Element Project

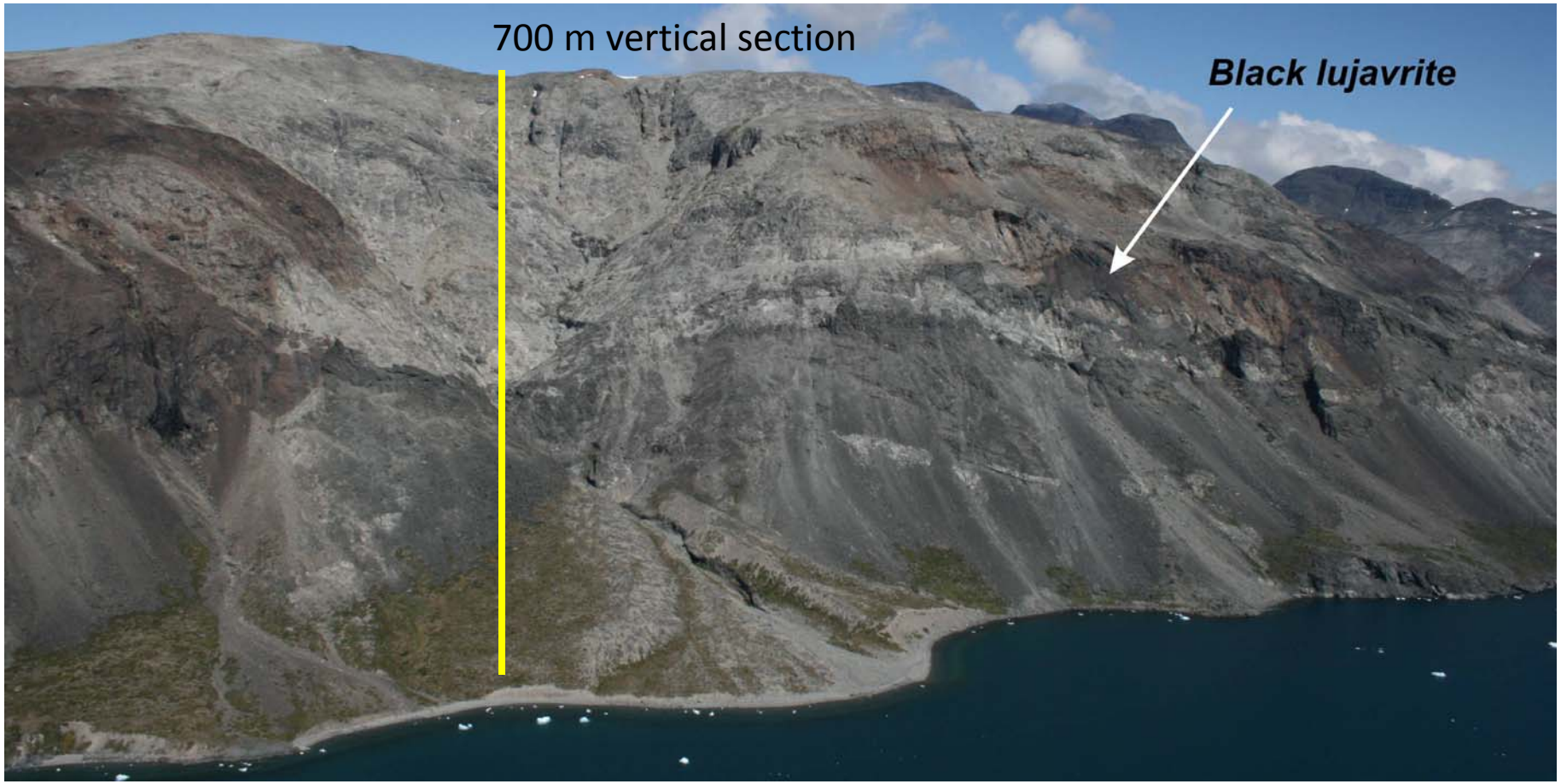
Ilimaussaq Complex – A Unique Geological Phenomenon

To-date, exploration has focussed on the outcropping zones of the lujavrite panel, which is continuous throughout the northern Ilimaussaq Complex under varying depths of overlying naujaite.

