Bokan ï Dotson Ridge
Cautionary Notes and Disclaimers

This presentation may contain forward-looking statements including, but not limited to, comments regarding the timing and content of upcoming work programs, geological interpretations, receipt of property titles, in-situ valuations, mining costs, potential mineral recovery processes, and other related matters. Forward-looking statements address future events and conditions and therefore involve inherent risks and uncertainties. The Ucore Rare Metals Inc properties are at an early stage. More work is required before the mineralization and the Projects’ economic aspects can be confidently modeled. Actual results may differ materially from those currently anticipated in this presentation. No representation or prediction is intended as to the results of future work, nor can there be any promise that the estimates and projections herein will be sustained in future work or that the Projects will otherwise prove to be economic.
Rare Earth Elements
## Heavy vs Light Rare Earth Elements

<table>
<thead>
<tr>
<th>Pure Metal Oxide</th>
<th>Principle Uses</th>
<th>Price US $ / kg *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanthanum Oxide</td>
<td>Re-chargeable batteries</td>
<td>$10</td>
</tr>
<tr>
<td>Cerium Oxide</td>
<td>Catalysts, glass, polishing</td>
<td>$11</td>
</tr>
<tr>
<td>Praseodymium Oxide</td>
<td>Magnets, glass colourant</td>
<td>$82</td>
</tr>
<tr>
<td>Neodymium Oxide</td>
<td>Magnets, lasers, glass</td>
<td>$77</td>
</tr>
<tr>
<td>Samarium Oxide</td>
<td>Magnets, lighting, lasers</td>
<td>$22</td>
</tr>
<tr>
<td>Europium Oxide</td>
<td>TV colour phosphors: red</td>
<td>$2,250</td>
</tr>
<tr>
<td>Terbium Oxide</td>
<td>Military: Guided missiles, smart weapons</td>
<td>$1,250</td>
</tr>
<tr>
<td>Dysprosium Oxide</td>
<td>Military: Lasers, high powered magnets</td>
<td>$615</td>
</tr>
<tr>
<td>Gadolinium Oxide</td>
<td>Magnets, superconductors</td>
<td>$46</td>
</tr>
<tr>
<td>Yttrium Oxide</td>
<td>Phosphors, ceramics, lasers</td>
<td>$85</td>
</tr>
</tbody>
</table>

* Rounded from source: metal-pages.com; February 2013

### Light vs Heavy

[ucore.com](http://ucore.com)

Light vs Heavy
Short-term (Present~2015) Criticality Matrix

- Dysprosium, Europium, Terbium: Critical
- Yttrium: Critical
- Cerium, Lanthanum, Tellurium: Near-Critical
- Neodymium: Near-Critical
- Lithium, Nickel: Not Critical
- Cobalt, Gallium, Manganese, Praseodymium: Not Critical
- Samarium: Not Critical

Supply risk vs. Importance to clean energy matrix.
“Technology Metals”

- Essential to military, automotive, green tech, hi-tech & medical

- U.S. & Japan largest combined consumers

- China produces 97% of the world’s supply; withdrew critical REE’s (Dy, Tb, Nd, Y) from global markets (the “Tech Metals Crisis”)

Critical Strategic Metals

U.S. deeply dependent on HREE’s, particularly for military, national defense & homeland security applications.

Examples include:
- Aircraft control
- Guided missiles & smart bombs
- Lasers, radar, sonar, mine detection
- Computer technologies
- Displays & optical equipment
- Power generation
- Coatings & ceramics
33 Pounds of REES

- **DIESEL FUEL ADDITIVE**
  - Lanthanum
  - Cerium

- **HYBRID NIMH BATTERY**
  - Lanthanum
  - Cerium

- **CATALYTIC CONVERTER**
  - Cerium
  - Lanthanum

- **25+ ELECTRIC MOTORS THROUGHOUT VEHICLE**
  - Neodymium Magnets

- **HEADLIGHT GLASS**
  - Neodymium

- **GLASS AND MIRRORS POLISHING POWDER**
  - Cerium

- **LCD SCREEN**
  - Europium
  - Yttrium
  - Cerium

- **COMPONENT SENSORS**
  - Yttrium

- **HYBRID ELECTRIC MOTOR AND GENERATOR**
  - Neodymium
  - Praseodymium
  - Dysprosium
  - Terbium

