



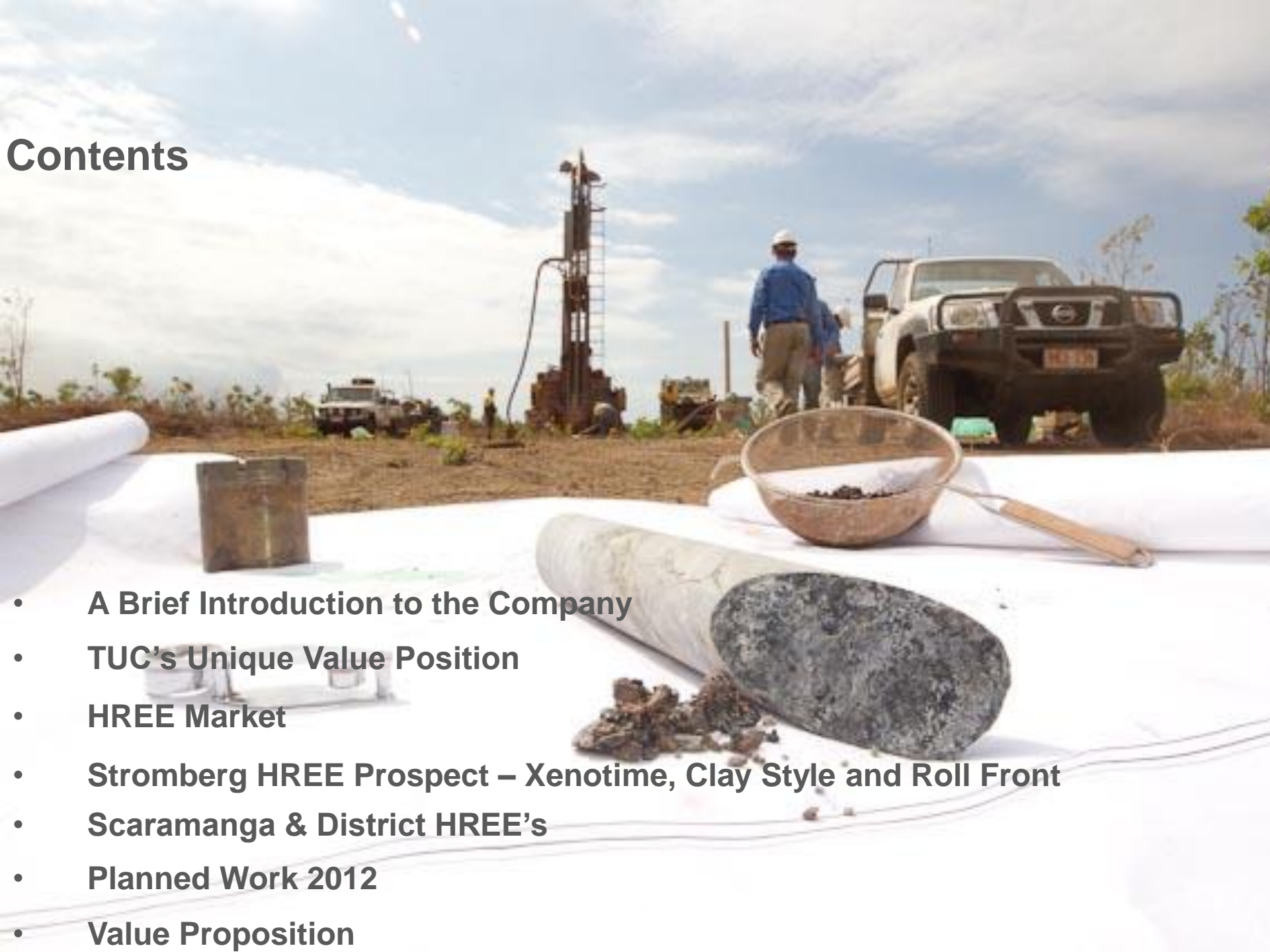
## Investor Update

### Heavy Rare Earth (HREE) Discovery in the Northern Territory of Australia

IAN BAMBOROUGH, Managing Director  
TUC Resources Eastern States Road Show,  
15 February – 17 February 2012

# Contents

- **A Brief Introduction to the Company**
- **TUC's Unique Value Position**
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- **Planned Work 2012**
- **Value Proposition**



## About TUC Resources Ltd

# Company Position; ASX TUC

- **124.4M Shares at A\$0.185**  
**Market Cap. A\$22M** (13 February 2012)
- **Well Funded ~\$3.55M** (31 December 2011)
- **Supportive Registry**  
**+1200 Shareholders**



# What is TUC's Unique Value Position?

- 85% HREE and Importantly, Evidence of Simple Mineral Processing Options

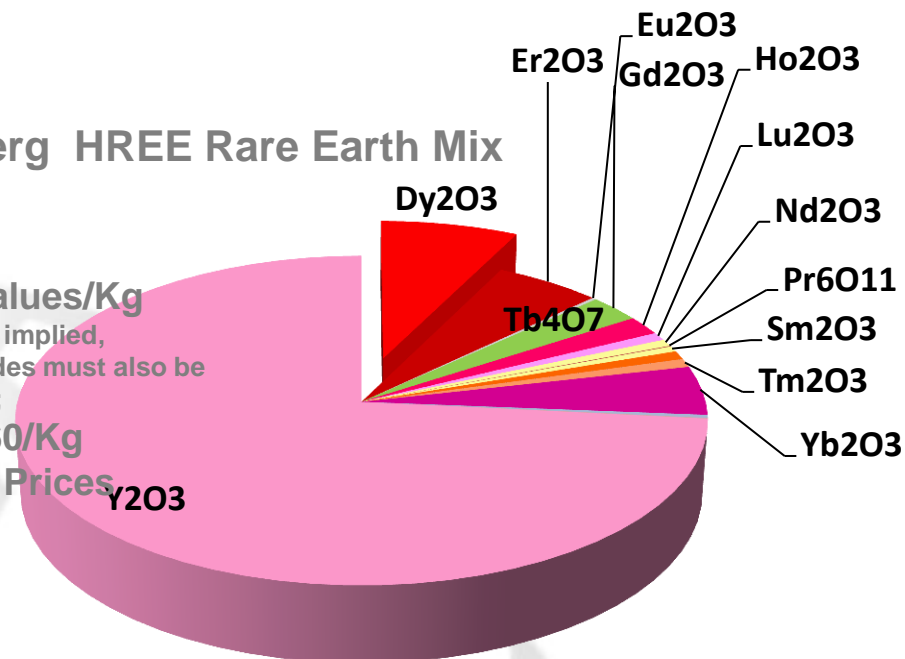
## Stromberg HREE Rare Earth Mix

### In-situ Values/Kg

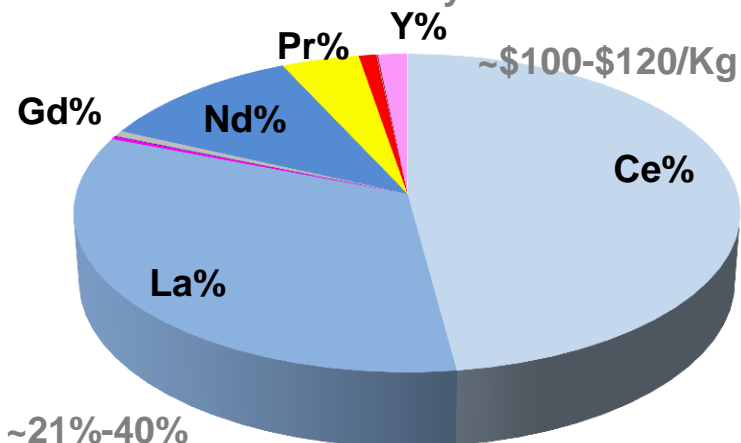
No recovery implied,  
Deposit grades must also be  
considered;