Kvanefjeld Multi-Element Project

Ilimaussaq Complex – A Unique Geological Phenomenon

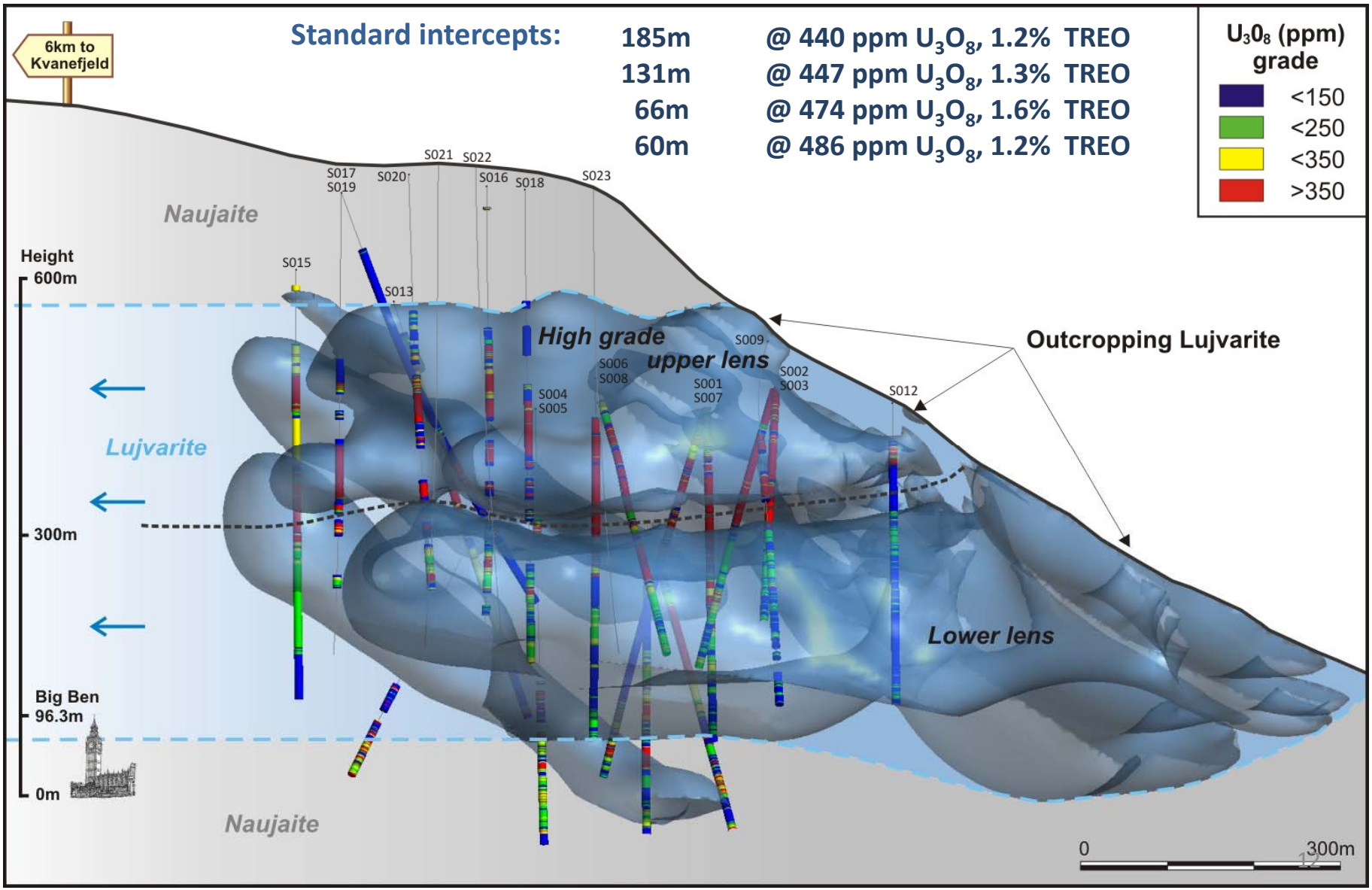
Northern Ilimaussaq Complex – Sørensen Deposit – 242 Mt



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



Northern Ilimaussaq Complex

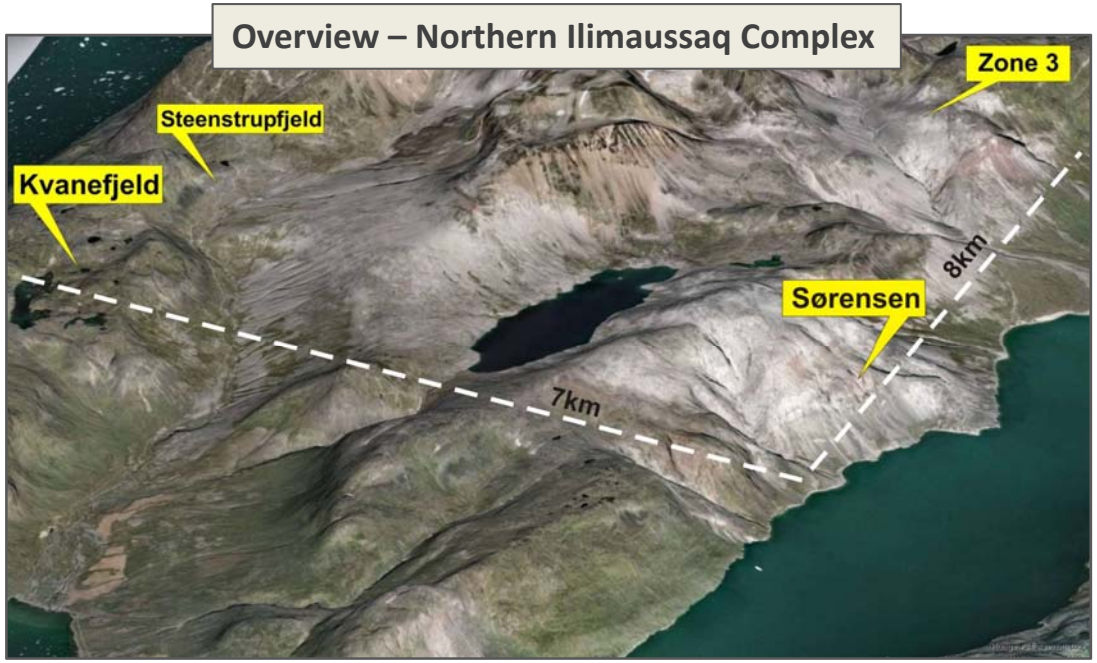
An extraordinary resource base, with huge upside

