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Bokan Dotson Ridge
Heavy Rare Earths

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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.

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Rare Earth Elements

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Rare Earth **Apps**

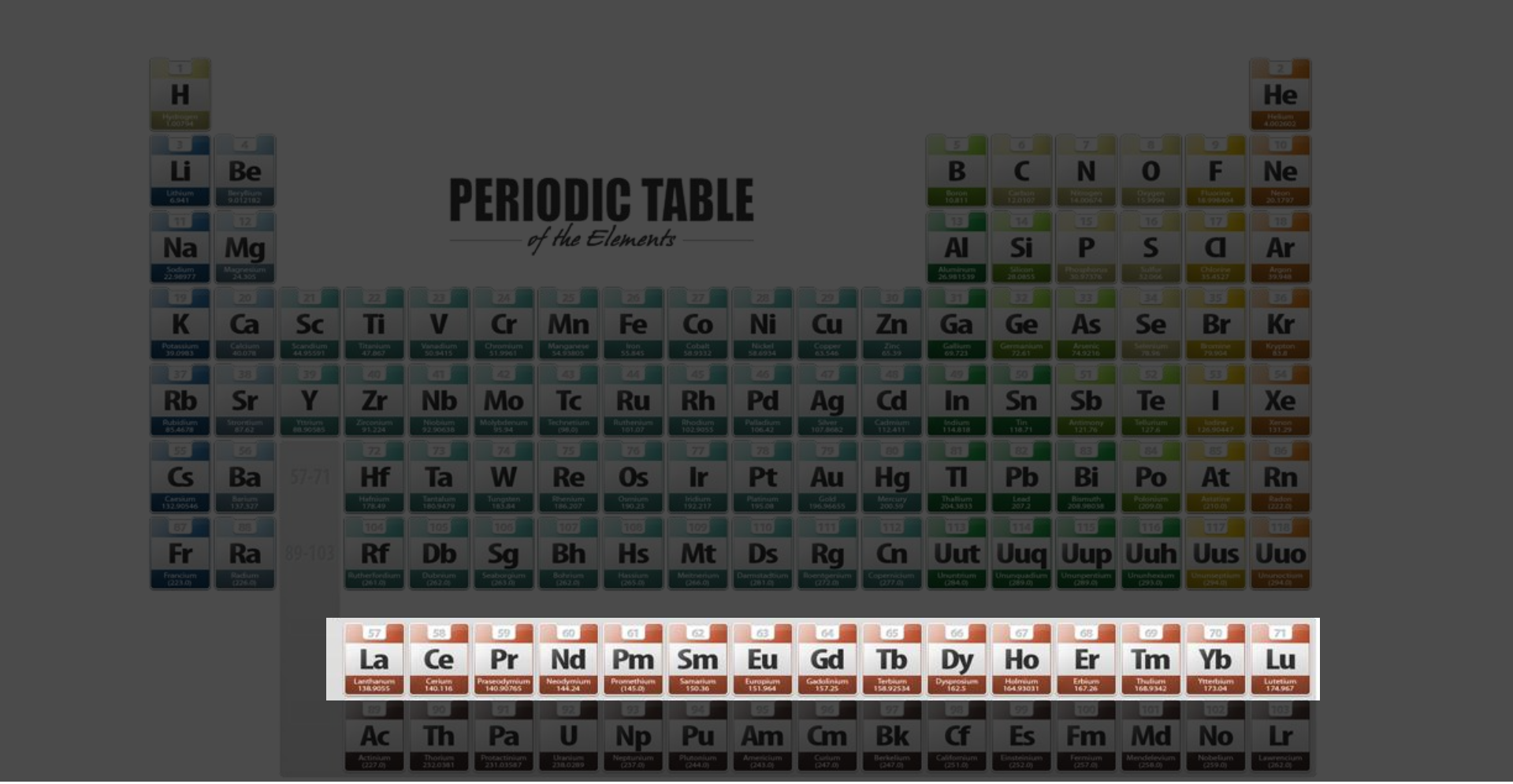
Discover Rare Earths

Available on the App Store

Rare Earth Prices

Available on the App Store

ANDROID



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Rare Earth Elements

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Light vs Heavy

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Light vs Heavy

Heavy vs Light Rare Earth Elements

