#### ASX ANNOUNCEMENT

# PRESENTATION – RARE EARTH & STRATEGIC METALS CONFERENCE $22^{\text{ND}} \text{ JUNE 2011}$

Please see the attached ASX Announcement relating to the Krucible presentation given at the Rare Earth & Strategic Metals Conference 2011 held in Sydney from the  $21^{st} - 22^{nd}$  June 2011.

Krucible Managing Director Tony Alston presented at this Conference. Tony Alston, Managing Director and Chief Geologist of Krucible, who is a member of the Australian Institute Geoscientists and the Australian Institute of Mining and Metallurgy.

Attached: Rare Earth & Strategic Metals Presentation Jun11

**Tony Alston** 

Managing Director Krucible Metals Ltd.

rucible Metals Ltd. Further Information: Mr Tony Alston Phone (07) 4772 5880

WEB SITE: www.kruciblemetals.com.au

Information of a scientific or technical nature in this report was prepared under the supervision of A.J. Tony Alston, CEO and Chief Geologist of Krucible, who is a member of the Australian Institute Geoscientists and the Australian Institute of Mining and Metallurgy. Mr Alston has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a "competent person" as defined in the 2004 edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Alston has reviewed and approved Krucible's quality assurance program, quality control measures, the geology, samples collection and testing procedures the basis for information contained in this report. For further information regarding the Korella Deposit (PHM South) discovery please refer to reports and releases to the Australian Stock Exchange over the last 18 months together with the Company's website at <a href="https://www.kruciblemetals.com.au">www.kruciblemetals.com.au</a>

This report contains forward-looking statements. These forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. A number of factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward looking statements.

Mr Alston consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Information in this Announcement relating to the Korella Deposit Scoping Study has been documented by Mr Ray Koenig, who is a Senior Project Metallurgist and Chartered Professional and Fellow of the AusIMM. Mr Koenig consents to this information being included in the ASX Announcement.

# **KRUCIBLE PRESENTATION**

"Rare Earth & Strategic Metals"
Conference

(Sydney, June 2011/Mining IQ)

Tony Alston & Ray Koenig

ASX: KRB

For perso





#### **DISCLAIMER**

This presentation is an overview of the Company prepared with good intention. It is not a prospectus and offers no securities for subscription or sale in any jurisdiction, nor a securities recommendation.

All information necessary for investment decisions is not contained herein and investors are encouraged to conduct their own research of Krucible Metals Ltd in conjunction with legal, tax, business and financial consultation.

Krucible Metals Ltd, its directors, officers, employees and agents disclaim liability for any loss or damage suffered by reliance on information contained in this report when making investment decisions. In addition, no express or implied representation or warranty is given in relation to the completeness and sufficiency of the information, opinions or beliefs contained in this document or any other written or oral information made or to be made available to any interested party or its advisors.

This presentation may refer to the intention of Krucible Metals Ltd but it does in no way intend to forecast forward looking statements or future matters for the purposes of the Corporations Act or any other law. Future events are subject to risks and uncertainties, and as such results, performance and achievements may in fact differ from those referred to in this presentation.

No liability is accepted for any loss, cost or damage suffered or incurred by the reliance on the sufficiency or completeness of the information, opinions or beliefs contained forthwith. Research, evaluation and analysis of the business, data and property are encouraged before making financial investments. Any estimates, projections or opinions contained herein may involve subjective judgement, analysis and interpretation, and satisfaction of ones owns decisions should be undertaken.

This report contains forward-looking statements. These forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. A number of factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward looking statements.

Information of a scientific or technical nature in this report was prepared under the supervision of A.J. Tony Alston, CEO and Chief Geologist of Krucible, who is a member of the Australian Institute Geoscientists and the Australian Institute of Mining and Metallurgy. Mr Alston has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a "competent person" as defined in the 2004 edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Alston has reviewed and approved Krucible's quality assurance program, quality control measures, the geology, samples collection and testing procedures the basis for information contained in this report. For further information regarding the PHM South deposit, including a description of in respect of the PHM South deposit please refer to reports and releases to the Australian Stock Exchange over the last 18 months together with the Company's website at www.kruciblemetals.com.au

Mr Alston consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.



Krucible Metals Ltd has discovered a Heavy Rare Earth Element (HREE) deposit at the Korella Phosphate Project in Queensland

Subsequent work has led to the estimation of a JORC Code Inferred Resource of 4.2 million tonnes @ 0.96 kilograms per tonne  $Y_2O_3$  (Yttrium Oxide) at shallow depth.