•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 2004 compliant, Prepared by SRK Consulting)

956 Mt containing **575 Mlbs U_3O_8** , 10.33 Mt TREO, 2.25 Mt zinc

TREO includes: **0.37 Mt heavy REO, 0.84 Mt yttrium oxide**

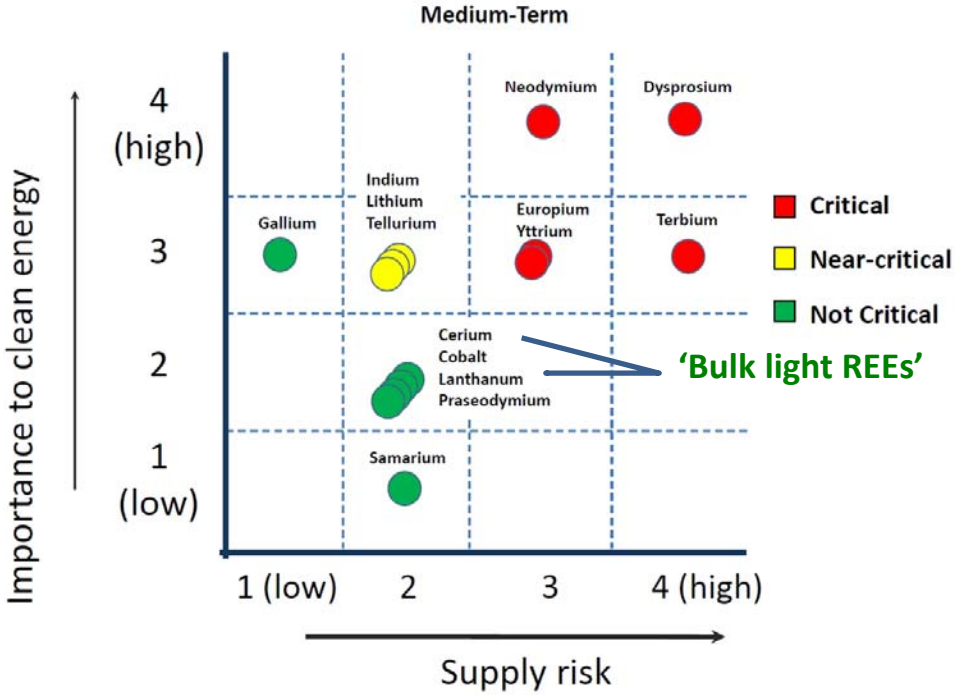
Kvanefjeld Deposit:	*Global resource:*	619 Mt @ 257 ppm U_3O_8, 1.06% TREO, 0.22% zinc
Sørensen Deposit:	*Global resource:*	242 Mt @ 304 ppm U_3O_8, 1.1% TREO, 0.26% zinc
Zone 3 Deposit:	*Global resource:*	95 Mt @ 300 ppm U_3O_8 1.16% TREO

For grade/tonnage breakdowns see resource table at end of the presentation

Rare Earth Element Market

Growth sector with looming supply shortfalls across the '**critical** REEs'

- **REE's** are not rare, but ***economically-viable*** sources are
- Rare earth market is dominated by China – *both* supply and demand
- Major restructure of the industry in China – effecting global supply and pricing
- China is consolidating its industry, leading to a more globally integrated supply network with greater transparency and clearer pricing



- Critical REEs are recognised as those important to clean energy that have strong demand growth, but supply concerns
- In order to produce sufficient critical REEs, an excess of 'bulk light' REEs may result
- Kvanefjeld's multi revenue streams and significant critical rare earth output, reduces marketing risk associated with 'bulk light' REEs Ce and La

Uranium Market and the Nuclear Power Outlook

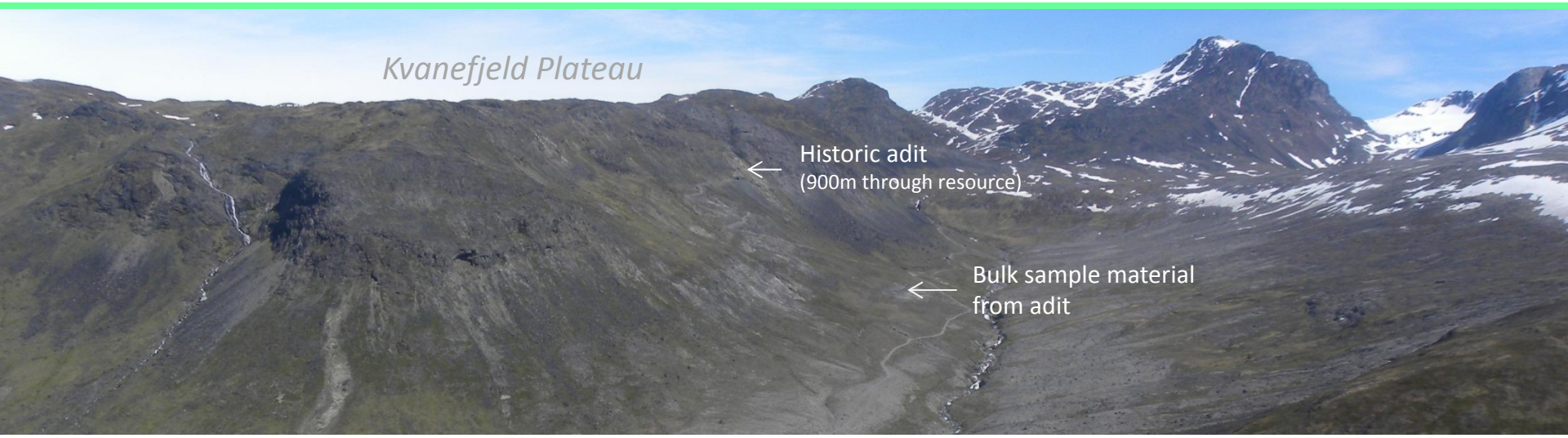
Looming supply shortfall as market readjusts