~\$250-260/Kg

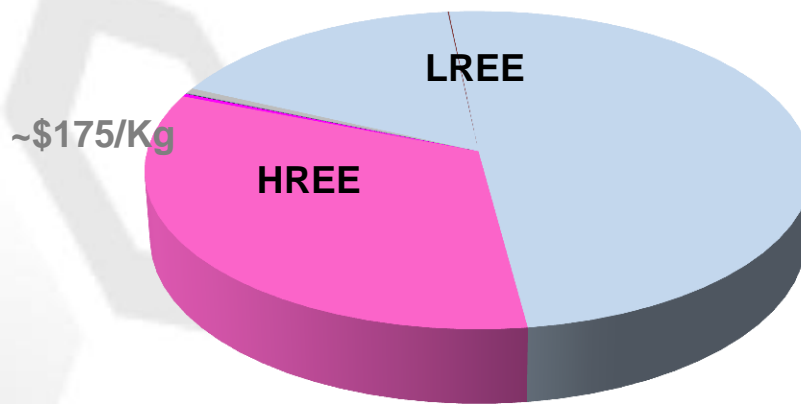
Dec 2011 Prices



## Typical Light REE Mix, Similar to Mt Weld - Lynas



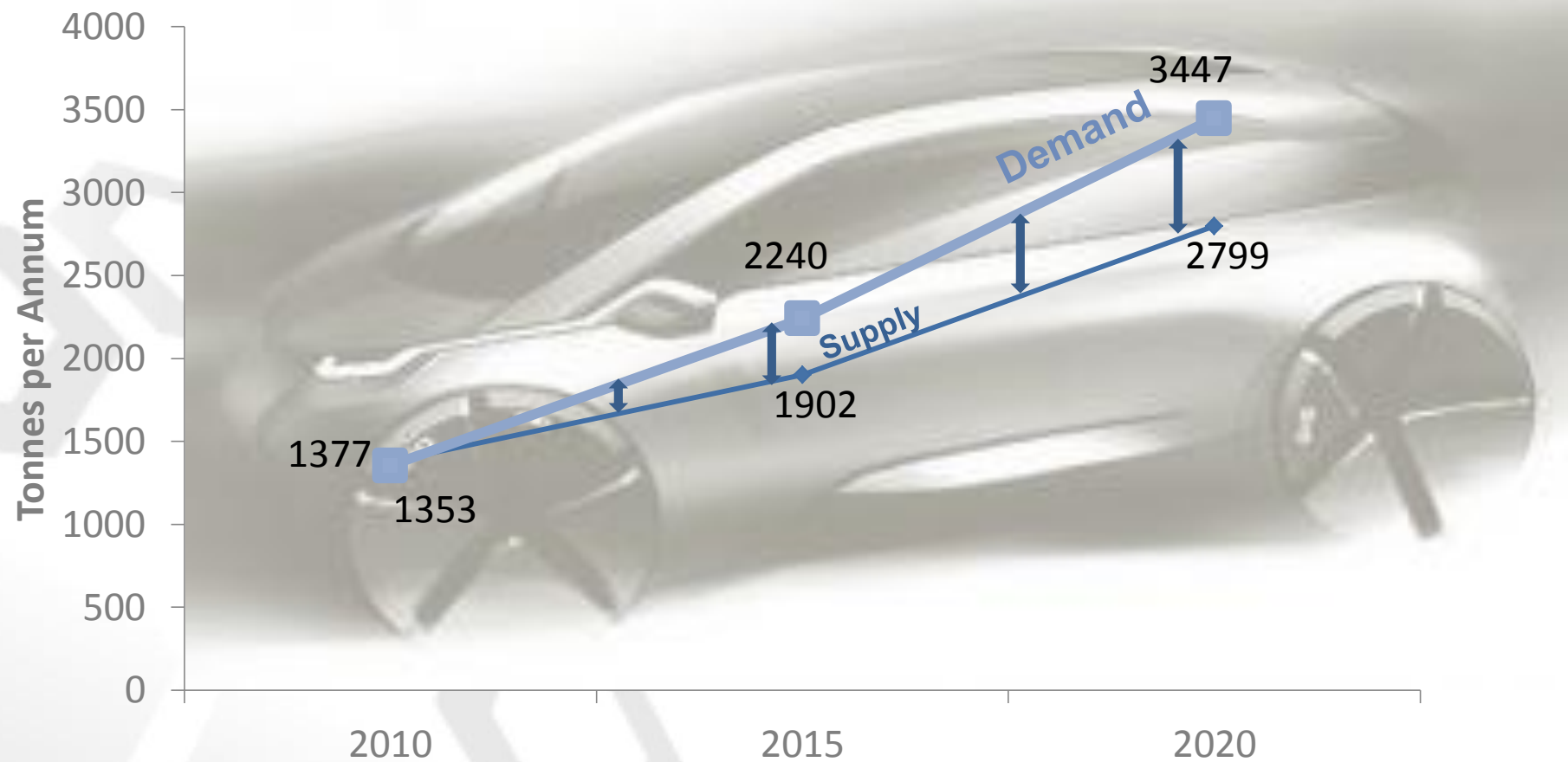
Other HREE Prospects ~21%-40%  
HREE eg Avalon Nechalacho