It is believed that at present this deposit is one of the few defined HREE resources in Australia.

# PRESENTATION OUTLINE FOR SYDNEY RARE EARTH CONFERENCE

Corporate Background

FSONAL

- Location of Korella Phosphate/Rare Earth Project in Queensland
- Summary of Korella Phosphate Project and Infrastructure
- Korella Yttrium Inferred Resource
- Uses and Markets for Yttrium
- Characteristics of Korella ore
- Geological model for Yttrium Resource at Korella and exploration implications
- Yttrium metallurgical test work and Scoping Study
- What next and why invest in Krucible?



## **KRUCIBLE METALS LTD - CORPORATE**

Marcus Harris (Chairman, Geologist)

Tony Alston (Managing Director, Geologist)

Dennis Lovell (Secretary and Financial / Director)

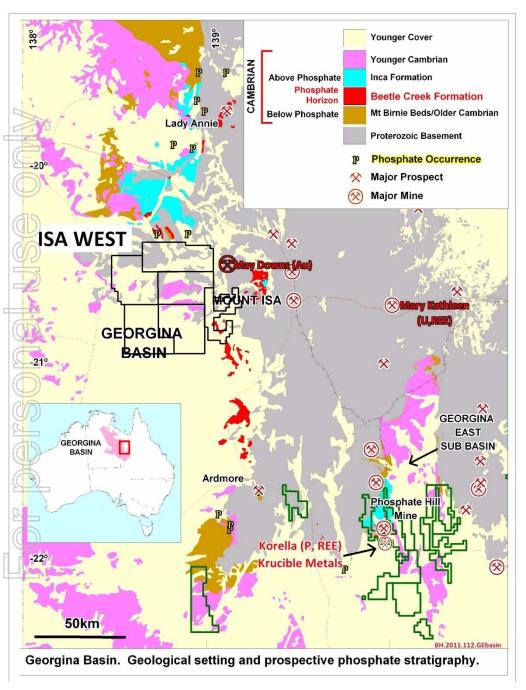
Ray Koenig (Director, Metallurgist and Phosphate Project Manager)

The Directors form an experienced and successful team and own approximately 15% of the company.

- Krucible listed on the ASX in November 2007 and raised \$6 million. The Company currently has on issue 62 million fully paid shares.
- Top 20 Shareholders hold approx. 55% of shares.
- Current market cap approx. \$16 million
- Current share price at 23 cents
- Current cash reserves are about \$2.0 million

NB – Krucible appreciates and would like to thank shareholders for their patience and support.