Uranium is part of the global energy business through nuclear power

- The nuclear power industry has received intense scrutiny following the Fukushima incident
- However; post-Fukushima the energy policies for numerous developed and developing nations are focused on diversity, with nuclear power set to play in important role
- As energy demand grows, so does the requirement for increased nuclear power capacity
- Significant new reactor build and further planning is underway in China, and numerous other nations
- End to 'megatons to megawatts' program in 2013, which had provided significant secondary supply
- Increasing recognition of the ability of nuclear power to counter carbon emissions associated with base-load energy generation
- Incremental restart of Japanese nuclear power stations anticipated in near-term
- ***Multiple factors point to strong fundamentals – major supply issues looming, demand set to grow***

Development Strategy: Start Point – Kvanefjeld Deposit

Built on a comprehensive technical foundation



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

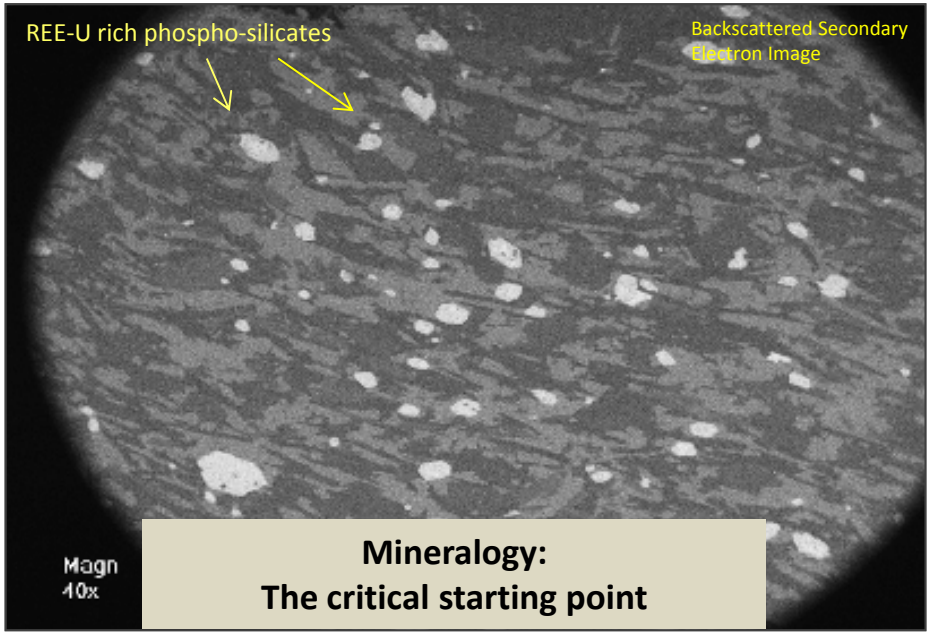
- Uranium focus, >$50 M (todays dollars) invested historically – advanced process development

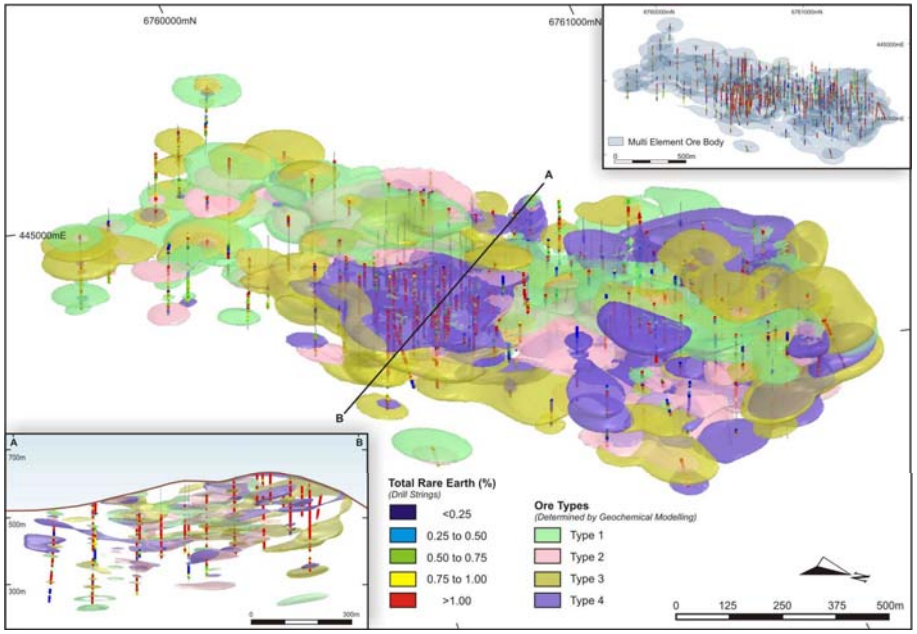
Seven years of R&D conducted by GMEL (2007 – present)