~\$175/Kg

# Demand Supply Gap Forecast to Grow

## Dysprosium Oxide

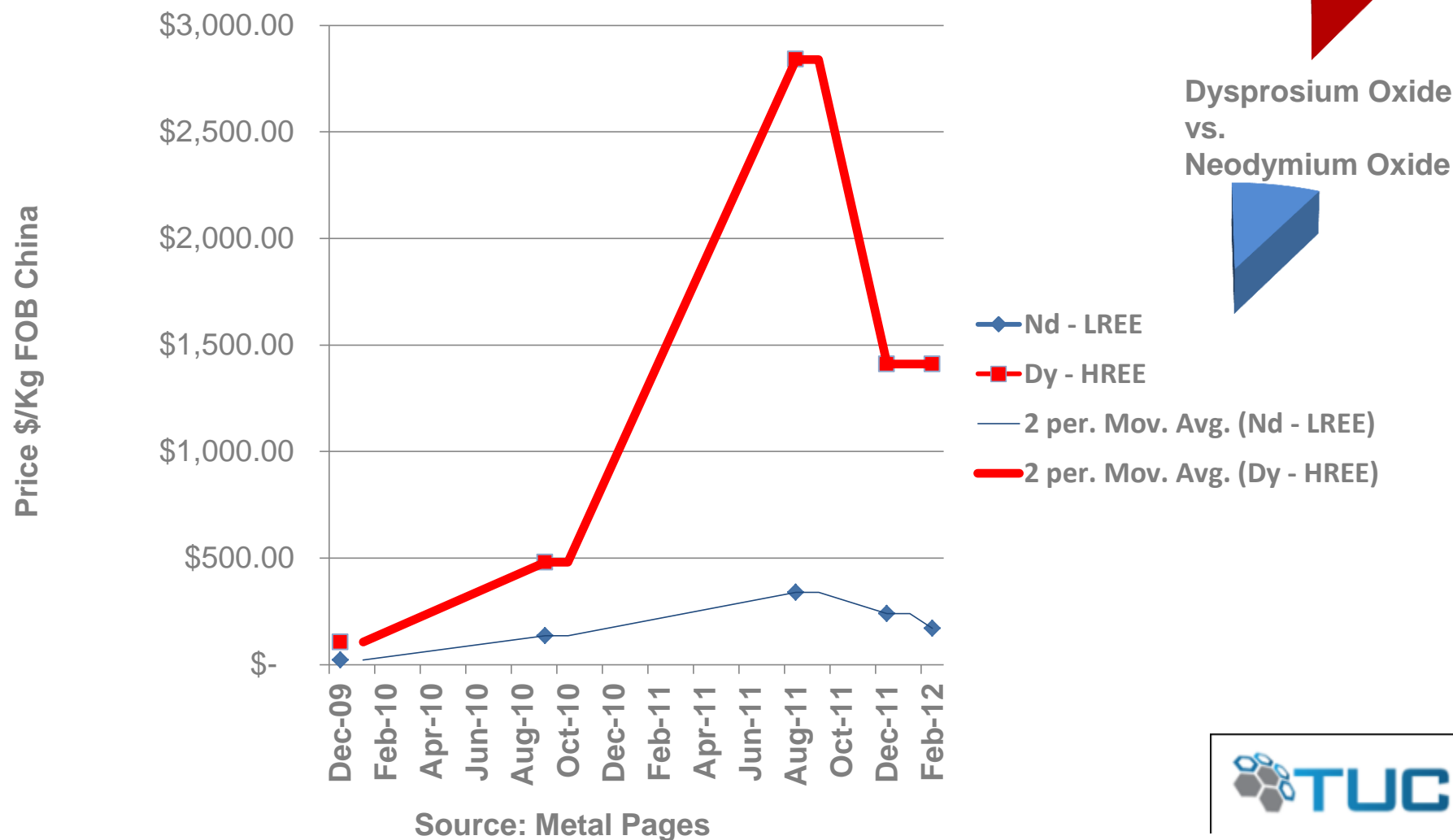


Source: IMCOA – Öko-Institut; Northern Minerals Investor Presentation Jan 2012

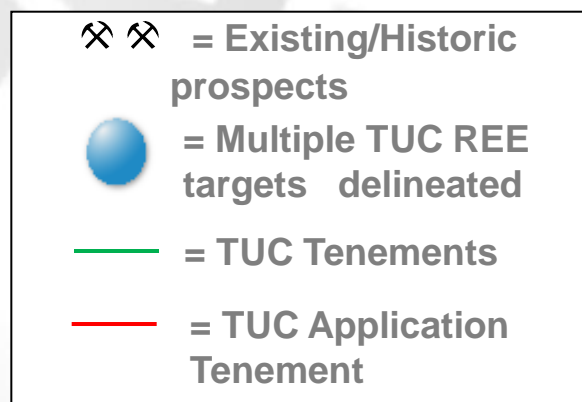


# Price Sensitivity of HREE's – deposit grade implications

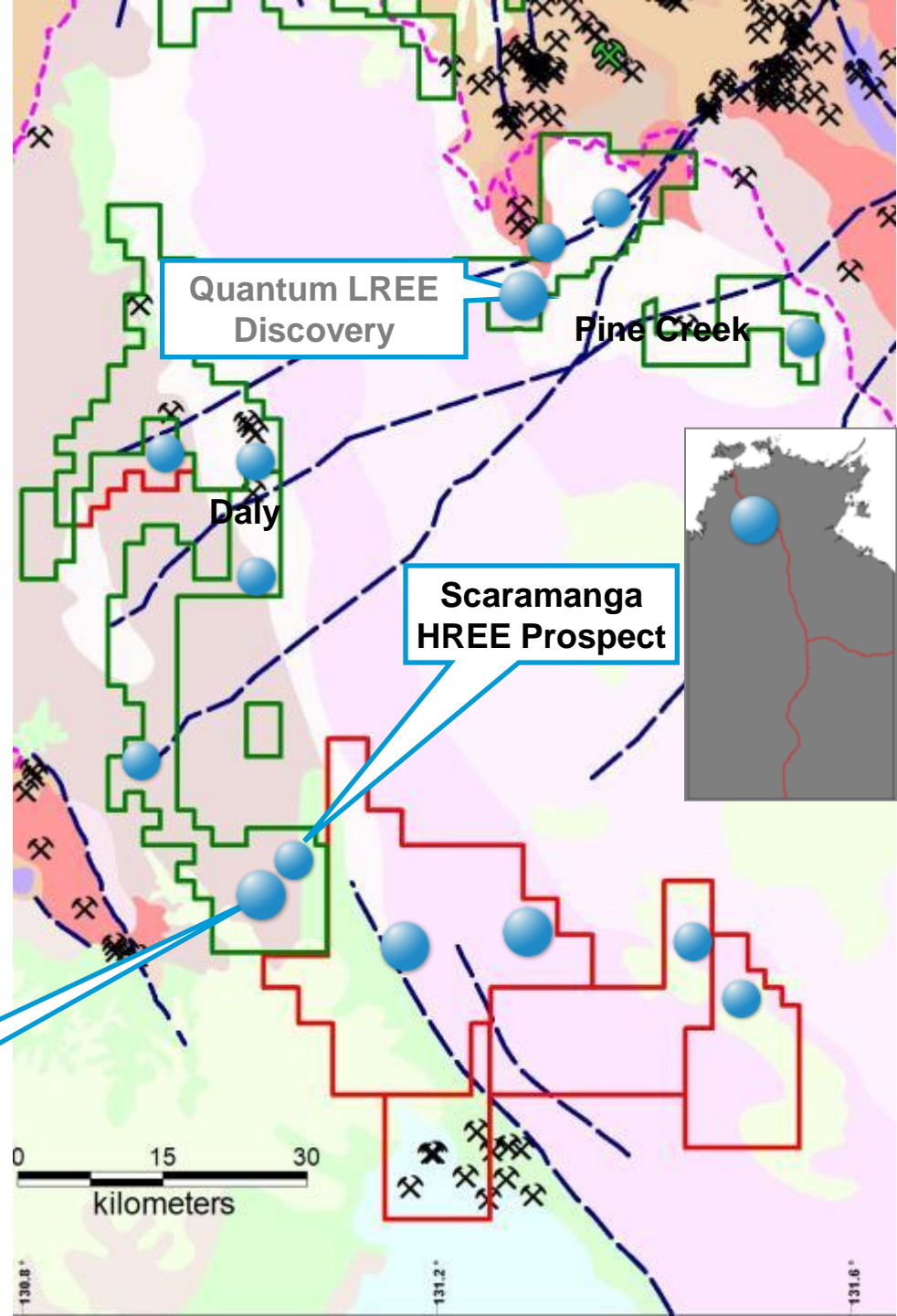
- Dysprosium Price Curve Steeper
- Dysprosium Price Level Since December 2011
- Higher HREE Prices mean lower grade deposits are very significant