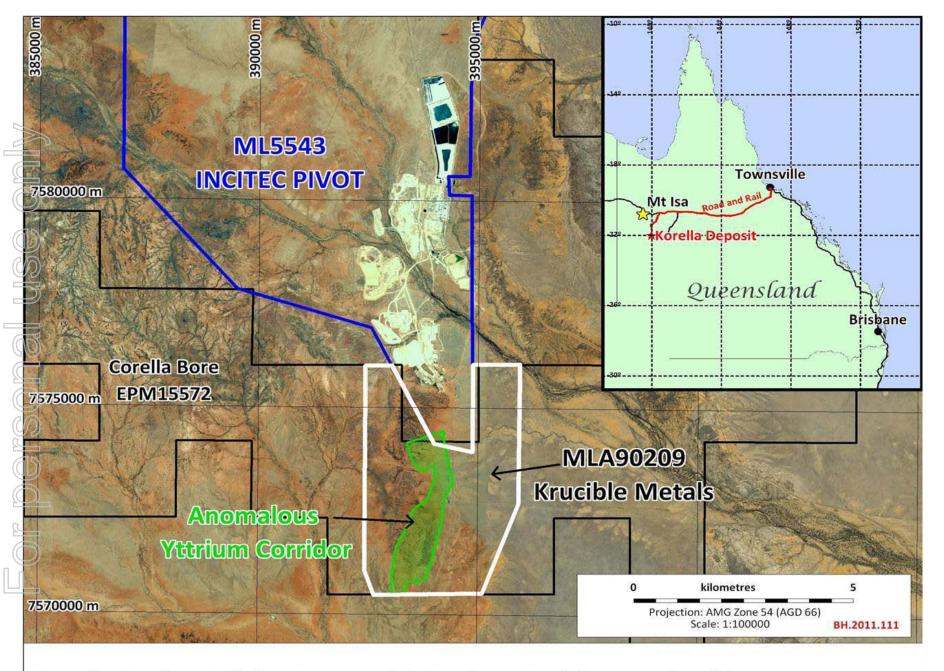




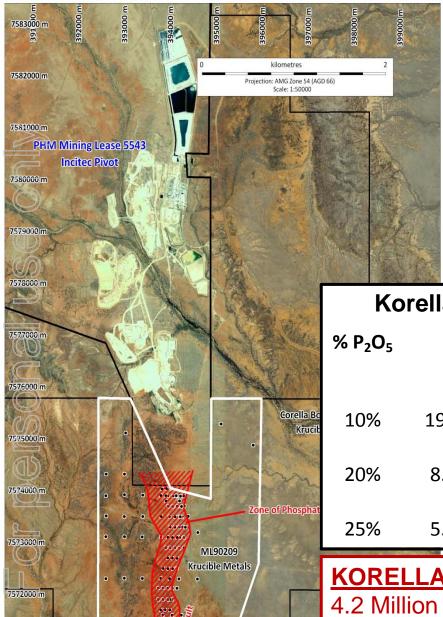
Phosphate Occurrences in the Georgina Basin – map shows a number of occurrences but Krucible's phosphate is next to infrastructure

**NB**: Anomalous heavy Rare Earth Elements such as Yttrium, Neodymium and Dysprosium occur close to Phosphate zones in Georgina East Sub-Basin





**Korella Project Mining Lease with Yttrium Enrichment Corridor** 



7571000 m

#### KORELLA PHOSPHATE PROJECT

Mining Lease Application Area for Korella Phosphate Operation submitted in May 2010

(N.B. Expected to be granted in 2011)

Operational Mining lease 90209 requires NO EIS and will operate under an Environmental Management Plan.

### **Korella Phosphate Deposit (Inferred Resource)**

% P <sub>2</sub> O <sub>5</sub>	TONNAGE & GRADE	R <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	CaO / P <sub>2</sub> O <sub>5</sub>
10%	19.3 million tonnes @ 19.0% P <sub>2</sub> O <sub>5</sub>	4.6	45.4	1.32
20%	8.3 million tonnes @ 27.3% $P_2O_5$	3.56	26.2	1.39
25%	5.0 million tonnes @ 30.8% P <sub>2</sub> O <sub>5</sub>	3.0	16.7	1.37

#### KORELLA YTTRIUM INFERRED RESOURCE

4.2 Million tonnes @ 0.96 Kilo/Tonne Y2O3 (Yttrium Oxide)

NB. Rare Earth potential (Yttrium, Neodymium) Outlined immediately above Phosphate zone



# CHARACTERISTICS & ADVANTAGES OF KRUCIBLE PHOSPHATE RESOURCES

- Korella PHM South is close to EXISTING INFRASTRUCTURE such as:
  - mines
  - railway lines
  - sealed roads

- electricity grid
- gas pipeline
- airstrips
- The Inferred Resource at Korella (5km south of Phosphate Hill Mine) contains high grade Phosphate (≃32% P<sub>2</sub>O<sub>5</sub>)
- ▲ The above Resource is of high purity (pelletal phosphate) with very low heavy metal content (Cadmium etc) and MAY BE a <u>premium</u> product to the market
- Rail transport 1000km to the Port of Townsville where Panamax size vessels can be loaded at 2,000 tph
- ▲ Krucible will have the advantage of being able to stockpile LOW GRADE (≃23%) MEDIUM GRADE (≃27%) and HIGH GRADE (≃32%) Phosphate rock for sale to various markets in Australia and overseas