- 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
- Extensive environmental and social baseline studies undertaken over several years
- Widely recognized as a potential long-life, cost-competitive specialty metals project

Kvanefjeld Multi-Element Project

A unique and highly advantageous ore type





- Processing of REE-U ores is driven by mineralogy
- Detailed mineralogical studies map out the value deportment and focus test work
- At Kvanefjeld - coarse, discrete value minerals are rich in both REEs and uranium
- These unusual minerals can be effectively isolated from non-value minerals (gangue) utilising froth flotation

- Relationships established between key value minerals and whole-rock geochemistry
- State-of-the-art geostatistical modelling translates mineralogical studies back to the resource scale to effectively domain orebody
- Variability studies help constrain optimal flow-sheet, and guide mine planning
- Allows for predictive approach to metallurgical performance

Kvanefjeld Multi-Element Project

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

- Kvanefjeld ores contain unique rare earth-uranium bearing minerals (e.g. steenstrupine); non-refractory compared to common RE-ore types, much higher-grade than other non-refractory ores such as eudialyte

- Minerals are highly advantageous as they can be effectively beneficiated, then leached under atmospheric conditions, with no high-temperature acid bake or caustic crack required. This forms the basis of a simple processing route that makes for cost-effective, highly-scalable production

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

Kvanefjeld Multi-Element Project

Pilot plant operation of concentrator circuit complete (November 2012)

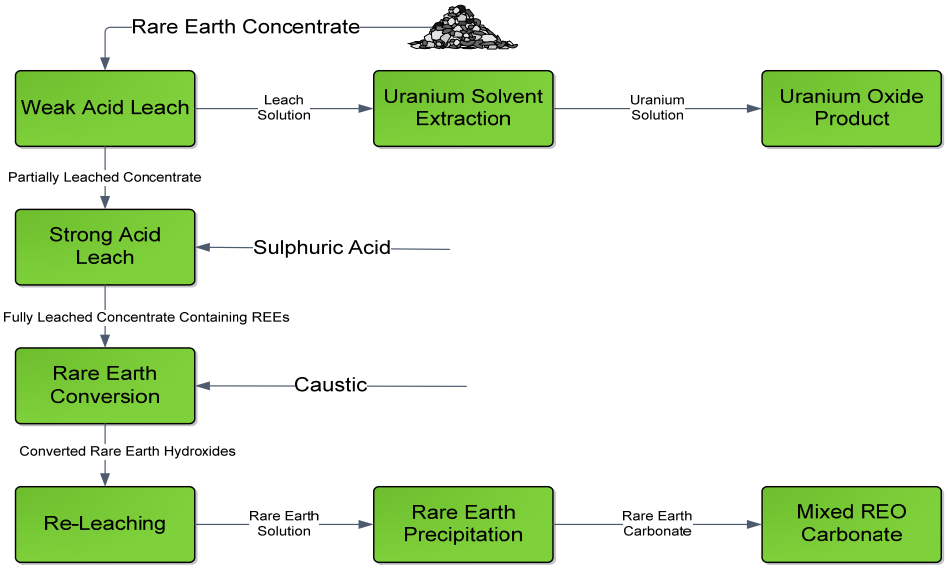
Jameson flotation cell – (Xtrata Technologies)

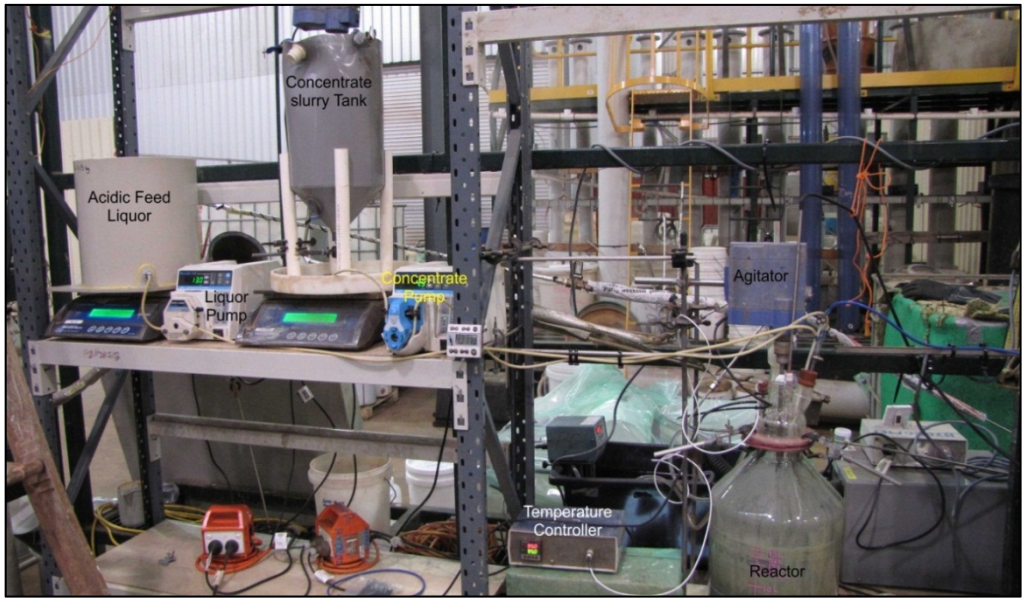
Second beneficiation pilot plant campaign, 1:2000 scale