	Pure Metal Oxide	Principle Uses	Price US $ / kg *
light	Lanthanum Oxide	Re-chargeable batteries	$ 20
light	Cerium Oxide	Catalysts, glass, polishing	$ 21
light	Praseodymium Oxide	Magnets, glass colourant	$ 115
light	Neodynium Oxide	Magnets, lasers, glass	$ 115
light	Samarium Oxide	Magnets, lighting, lasers	$ 70
heavy	Europium Oxide	TV colour phosphors: red	$ 2,020
heavy	Terbium Oxide	Military: Guided missiles, smart weapons	$ 2,000
heavy	Dysprosium Oxide	Military: Lasers, high powered magnets	$ 1,000
heavy	Gadolinium Oxide	Magnets, superconductors	$ 105
heavy	Yttrium Oxide	Phosphors, ceramics, lasers	$ 100

* Rounded from source: metal-pages.com; July 2012

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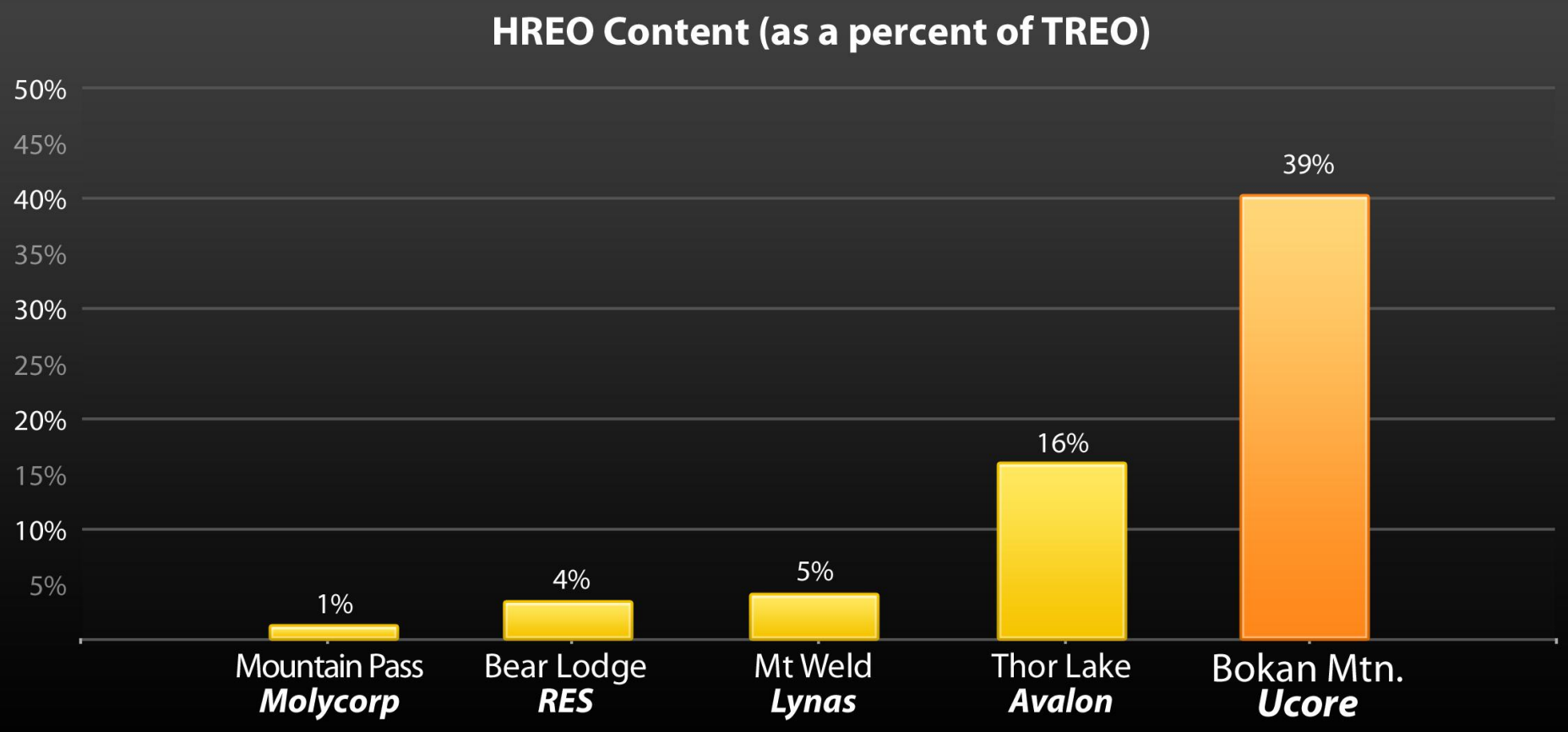
HREO content