## Multiple Active REE Prospects



**Stromberg  
HREE Discovery**





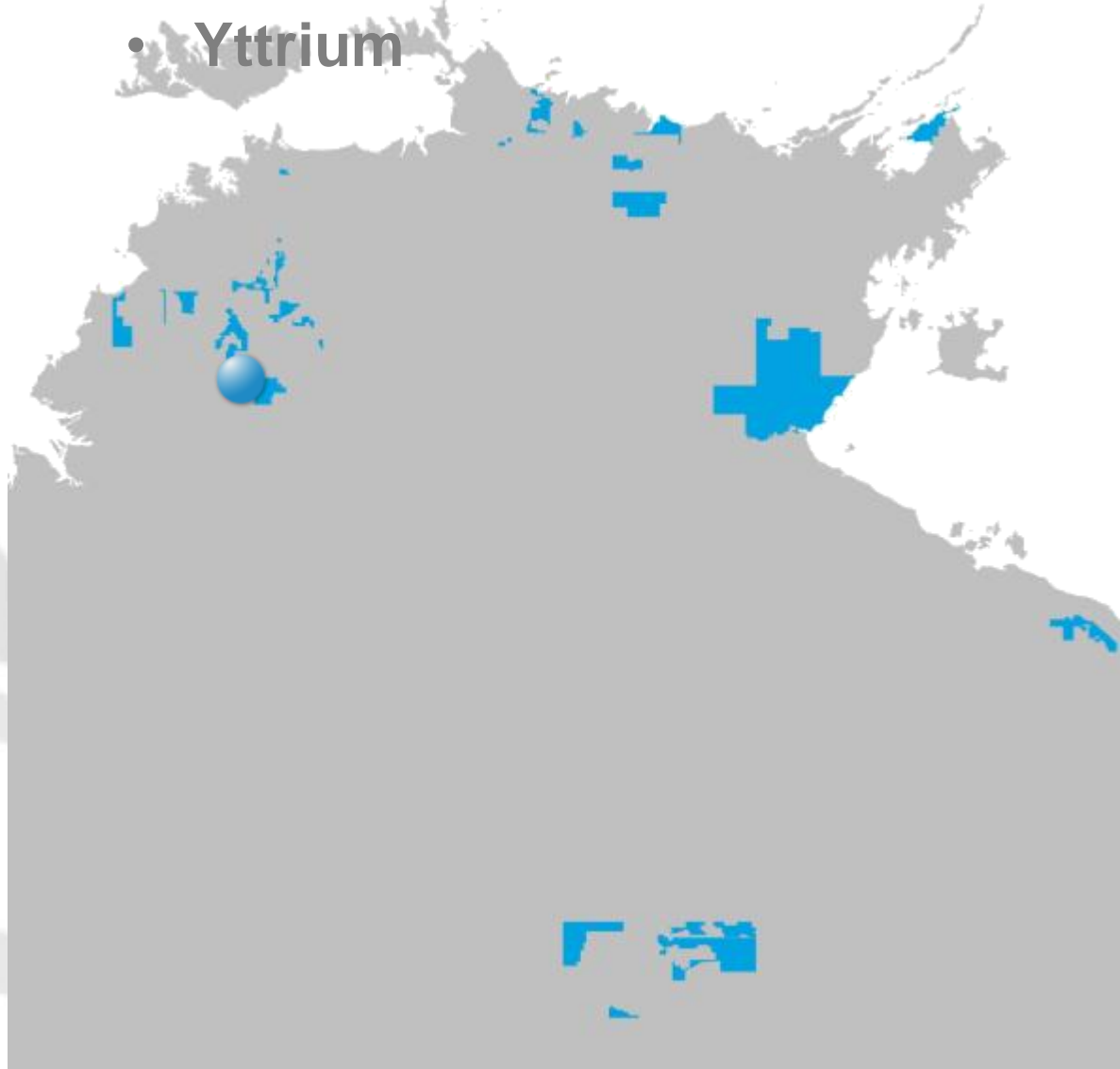


Clean Energy Use

# Stromberg HREE Prospect

Rich in Valuable:

- Dysprosium
- Terbium
- Yttrium



# Stromberg - Serious Prospect Strike Length

Further Airborne  
Radiometric  
Anomalism

1m @ 0.22% TREO,  
87%HREE/TREO  
7% Dy/TREO  
0.8% Tb/TREO  
66% Y/TREO

6m @ 0.43% TREO,  
78%HREE/TREO  
7.5% Dy/TREO  
1.1% Tb/TREO  
59% Y/TREO

7m @ 1% TREO,  
95%HREE/TREO  
7.5% Dy/TREO  
0.8% Tb/TREO  
64% Y/TREO


3m @ 0.74% TREO,  
81%HREE/TREO  
8.8% Dy/TREO  
1.2% Tb/TREO  
60% Y/TREO

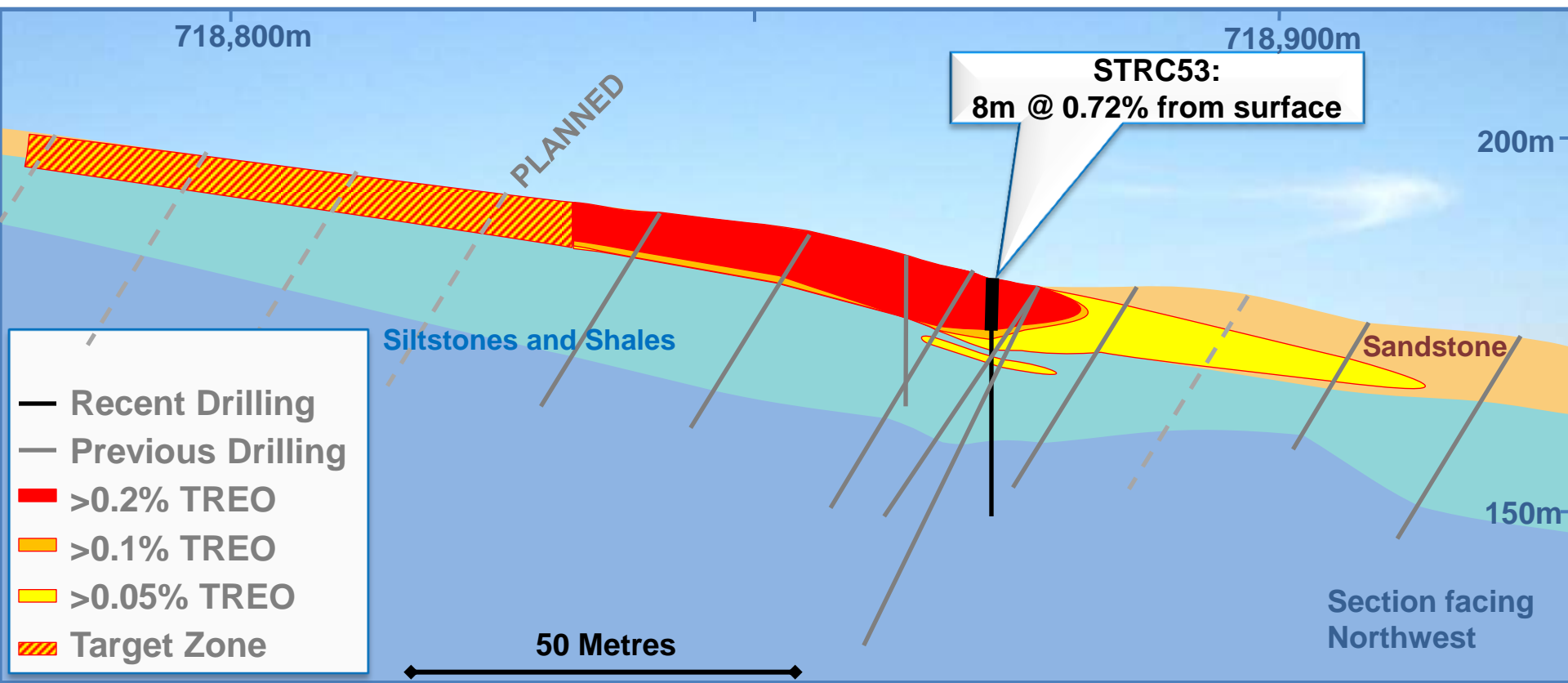
5m @ 0.47% TREO,  
80%HREE/TREO  
8.7% Dy/TREO  
0.9% Tb/TREO  
71% Y/TREO

2.3 km

↑  
N

# Serious Economic Potential HREE's – shallow – quicker to drill/develop

 = 6m average thickness at 0.56% TREO;  
Dysprosium Oxide 7.34% TREO;  
Terbium Oxide 0.86%/TREO;  
Yttrium Oxide 71%/TREO  
(2ppm Thorium) .