Continuous pilot plant operation at SGS Laboratories, Perth, produced outstanding results; >300kgs of concentrate produced

Kvanefjeld Multi-Element Project

Refinery: Hydrometallurgical Leach Circuit Advanced and De-Risked





- GMEL has developed an effective circuit to leach both REEs and uranium from mineral concentrates
- Utilises simple mechanical equipment, with commercially proven recovery methods
- Sulphuric acid leach, under atmospheric conditions results in high extractions of both heavy REEs, and uranium
- Recent test work has demonstrated the effective management of impurities in the leach stream to ensure the generation of high-quality concentrates
- 100 hour leach test (setup left) represented the final test work phase prior to integrated pilot plant operation of the refining circuit
- Leach circuit generates a high purity RE carbonate (**15%** of TREO's as heavies)

The Kvanefjeld Project – Development Strategy – Stage 1

Multiple revenue streams underpin cost-competitive, long-life operation

Capital Costs

Mine and Concentrator $450M

(see Mine and Concentrator Study released March, 2013)

Mineral Concentrator

Milled Ore

Flotation Circuit

Concentrates U-REE minerals into <10% of starting mass

Zinc Concentrate Fluorspar

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Main Tailings Dam

Residual U-rich minerals in flotation tails can be later targeted to increase U output

91.5% of Mass - Unrefined Silicate Minerals

REE-U rich Mineral Con

8.5% of starting mass

Refinery

Costing subject to location - Greenland costs currently being updated

Support infrastructure in Greenland previously modelled under '*Build-Own-Operate*' scenario in PFS and FS level 'Mine and Concentrator' studies

Sulphuric Acid Leach

U & REE Extraction and Separation

Pregnant U-Liquor

Uranium Recovery
Standard SX Off-take Agreement

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Residue with RE-sulfate salts

Refinery

REE Coversion & Hydrochloric Acid Leach

Clean Chloride Stream - SX

Acid Leach Tailings

Rare Earth Carbonate
(rich in critical RE's)

'Stage 1'
~7000t Critical REOs
+ La and Ce oxides

Separation Strategy

Subject to 3rd party discussions that are advancing. Updates anticipated 2014.