- **UV CUT GLASS**
  - Cerium
Green Technology

[Images of wind turbines, solar panel, and green field]
Orebody & Mine Design

- Upper West Zone
- Central Zone
- Lower West Zone
- Lower East Zone
Geology/Mineralization
Mine Operations

- Camp
- 1,500 tonne per day underground mine
- Trackless equipment underground
- Emphasis will be on local hire and training
- 190 employees
Mine Operations

Timeline 2012

- Typical Stope Segment: Maximum 50m Long
- 3.5m Depth
- Drill Drift
- Extraction Drift
- Footwall Drift
- 20m Height
- 63.5mm Production Holes
- Slot Raise
- Paste Fill
Unique Technology

Utilizing ore sorting and mag. separation
- Sorting rejects approx. 52% of mill feed as waste
- Magnetic separators reject approx. 50% of feed
- 1,500 tpd mine but 750 tpd grinding circuit and 375 tpd leach and separation circuit
RESULT IS ALL TAILINGS WILL GO U/G AS BACKFILL

Nitric Acid Leach
- Recycle 80% and at 225°C vs 90°C.

Solid Phase Extraction (SPE)
- SPE columns separate individual rare earths
Ore Sorter

1. Feeding of unsorted material
2. X-ray camera
3. X-ray source
4. Separation chamber
Sustainable Mining

Estimated GHG reduction over life of mine: 284,000 tonnes of CO₂

<table>
<thead>
<tr>
<th>Summary (1,500 tpd mine production case)</th>
<th>Tonne CO₂ reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching sulfuric to nitric acid</td>
<td>Per Day</td>
</tr>
<tr>
<td></td>
<td>LOM</td>
</tr>
<tr>
<td>Reduction of freight from Asia (80% recycling of HNO₃)</td>
<td>17.39</td>
</tr>
<tr>
<td>Reduction of acid consumption and leaching temperature</td>
<td>9.71</td>
</tr>
<tr>
<td>Waste heat recovery from power plant</td>
<td>36.67</td>
</tr>
<tr>
<td>Switching diesel to natural gas power generation</td>
<td>5.23</td>
</tr>
<tr>
<td>X-ray ore sorting (52% reduction in grinding energy)</td>
<td>9.89</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>78.90</strong></td>
</tr>
<tr>
<td></td>
<td><strong>284,039</strong></td>
</tr>
</tbody>
</table>

U/G mine & no tailings on surface at closure results in very Small footprint and minimizes impacts.
Conceptual Project Design
PEA Results

- Preproduction capital - $221 m incl. $25 m contingency and includes the REO separation plant
- IRR - 43%
- NPV - $577 m at 10% discount rate, pre-tax
- Payback period – 2.3 years
- 11 year mine life
- Produce 2,250 tonnes REOs including 95 tonnes Dy$_2$O$_3$, 14 tonnes Tb$_2$O$_3$ and 515 tonnes Y$_2$O$_3$
Projected REE Production per year

- **Dysprosium**: 95 Tons
- **Terbium**: 14 Tons
- **Yttrium**: 3,300 Tons
- **Neodymium**: 3,000 Tons

*Under Secretary of Defense for Acquisition, Technology and Logistics, Report on Feasibility and Desirability of Recycling, Recovery, and Reprocessing Rare Earth Elements (September 2012)*
Community/Gov’t Relations

- Local hire: training
- State: enacted resolution, AIDEA
- Dept. of Defense
- Federal: POW road bill, meetings with and offers of support from Federal Representatives
Timeline 2012

Q1
Q2
Q3
Q4

2012

PEA

Q1
Q2
Q3
Q4

2013

Complete Feasibility Study

2014

Permitting Process Starts

Commence 1.5 year construction program
(Upon Receipt of Permits)
What Have We Got?

- Deposit with a high percentage of HREOs
- Project with very robust economics
- Very small footprint and no tailings on surface at closure
- Production of individual REOs
- Great government support; Federal, State, Local and Alaska citizens