# Stromberg Mineralogical Xenotime Concentrate

**A possible simple processing flow sheet could lead to speedier development.**

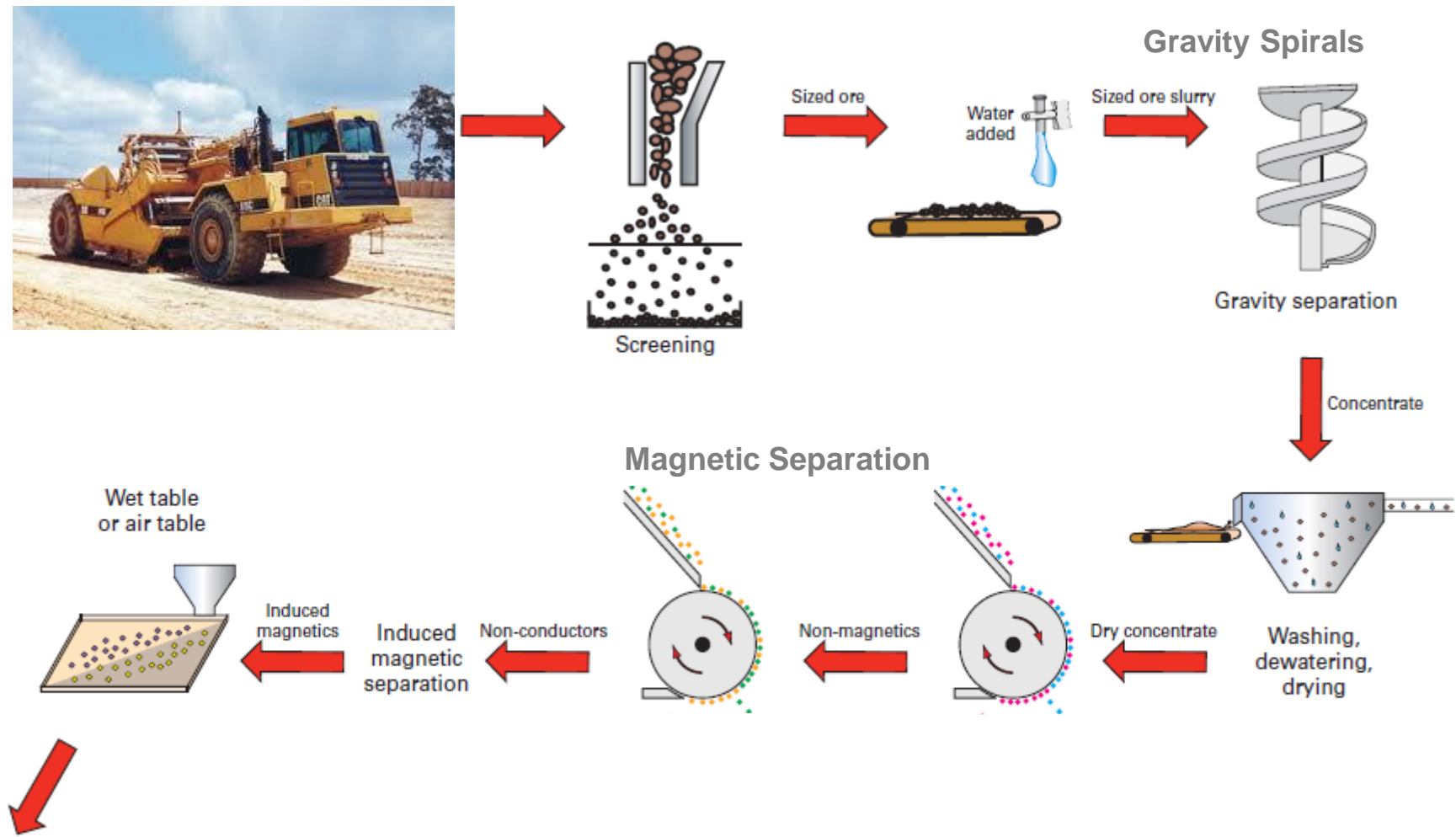
**Average of 3.5ppm Thorium for all assays above 0.2% TREO;**