Both JV and toll-treat scenarios under consideration

Greenland Minerals
Integrated global RE supply business

Separation, Marketting, Sales

Separation
High-purity RE products

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The Kvanefjeld Project

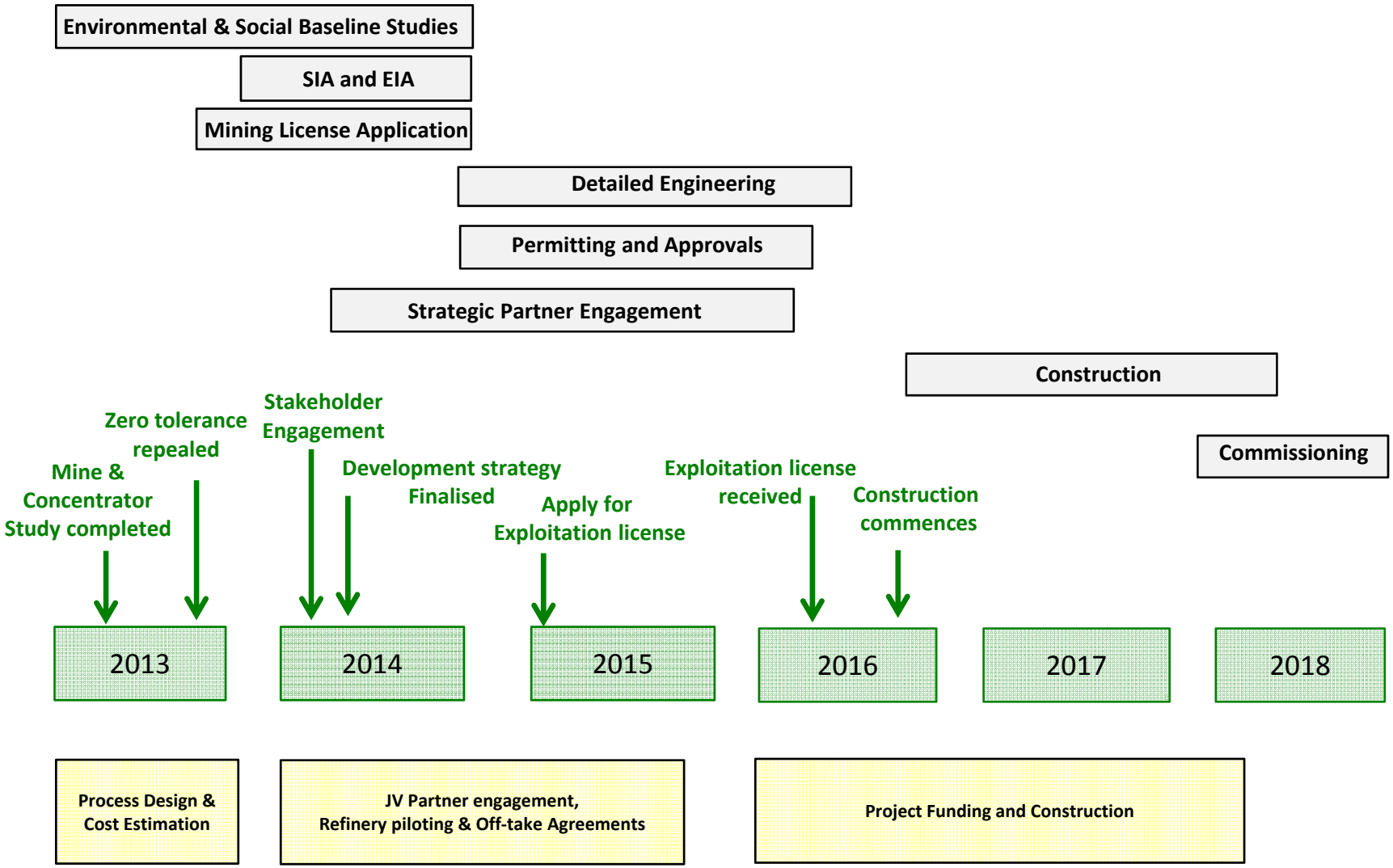
Feasibility Studies Well-Advanced, Political Impedance Removed

Next steps:

- Finalise EIA, SIA, exploitation license application through 2014
- Detailed engineering design to continue in parallel to permitting
- Continue to develop business strategy, advance discussions with project participants
- Firm up main rare-earth partner, commence commercial negotiations, product and marketing strategy
- Establish uranium partner – stage one off-take, evaluate expansion/growth strategy options
- In conjunction with strategic partner consideration; commence structuring of optimal project development financing to deliver best-possible shareholder return
- Maintain stakeholder engagement program, to ensure Greenland is fully informed of the next steps, and the opportunities involved in Kvanefjeld project
- In summary – position and structure the Kvanefjeld project for the development pipeline

The Kvanefjeld Project – Project Timeline

Key Milestones: mining license application, confirmation of partners, off-takes



Greenland Minerals and Energy - Community Engagement

Comprehensive stakeholder engagement program

NARSAQ OPEN DAY – Introducing local stakeholders to the mine project evaluation

Greenland Minerals and Energy - Community Engagement

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

Kvanefjeld Multi-Element Project

"Greenland's world-class mining opportunity"

- ✓ **One of the world's largest rare earth and uranium resources, with potential for major growth**
- ✓ **Direct shipping access to project area year round**
- ✓ **Large, outcropping ore bodies allow for simple, low cost, open-pit mining**
- ✓ **Unique and highly favourable ore-type conducive to simple, cost-competitive processing**
- ✓ **Clear scope to be one of the largest producers of 'critical' rare earth elements globally**
- ✓ **Zero-tolerance policy toward uranium removed – clears path to finalise development strategy**
- ✓ **Technical studies well advanced, process methodology developed by respected metallurgical team**
- ✓ **Development timeline now well-aligned with strengthening uranium and critical rare earth markets**

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Supplementary Information

The Kvanefjeld Project

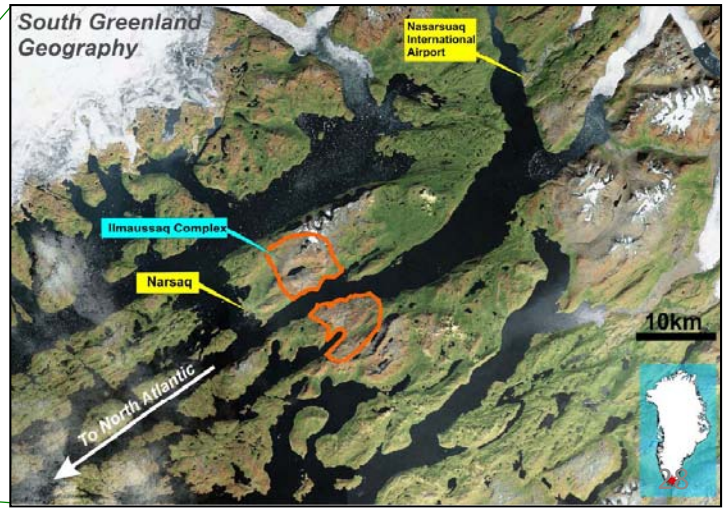
Readily accessible location near existing infrastructure

- **Strategically located between North American and European markets at a lower latitude than long established mining regions of Alaska and northern Canada**