# Diamond drilling at Korella



Geetle Creek

Heavy REE enrichment in Hanging Wall – Inca Formation

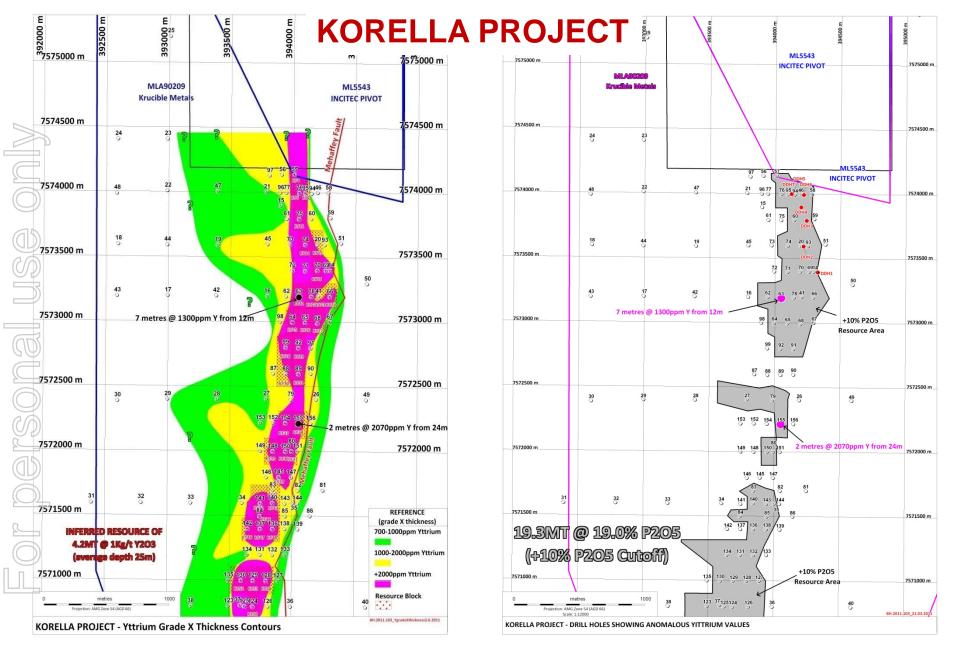
"High grade drill core from 09CBPD04; the intervals from 69.7 - 73.8 metres averages 4.1m @ 36.0%  $P_2O_5$ "





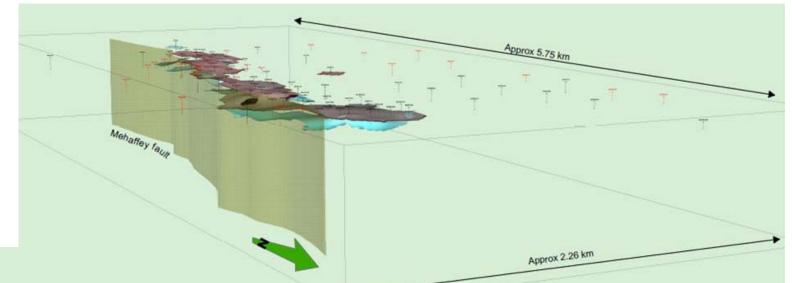
#### KORELLA YTTRIUM MAIDEN INFERRED RESOURCE

- JORC Code Inferred Resource announced on 5<sup>th</sup> April 2011 − this is associated with the high grade Korella Phosphate Deposit (<u>Inferred Resource of 5 million tonnes @ 30.8% P₂O₅</u>)
- ★ The Yttrium Inferred Resource is 4.2 million tonnes @ 0.96 kilo per tonne Y<sub>2</sub>O<sub>3</sub>
- There are also anomalous intersection of <u>Neodymium</u> (up to 3m @ 927ppm Nd) and <u>Dysprosium</u> (up to 2m @ 294ppm Dy). Further drilling and MET test work required to determine possible resources for these heavy REE
- The average Phosphate grade for the Yttrium Resource is 10% P₂O₅ the Yttrium enrichment zone sits blanket-like immediately above and adjacent to the Phosphate high grade layer
- ▶ The above Yttrium Inferred Resource was estimated from shallow drilling on 200 x 100 metre spacing (average <u>depth</u> is 25 metres). However there are a number of drill holes with anomalous Yttrium grades (at drill spacing of 400 x 400 and 800 x 400m) that have NOT BEEN USED IN CALCULATIONS
- Further drilling is planned with the objective of <u>expanding</u> the Yttrium Resource as well as possibly <u>defining higher grade zones</u> within the current Resource