**Average of 195ppm Uranium for all assays above 0.2% TREO.**

Magn 309x WD 15.0 0.5 mBar 200 µm

**052 34-5 discrete xenotime concentrate**

# Xenotime can offer simple physical processing (lower capital costs possible)



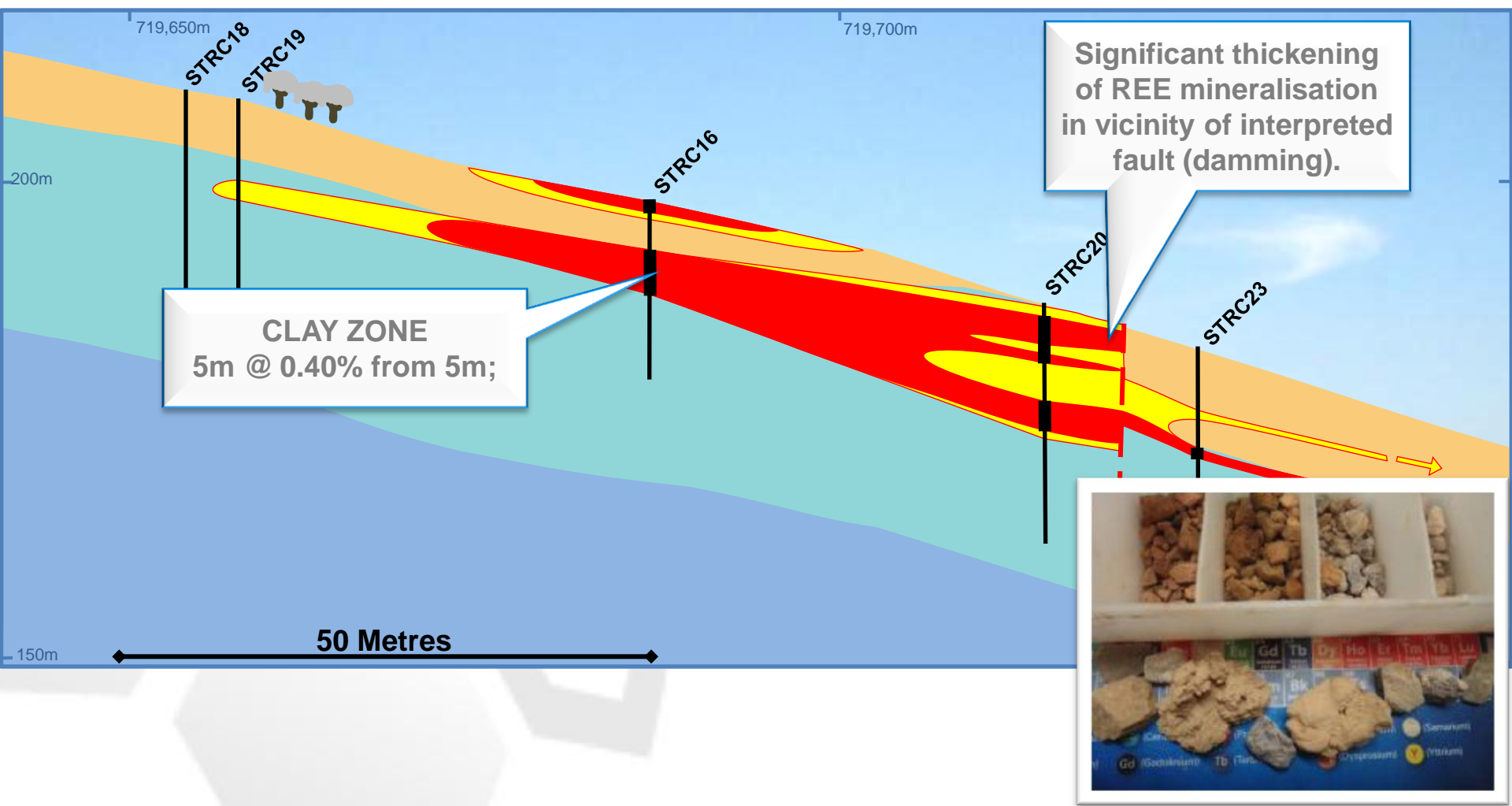
Xenotime Concentrate

Possible processing route for Xenotime ores at Stromberg; Adapted from British Geological Survey – Minerals UK paper on ‘Rare Earth Elements’, November 2011



# Mineralisation also associated with clays and still moving

- HREE Clay Zones - Potential for Chinese Ionic Clay Style Zones
- Offers potential for simpler leach and precipitation of HREE's (metallurgical test work in progress)





