Alistair J Stephens
Managing Director

Hong Kong Minor Metals Conference
September 2007
Business summary

Exploration

Focused on the Northern Territory in Australia

Development

Long life resources capturing significant market position

Rare Earth Market

Developing technical & market knowledge

Relationships

Developing strong relationships in Asia & Europe
Arafura’s projects

Arafura Resources

100% Arafura

Nolans

- Resource will sustain a Operating life of +20yrs
- Multiple revenue streams REO, Phosphate, Uranium
- Target production 2010

Exploration

- Vanadium
- Gold
- Nickel farm-in by Mithril Resources

10% NuPower Uranium

About Arafura

Arafura Resources

Arafura

Resources for the future
Nolans - location

- 5km to gas line
- 10km to Stuart Highway
- 60 km to rail line
- 135 km north of Alice Springs
- 1200 km to Darwin
Nolans project geology

18.6 million tonnes (JORC) resource

- 3.1% REO  577,000 t
- 14% P$_2$O$_5$  2.6mt P$_2$O$_5$
- 0.47 lb/t U$_3$O$_8$  8.7m lbs

About Nolans

- Mining rate @ 750ktpa
- Low strip ratio
- No overburden
- No waste in first 3 yrs
- Low cost mining - SAFE
Nolans process

Mining
750,000 tpa

Washing & transport to Darwin

Acid Leach
530,000 tpa

Sulphuric acid treatment
High REO recovery

Caustic “cracking” process
Thorium separation

REO extraction
and separation

Metal recovery

Neutralization

SX for Phosphoric acid recovery

Calcium chloride residue

Uranium

REO
20,000 tpa

Phosphoric Acid

Calcium Chloride

About Nolans

Arafura
Resources for the future
Nolans recoveries

Important recoveries

- Beneficiation (REO) 95% 30% mass rejection
- Rare Earths 90% sulphuric acid process
- Total RE Recovery 83% highest in the industry
- Phosphoric acid 80% low contaminants, high quality

Indicative recoveries yet to be finalized in test work

- Uranium Recovery 80%
Development Plans – Nolans

2007 Pre-feasibility study (Q4 - 2008) and pilot plant (Jan 2008)
2008 Pilot plant and detailed engineering design
2009 Construction
2010 Commissioning and production
2011 Full production

Parallel Issues

2007 Lodge Notice of Intent, Mining lease applications, & Regulator approvals – an 18 month process
## History of RE market

<table>
<thead>
<tr>
<th>Year</th>
<th>Market driver</th>
<th>Industry Structure</th>
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<tbody>
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So what does the future hold?
# History of RE market

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<td>Battery era</td>
<td>Economies of scale</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>2010’s</td>
<td></td>
</tr>
<tr>
<td>Energy, lifestyle, communications</td>
<td></td>
</tr>
<tr>
<td>New entrants - Mt Weld, Nolans, Hoidas and others will come</td>
<td></td>
</tr>
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</table>
Rare Earths Demand and Supply

Demand growth estimated at 8.5% pa
+150,000 tonnes by 2010
+190,000 tonnes by 2012

Supply Gaps

The rare earths market

Arafura Resources for the future
The Nolans project is rich in high value rare earths.
## REO HEV Magnet Market

An example of fragmentation in the magnet market market

### Current HEV NdFeB Permanent Magnet Supply Chain

<table>
<thead>
<tr>
<th>Rare Earth Mines</th>
<th>RE Carbonate¹</th>
<th>NdOxide²</th>
<th>Magnetic Powder³</th>
<th>Permanent Magnets</th>
<th>Hybrid Transmissions</th>
<th>HEV Manufacturers</th>
</tr>
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<td>Baotou RE Hi-Tech Co.</td>
<td>Shin-Etsu (Japan)</td>
<td>Aisin Seiki (JP)</td>
<td>Toyota Motor Co. (JP)</td>
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<td></td>
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<td>Showa Denko (Japan)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Gansu RE Co.</td>
<td>Less Common Metals (UK)</td>
<td>Toyota Motor Co. (JP)</td>
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<tr>
<td></td>
<td></td>
<td>DaMao RE Co.</td>
<td>Treibacher (Europe)</td>
<td>Toyota Motor Co. (JP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Jiangxi/Guangdong (Ionic Clays)</strong></td>
<td>Baotou Rare Earth Hi-Technology Co.</td>
<td>ZAMR</td>
<td>Ningbo Huilin Magnetics Technology Co. (CH)</td>
<td>Toyota Motor Co. (JP)</td>
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<tr>
<td></td>
<td></td>
<td>Liyang Rhodia Founder RE Co.</td>
<td>Beijing Zhongke Sanhuang Hi-Technology (China)</td>
<td>Toyota Motor Co. (JP)</td>
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<td></td>
<td></td>
<td>Baotou Rare Earths Co.</td>
<td>Tsinghua Magnaqunxun (China)</td>
<td>Toyota Motor Co. (JP)</td>
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<td>Treibacher</td>
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<tr>
<td><strong>Sichuan (Bastnasite)</strong></td>
<td>Baotou Hefa RE Co.</td>
<td>Baotou Hefa RE Co.</td>
<td>Ningbo Yuansheng Strong Magnet Co.</td>
<td>Neomax (JP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manning Founder RE Co.</td>
<td>China RE Holdings</td>
<td>Neomax (JP)</td>
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<td>Gansu RE Co.</td>
<td>AS Silamat</td>
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<tr>
<td><strong>India (Monazite)</strong></td>
<td>Guangdong (Monazite)</td>
<td>Guangdong Rare Earths Co.</td>
<td>Many small Chinese companies (&gt;80)</td>
<td>Neomax (JP)</td>
<td></td>
<td></td>
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<td></td>
<td>Baotou Jinjiang</td>
<td>Guangdong Rare Earths Co.</td>
<td>Ganzhou Quandong Co</td>
<td>Neomax (JP)</td>
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<td><strong>Russia (Apatite)</strong></td>
<td>Guangdong (Monazite)</td>
<td>Baotou Hefa RE Co.</td>
<td>10-20 smaller specialist companies</td>
<td>Neomax (JP)</td>
<td></td>
<td></td>
</tr>
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</table>