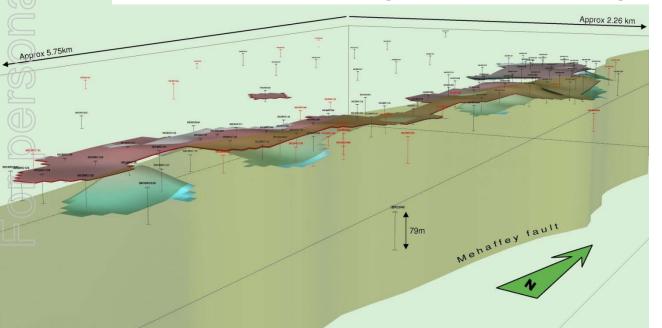


YTTRIUM GRADE x WIDTH CONTOUR PLAN (LHS) & PHOSPHATE RESOURCE BLOCKS (RHS)

#### KORELLA DEPOSIT 3D VIEWS OF PHOSPHATE & YTTRIUM ENRICHMENT ZONES

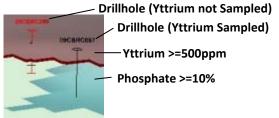


**View Looking Southwest showing Drill Holes** 



USE ONLY

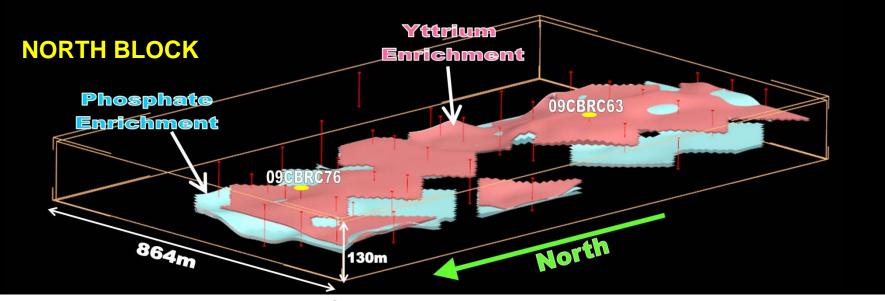
### Legend





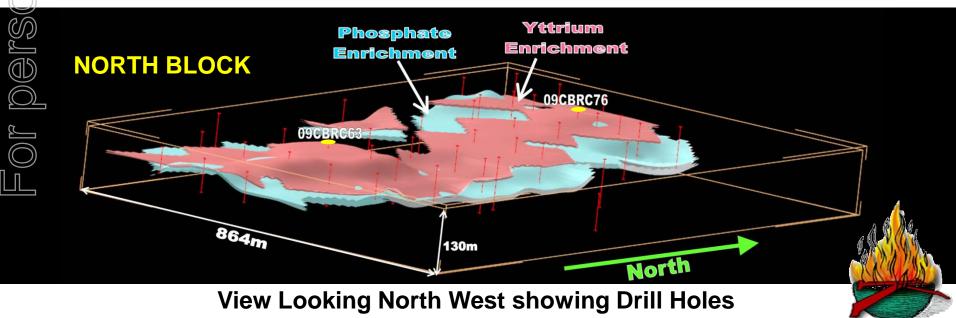
**View Looking North-Northwest showing Drill Holes** 

## **KORELLA DEPOSIT 3D VIEWS OFPHOSPHATE & YTTRIUM ENRICHMENT ZONES**



nse only

**View Looking South East showing Drill Holes** 





## **USES & MARKETS FOR YTTRIUM**

Yttrium primarily used in high tech industries for manufacture of
SUPER ALLOYS )
SUPER CONDUCTORS ) miniaturisation
SUPER MAGNETS )
CERAMICS & LASER TECHNOLOGY

- The <u>consumption</u> of Yttrium (and other heavy REE) is rapidly <u>increasing</u> due to global emphasis on "green technology" such as hybrid cars, wind turbines and water treatment as well as expanding markets related to mobile phones, computers, TV's and defence communications
- ► The heavy REE world market is dominated by China and their embargo on exports has resulted in strong price increases over the last 1 – 2 years
- Prices quoted currently (6/6/11) are about;

Yttrium metal \$170 per kilo (Yttrium powder \$150 per kilo)

Neodymium metal \$300 per kilo Dysprosium metal \$1200 per kilo

### Yttrium Hydroxide

Yttrium Hydroxide, also called Yttrium Hydrate, is applied in ceramics, glass, and electronics. High purity grades are the most important materials for tri-bands, Rare Earth phosphors and yttrium-iron-garnets, which are very effective microwave filters.

### Yttrium Metal

Yttrium Metal is widely applied in making speciality alloys, it increases the strengths of alloys of metals such as chromium, aluminium, and magnesium.