# Hidden Potential

Potential for an  
in-situ leach  
prospect



**Stromberg Prospect**

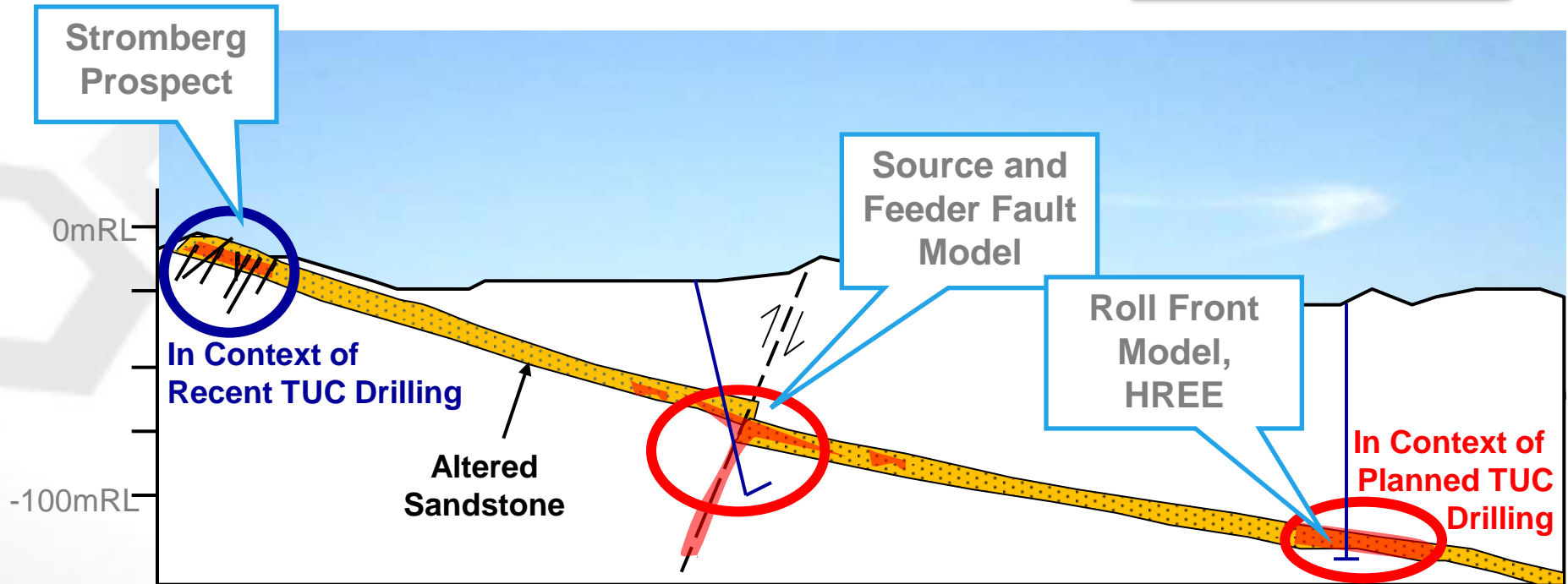
**In Context of  
Recent TUC Drilling**

**Altered  
Sandstone**

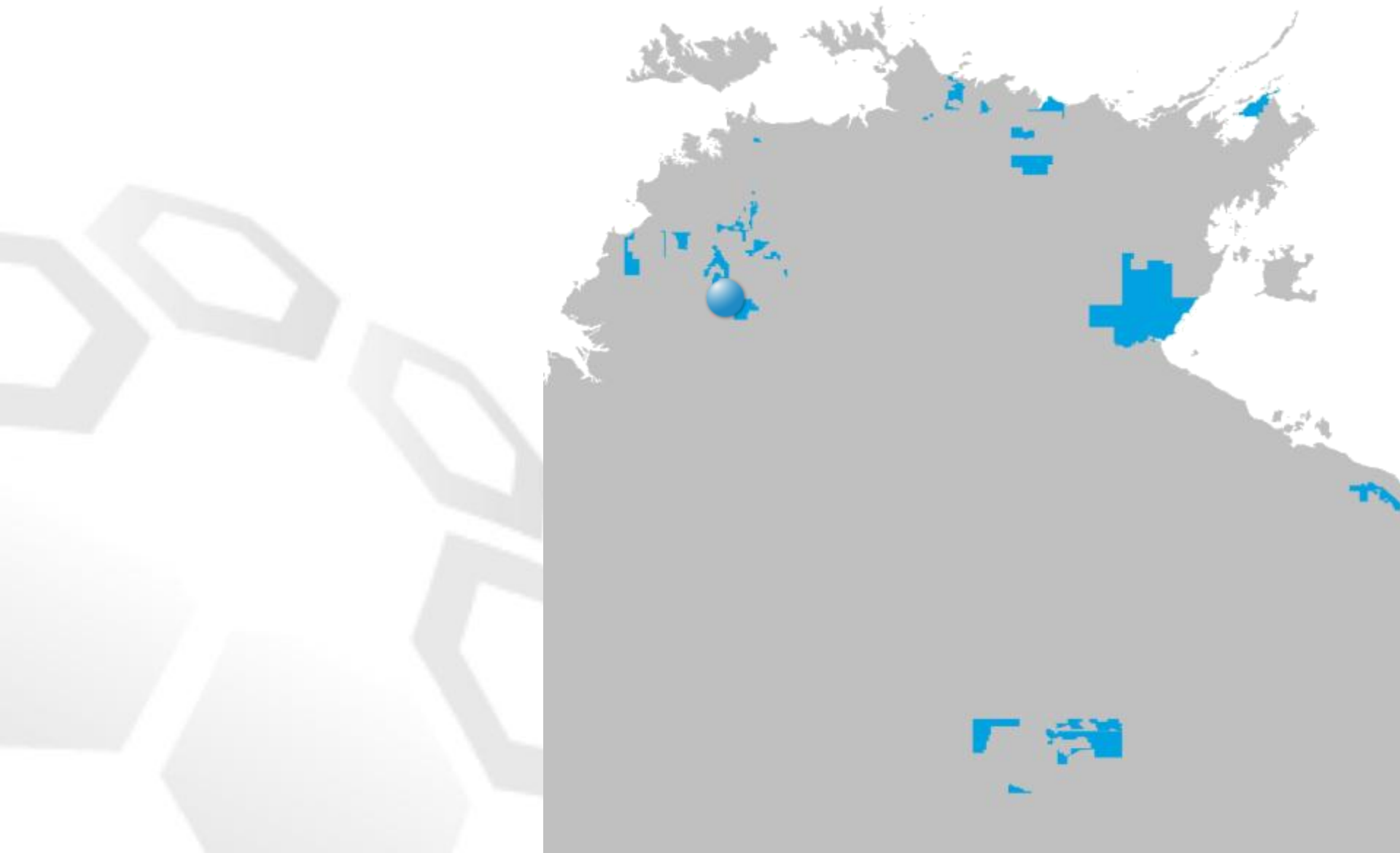
**Source and  
Feeder Fault  
Model**

**Roll Front  
Model,  
HREE**

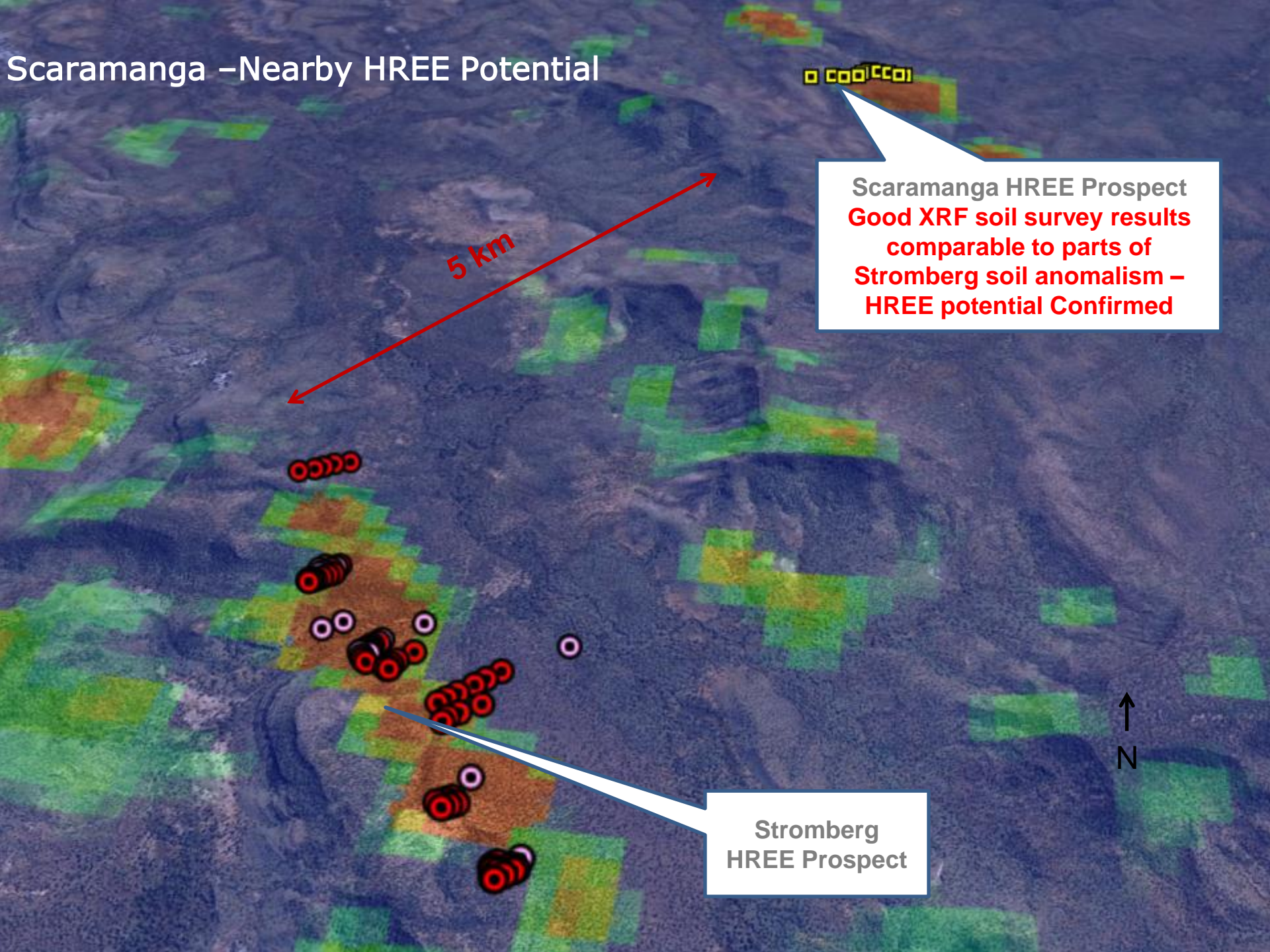
**In Context of  
Planned TUC  
Drilling**