Heavy vs Light Rare Earth Elements



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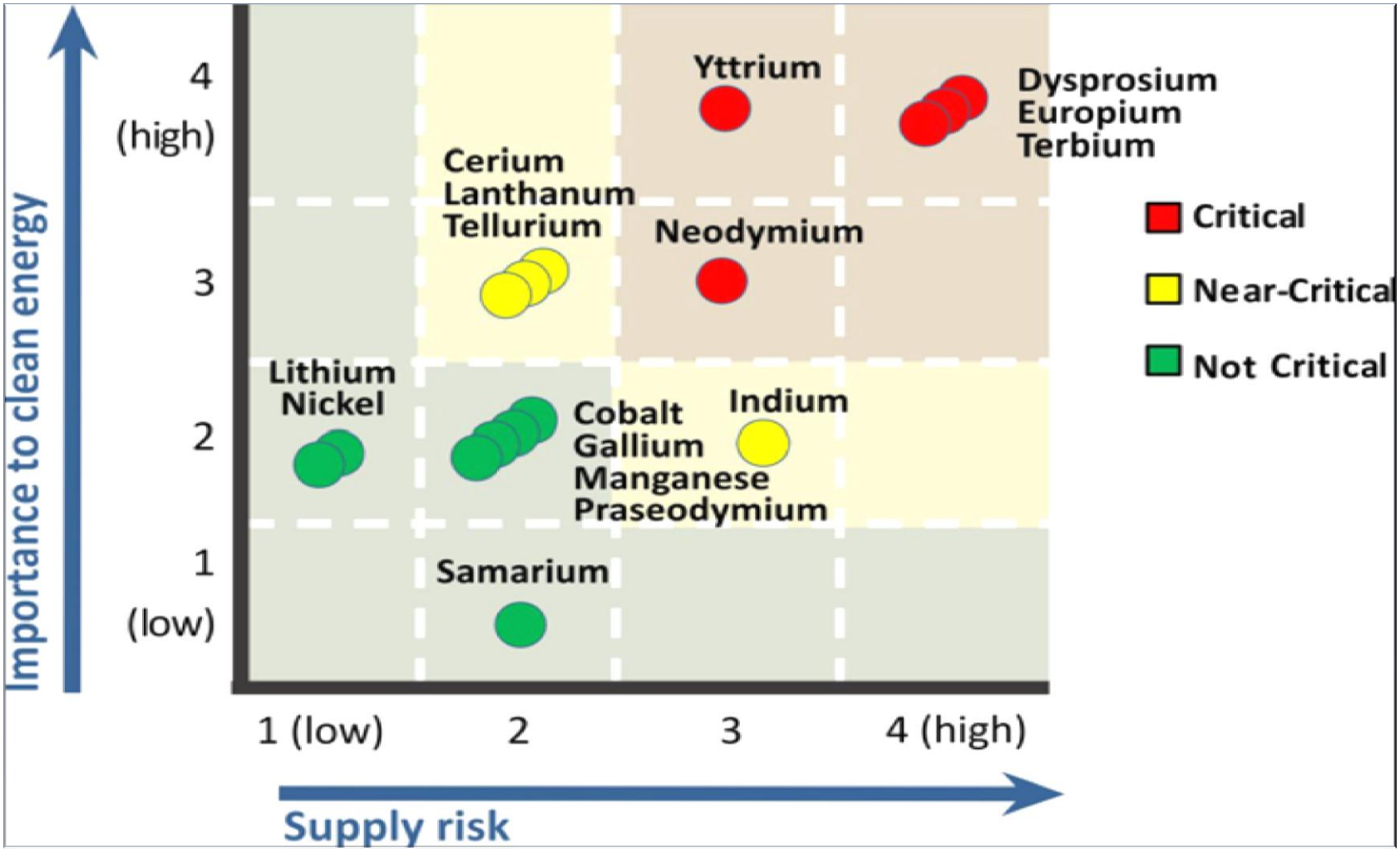

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Green **Technology**

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Hybrid **Vehicles**

33 Pounds of REES

GLASS AND MIRRORS POLISHING POWDER
- Cerium

LCD SCREEN
- Europium
- Yttrium
- Cerium

DIESEL FUEL ADDITIVE
- Lanthanum
- Cerium

COMPONENT SENSORS
- Yttrium

HYBRID NIMH BATTERY
- Lanthanum
- Cerium

HYRBID ELECTRIC MOTOR AND GENERATOR
- Neodymium
- Praseodymium
- Dysprosium
- Terbium