Source: Roskill Report, Company Websites, Annual Reports & Press Clippings

Notes:
1. Based on share of total RE concentrate industry
2. Not to scale
3. Includes prod’nof conc from Rhodia’s Chinese JVs (Baotou Rhodia & Liyang Founder), La Rochelle and Japanese JV with Santoku
4. AMR Technologies Inc is a Canadian corporation, it’s Chinese JV (ZAMR) produces Nd oxide
5. JV between Baotou Rare Earth Hi-Technology Co. and Showa Denko of Japan
## REO Battery Market Structure

### Another example of market fragmentation

### Current HEV NiMH Battery Supply Chain

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<td>Santoku and JV Partners (Japan and China)</td>
<td>Sanyo Electric (JP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ford Motor Co. (US)</td>
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<td>Baotou Rewin RE Co.</td>
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<td>India (Monazite)</td>
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<td></td>
<td>Other Companies</td>
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<td>Russia (Apatite)</td>
<td>AS Silmet</td>
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<td></td>
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<td>Honda Motor Co. (JP)</td>
</tr>
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Notes:
1. Based on share of total RE concentrate industry
2. Not to scale for Mischmetal or NiMH-alloy as market shares are not known
3. Includes prod’of from Rhodia’s Chinese JV’s (Baotou Rhodia & Liyang Founder), La Rochelle and Japanese JV with Santoku
4. JV owned 30% by Baotou Rhodia and 70% by Santoku, Baotou Rhodia is a JV owned 55% by Rhodia Electronics & Catalysis
5. JV between Sumitomo Metal Industries Ltd (JP) and Moly corp (US)
Threats & opportunities

**THREATS**

Lack of production restraint
- Oversupply, imbalanced supply
- Current fragmentation

Substitution
- Li-ion batteries
- PGM catalysts
- New era electronic

Recycling
- Yet to have an impact

“New Era” mining opportunities
- New styles of supply are coming

Caused by in-efficiency

**OPPORTUNITIES**

Increased heavy crude oil production
- FCC demand

Automotive exhaust catalysts
- Cerium

Strong growth in HEV market
- Magnet, battery

Strong growth in PDP market
- Phosphors

Nuclear Applications?
- Eg: Gadolinium in neutron absorption

Research & development
- Imperative for RE to remake its market

Driven by energy efficiency, lifestyle & environmental abatement strategies
Arafura - Joint Venture Structures

Arafura Base Plan
- Product sales to 99% REO
- Additional sales of PA, Uranium Oxide, Calcium Chloride

Advanced Processing
- Collaborate with a current advanced processing company

Commodity “Off Take” model

Joint Venture “Product” model

Joint Venture “End User” model

Magnets
- Electronic motors

Batteries
- NiMH batteries

Electronics
- Plasma panels

Catalysts

Arafura Strategy

Resources for the future
**Commodity off-take**
- Simple production concept: complex in marketing
- Accentuates the current market complexity & fragmentation
- Does have production scale efficiency

**Product Model**
- Requires a partner with downstream technology & production capability
- The capability to market 20,000 tonnes of all products
- It is more flexible in production and simpler in marketing
- Has economies of scale efficiency and less commercial risk

**End User Model**
- Minimises commercial risk for all parties
- Establishes security of supply in the value chain
- Enables strategic growth
Summary

Development of Nolans
- Focused on developing the Nolans multi-commodity deposit

Relationships in Partnership
- Looking to develop an exclusive value chain relationship

Rare Earths Market
- Rapid growth in demand will drive prices up & substitution/recycle
- New entrants will easily supply beyond 2010 – but not price
- Balance between production & demand is critical
- Market consolidation will happen
- R&D for new applications is vital

END