- **Fjord system in south Greenland provides direct shipping access to project area, year round**
  - *new port facilities can be built adjacent to project;*
  - *short roads required to connect port to the process plant, will be used for all goods movement*
  - *potential low-cost power supply from new hydropower facility supplemented by imported heavy fuel oil generators*
  - *plentiful plant water supply from local lakes, river systems*

- **Town of Narsaq located 10km from Kvanefjeld and is expected to provide both general labour and services to the Project**

Asset Location



Greenland Minerals and Energy

Kvanefjeld Multi-Element Project, Statement of Identified Mineral Resources

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U_3O_8 ppm)[1]	**Classification**	**M tonnes** Mt	**TREO**[2] ppm	**U_3O_8** ppm	**LREO** ppm	**HREO** ppm	**REO** ppm	**Y_2O_3** ppm	**Zn** ppm	**TREO** Mt	**HREO** Mt	**Y_2O_3** Mt	**U_3O_8** M lbs	**Zn** Mt
Kvanefjeld - March 2011														
150	**Indicated**	437	10929	274	9626	402	10029	900	2212	**4.77**	0.18	0.39	**263**	0.97
150	**Inferred**	182	9763	216	8630	356	8986	776	2134	**1.78**	0.06	0.14	**86**	0.39
150	**Grand Total**	619	10585	257	9333	389	9721	864	2189	**6.55**	0.24	0.53	**350**	1.36
200	**Indicated**	291	11849	325	10452	419	10871	978	2343	**3.45**	0.12	0.28	**208**	0.68
200	**Inferred**	79	11086	275	9932	343	10275	811	2478	**0.88**	0.03	0.06	**48**	0.20
200	**Grand Total**	370	11686	314	10341	403	10743	942	2372	**4.32**	0.15	0.35	**256**	0.88
250	**Indicated**	231	12429	352	10950	443	11389	1041	2363	**2.84**	0.10	0.24	**178**	0.55
250	**Inferred**	41	12204	324	10929	366	11319	886	2598	**0.46**	0.02	0.03	**29**	0.11
250	**Grand Total**	272	12395	347	10947	431	11378	1017	2398	**3.33**	0.12	0.27	**208**	0.65
300	**Indicated**	177	13013	374	11437	469	11906	1107	2414	**2.30**	0.08	0.20	**146**	0.43
300	**Inferred**	24	13120	362	11763	396	12158	962	2671	**0.31**	0.01	0.02	**19**	0.06
300	**Grand Total**	200	13025	373	11475	460	11935	1090	2444	**2.61**	0.09	0.22	**164**	0.49
350	**Indicated**	111	13735	404	12040	503	12543	1192	2487	**1.52**	0.06	0.13	**98**	0.27
350	**Inferred**	12	13729	403	12239	436	12675	1054	2826	**0.16**	0.01	0.01	**10**	0.03
350	**Grand Total**	122	13735	404	12059	497	12556	1179	2519	**1.68**	0.06	0.14	**108**	0.31
Sørensen - March 2012														
150	**Inferred**	242	11022	304	9729	398	10127	895	2602	**2.67**	0.10	0.22	**162**	0.63
200	**Inferred**	186	11554	344	10223	399	10622	932	2802	**2.15**	0.07	0.17	**141**	0.52
250	**Inferred**	148	11847	375	10480	407	10887	961	2932	**1.75**	0.06	0.14	**123**	0.43
300	**Inferred**	119	12068	400	10671	414	11084	983	3023	**1.44**	0.05	0.12	**105**	0.36
350	**Inferred**	92	12393	422	10967	422	11389	1004	3080	**1.14**	0.04	0.09	**85**	0.28
Zone 3 - May 2012														
150	**Inferred**	95	11609	300	10242	396	10638	971	2768	**1.11**	0.04	0.09	**63**	0.26
200	**Inferred**	89	11665	310	10276	400	10676	989	2806	**1.03**	0.04	0.09	**60**	0.25
250	**Inferred**	71	11907	330	10471	410	10882	1026	2902	**0.84**	0.03	0.07	**51**	0.2
300	**Inferred**	47	12407	358	10887	433	11319	1087	3008	**0.58**	0.02	0.05	**37**	0.14
350	**Inferred**	24	13048	392	11392	471	11864	1184	3043	**0.31**	0.01	0.03	**21**	0.07
Project Total														
Cut-off (U_3O_8 ppm)[1]	**Classification**	**M tonnes** Mt	**TREO**[2] ppm	**U_3O_8** ppm	**LREO** ppm	**HREO** ppm	**REO** ppm	**Y_2O_3** ppm	**Zn** ppm	**TREO** Mt	**HREO** Mt	**Y_2O_3** Mt	**U_3O_8** M lbs	**Zn** Mt
150	**Indicated**	437	10929	274	9626	402	10029	900	2212	**4.77**	0.18	0.39	**263**	0.97
150	**Inferred**	520	10687	272	9437	383	9820	867	2468	**5.55**	0.20	0.45	**312**	1.28
150	**Grand Total**	956	10798	273	9524	392	9915	882	2351	**10.33**	0.37	0.84	**575**	2.25

[1]There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U_3O_8 has therefore been used to define the cut-off grades to maximise the confidence in the resource calculations.

[2]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.