CATALYTIC CONVERTER
- Cerium
- Lanthanum

25+ ELECTRIC MOTORS THROUGHOUT VEHICLE
- Neodymium Magnets

HEADLIGHT GLASS
- Neodymium

UV CUT GLASS
- Cerium

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Defence **Applications**

Location

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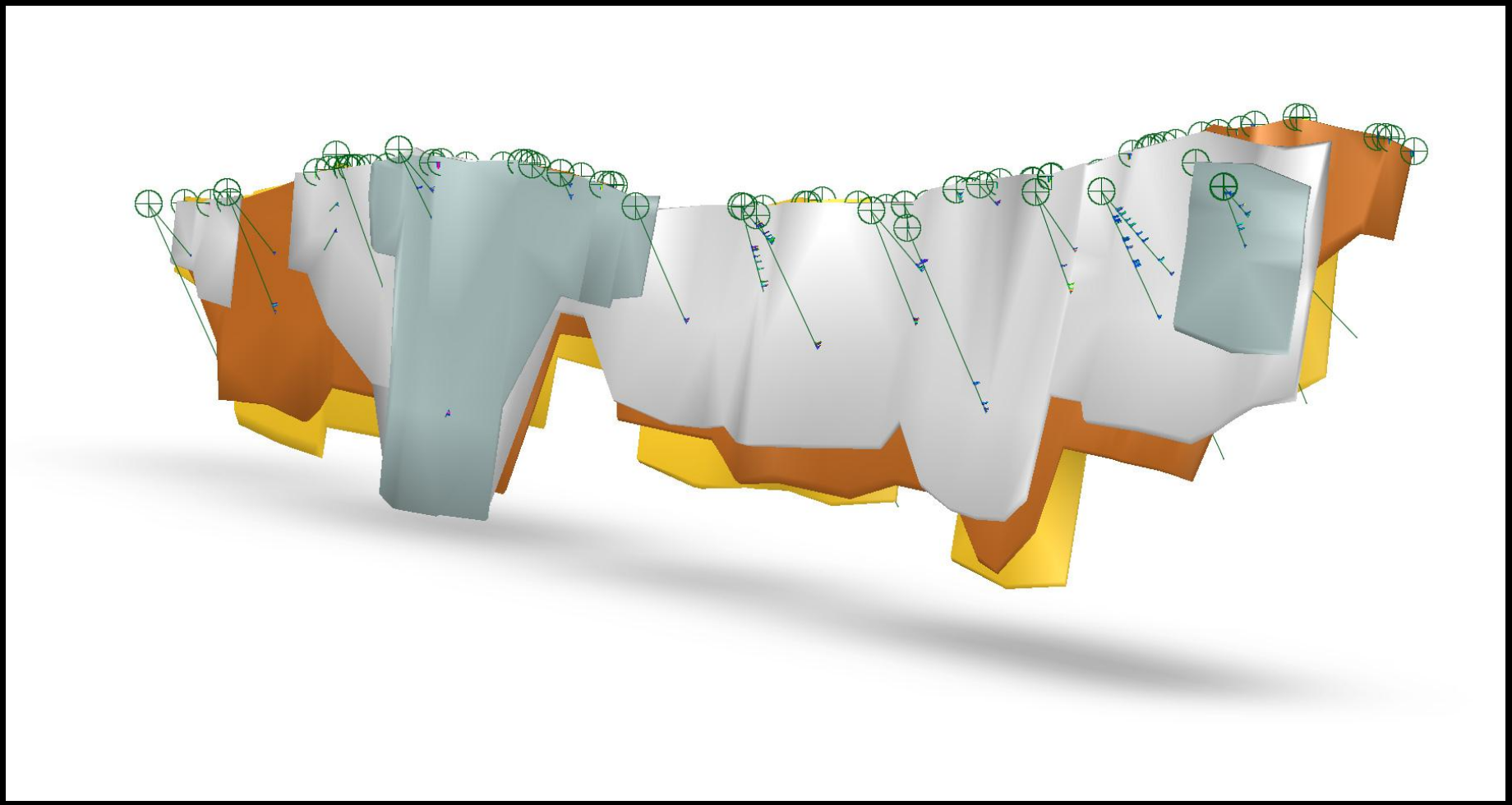
Resource