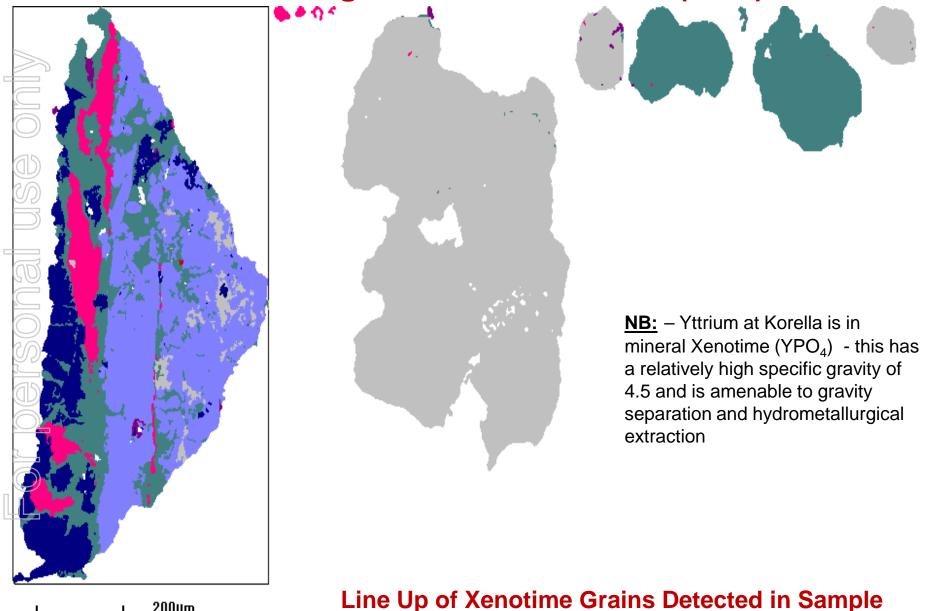






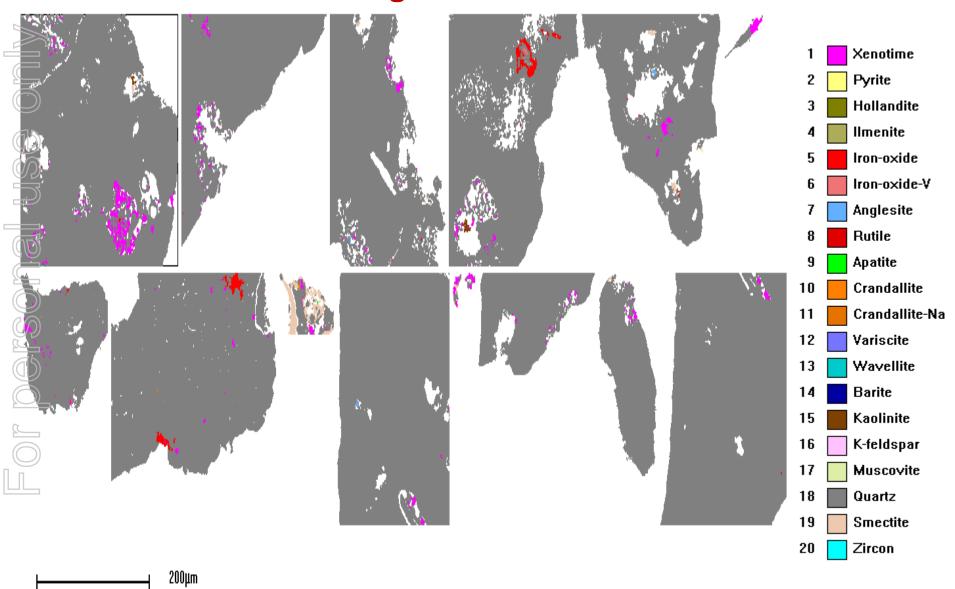


# Korella Mineralogy test work from ALS Laboratories **Showing Yttrium in Xenotime (Pink)**



200µm

# Korella Mineralogy test work from ALS Laboratories Showing Yttrium in Xenotime

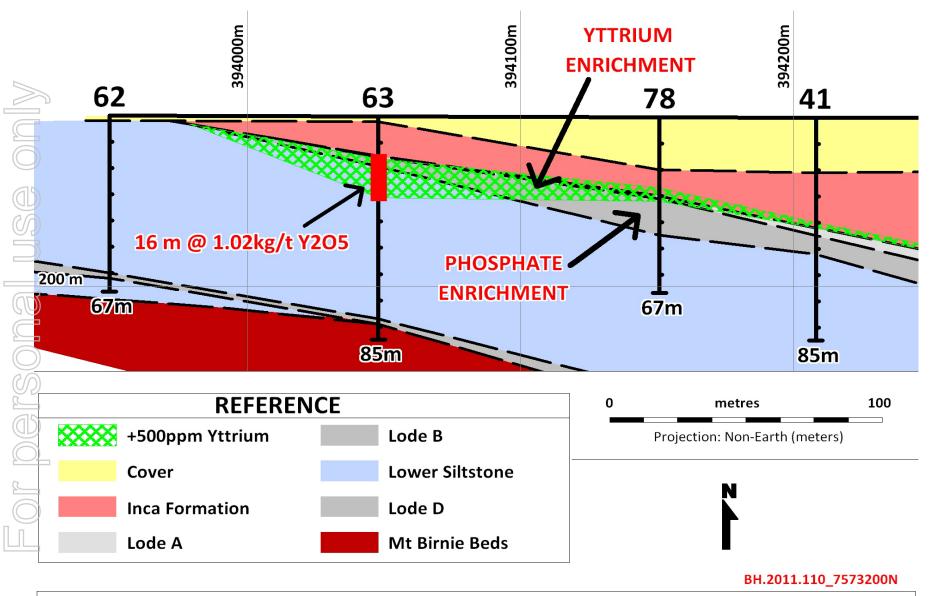




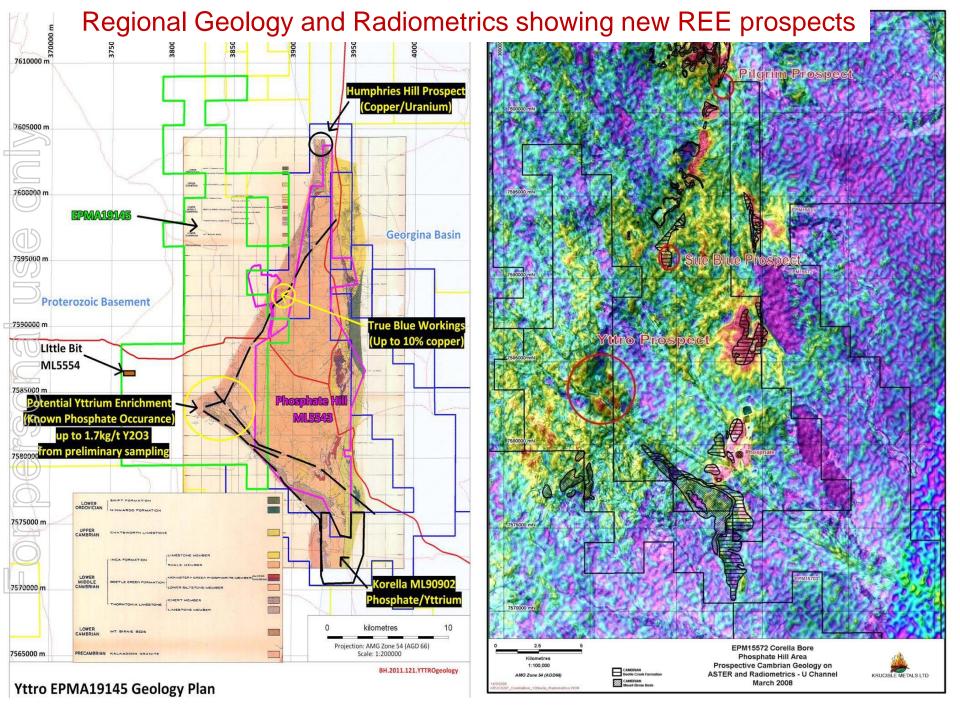
# KORELLA GEOLOGICAL MODEL FOR HEAVY RARE EARTH (HREE) ENRICHMENT

- The Korella Deposit is described as a SEDIMENTARY – DISCONFORMITY – PHOSPHORITE MODEL
- This is of middle Cambrian Age (≈ 440 million years) and is related to a break in sedimentation from shallow to deep seawater, due to faulting (DISCONFORMITY)
- The Yttrium is related to PHOSPHATE ZONES and occurs as the mineral XENOTIME (Yttrium Phosphate) in the waning stages of high grade Phosphate development
- Subsequent UPLIFT has resulted in the Xenotime enrichment zones currently being found at shallow levels (5 – 50 metres)
- The KORELLA MODEL for HREE is a "COOL" SEDIMENTARY DEPOSIT WITH LITTLE ASSOCIATED RADIO ACTIVITY (compared to other "HOT" deposits such as Nolans Bore and Mt. Weld which are more dominated by light REE and Thorium radioactivity)
- Exploration application of the KORELLA MODEL has lead to the DISCOVERY of new outcropping Yttrium occurrences which may add to future resources