# Scaramanga HREE Prospect (Stromberg District)



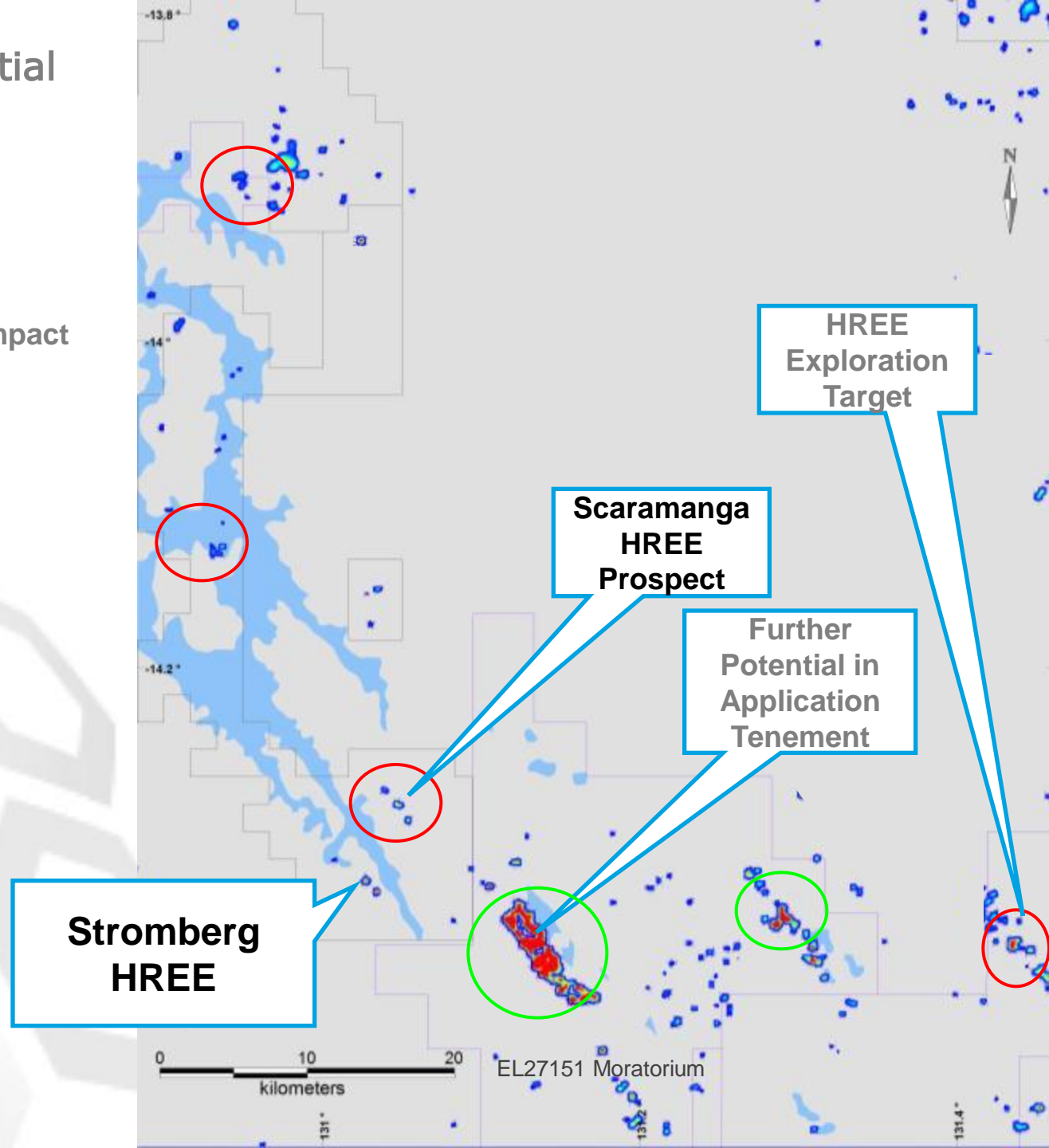
# Scaramanga –Nearby HREE Potential





## District HREE Potential

- Potential for critical mass
- Possible to Significantly Impact ROW HREE Market



# Stakeholders – Building Relationships

George and Damian Huddlestone

Traditional Owners of land under EL27151

Native Title Claimants over EL25222 (Stromberg)

At Stromberg November 2011 (Annual site visit)





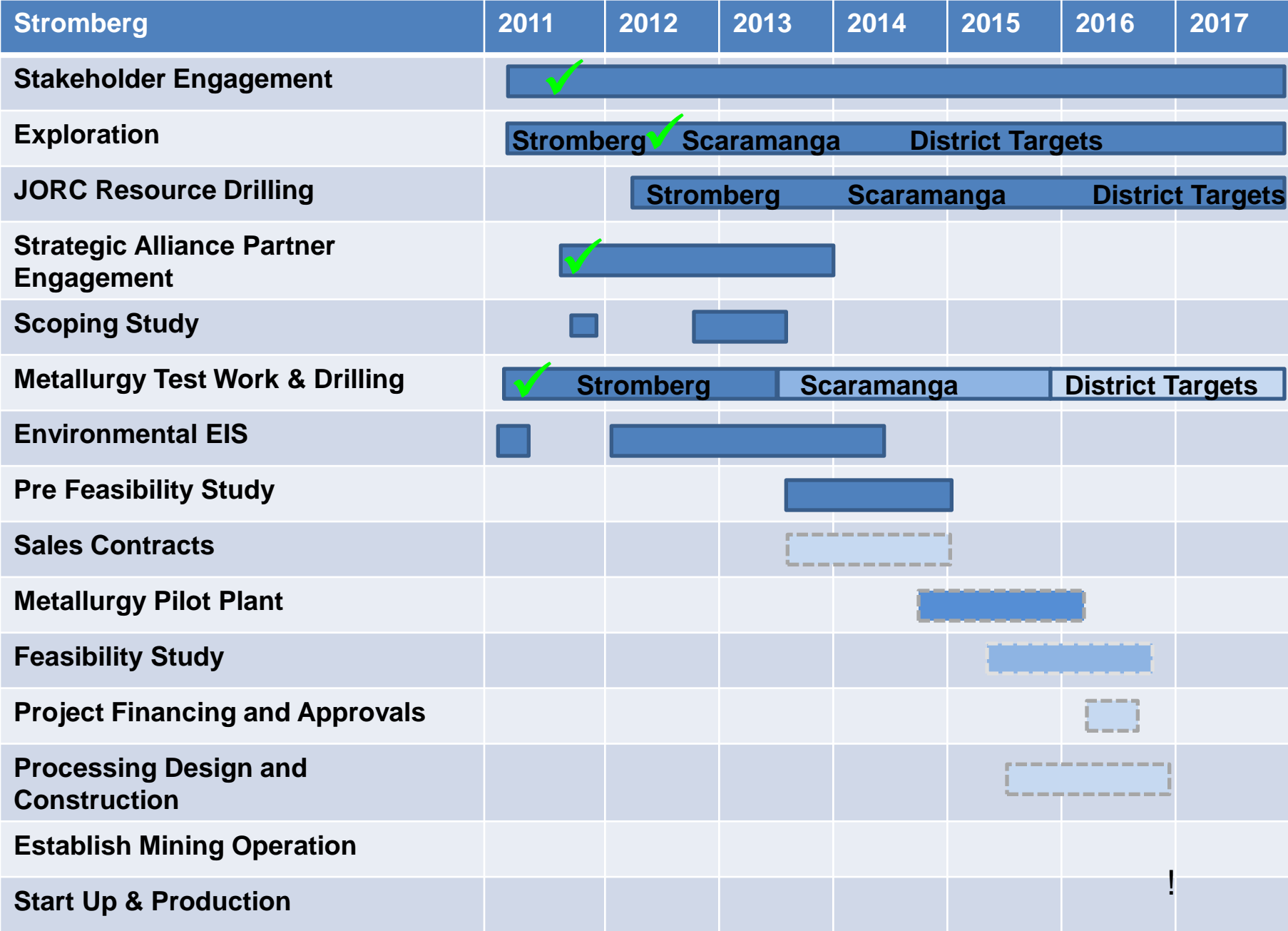
## PLANNED WORK FOR 2012

Timing	Area	Commodity	Exploration Type
March – August	Stromberg	Dysprosium Yttrium Terbium HREE's	RC & Diamond Drilling (towards mineral Inventory)
March - July	Stromberg	Dysprosium Yttrium Terbium HREE's	Metallurgical Diamond Drilling
September	Scaramanga Stromberg District Potential	HREE	First Phase Exploration Drilling, RC
September	District Potential – Pine Creek Project,	HREE	First RC Drill Test
August - November	Stromberg	Dysprosium Yttrium Terbium HREE	RC & Diamond Drilling (towards resource definition)



# Planned Stromberg Development Schedule – Parallel Opportunities

+  
Certainty  
-





**At Stromberg (and district); Investors and TUC, have the opportunity to take a ‘First Mover Advantage’, with respect to discovering a possible supply, of a significant portion of ‘The Rest of the World’s’ Dysprosium and HREE Market;**

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## **Competent Person**

The information in this report that relates to Exploration Results is based on information compiled by Ian Bamborough, who is a Member of The Australian Institute of Geoscientists. Ian Bamborough is a fulltime employee of TUC Resources Ltd. Ian Bamborough has sufficient experience which is 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 in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ian Bamborough consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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