#### **KORELLA CROSS SECTION**



**Section 7573200N Showing Anomalous Yttrium Values** 





# YTTRIUM TESTING PROGRAM / KORELLA

- Establish grades and resource Stage 1 complete
- Determine mineralogy Stage 1 complete
- Laboratory metallurgical testing including:
  - Grinding tests including Bond Work Index
  - Heavy liquid tests to establish the potential for gravity separation
  - Jig, spiral and table testing depending on test results
  - Flotation testing if required



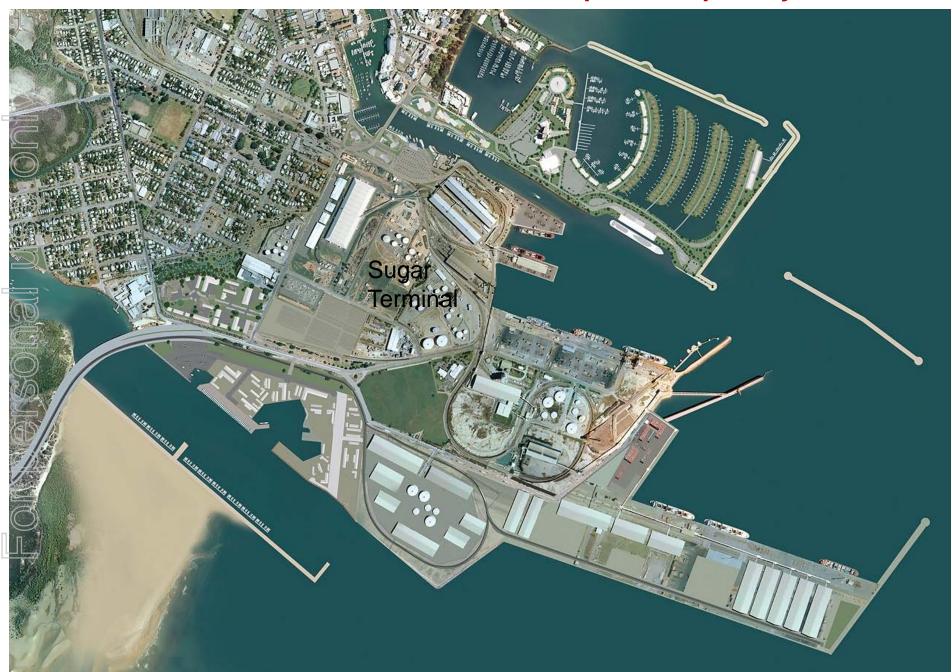


## YTTRIUM SCOPING STUDY

- To be commenced after completion of initial metallurgical tests.
- Market and product requirements to be developed as part of the study
- Potential market and buyers to be approached
- Capital and operation costs to be developed as part of the Phosphate operation
- NPV to be established as part of the Phosphate project.



# **Townsville Port – Panamax Ship Size Capability**



### **WHAT NEXT FOR KRUCIBLE?**

Complete prelim rare earth (Yttrium) metallurgy at Korella

Commence drill program at Korella to upgrade Rare Earth (REE) Resource & obtain larger samples for metallurgical testing

Advance grant of Korella mining lease

Further REE met test work for Korella

Updated Yttrium Resource at Korella

Continue definition of near surface yttrium occurrences near Korella

Complete Scoping Study for REE at Korella

Assess development options at Korella for Phosphate & REE



- Leveraged for future success in development & exploration
- Properties mainly 100% owned
- Experienced directors with positive track record
- Tightly held capital structure (current 63m shares directors hold 15.5%)
- Diversified commodity range withstand vagaries of commodities market?
- Focussed target area Mt. Isa region
- Range of risk factors due to combination of grass roots metal prospects to pre-development Phosphate and REE
- Low admin costs money in ground
- Predicted news stream of results in next 6 12 months
- Likely cash flow in future



# Krucible Metals Ltd