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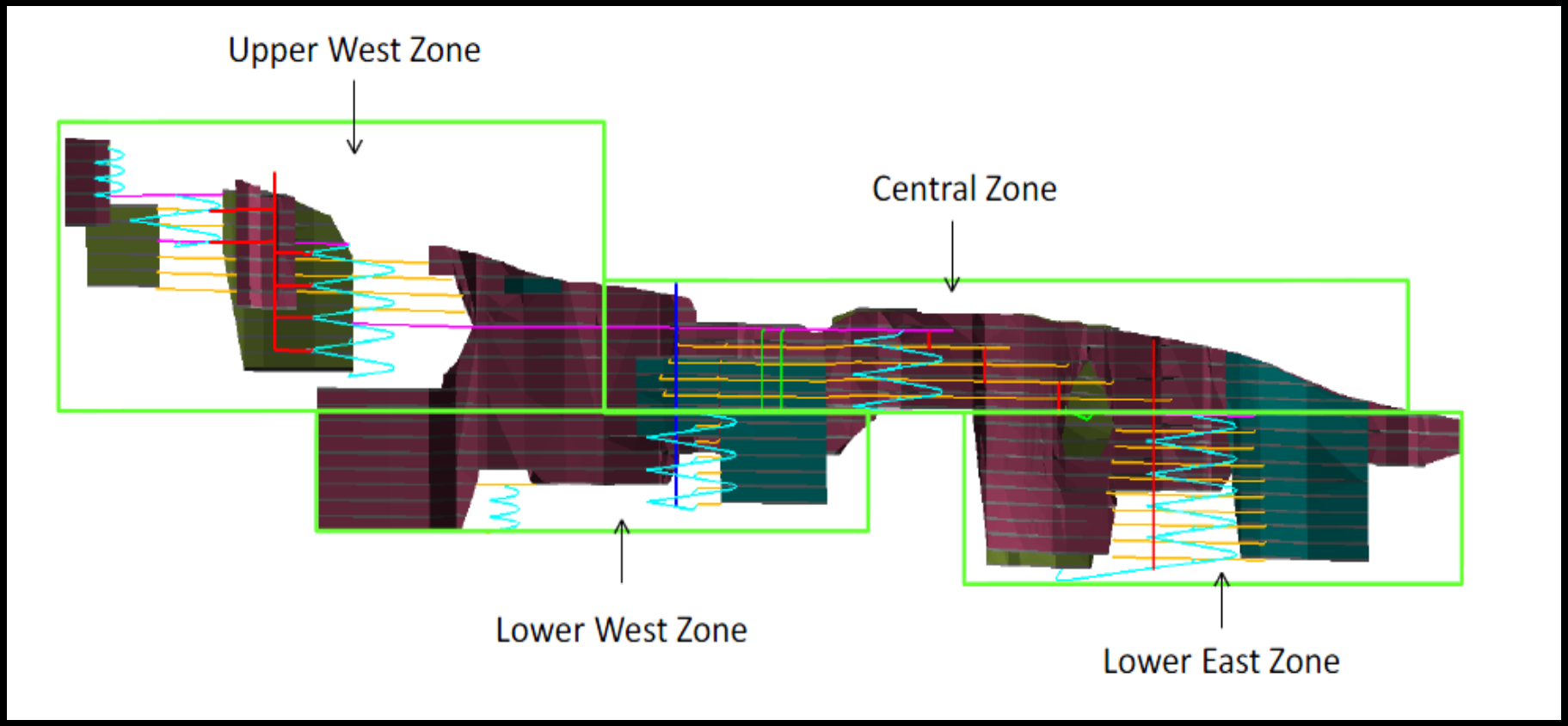
Resource

	% TREO Cut-off	Tonnes	TREO	HREO/ TREO	Contained TREO (lbs)
	0.8%	1,021,000	1.054%	36.80%	23,718,000
	0.7%	1,549,000	0.951%	37.70%	32,467,000
	0.6%	2,489,000	0.834%	39.60%	45,751,000
Resource	**0.5%**	**3,669,000**	**0.746%**	**38.60%**	**60,325,000**
PEA Base Case	0.4%	5,276,000	0.654%	40.00%	76,049,000
	0.3%	6,126,000	0.613%	40.80%	82,765,000
	0.2%	6,702,000	0.580%	41.30%	85,673,000

Orebody & Mine Design



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Geology/Mineralization

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Mine **Operations**

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

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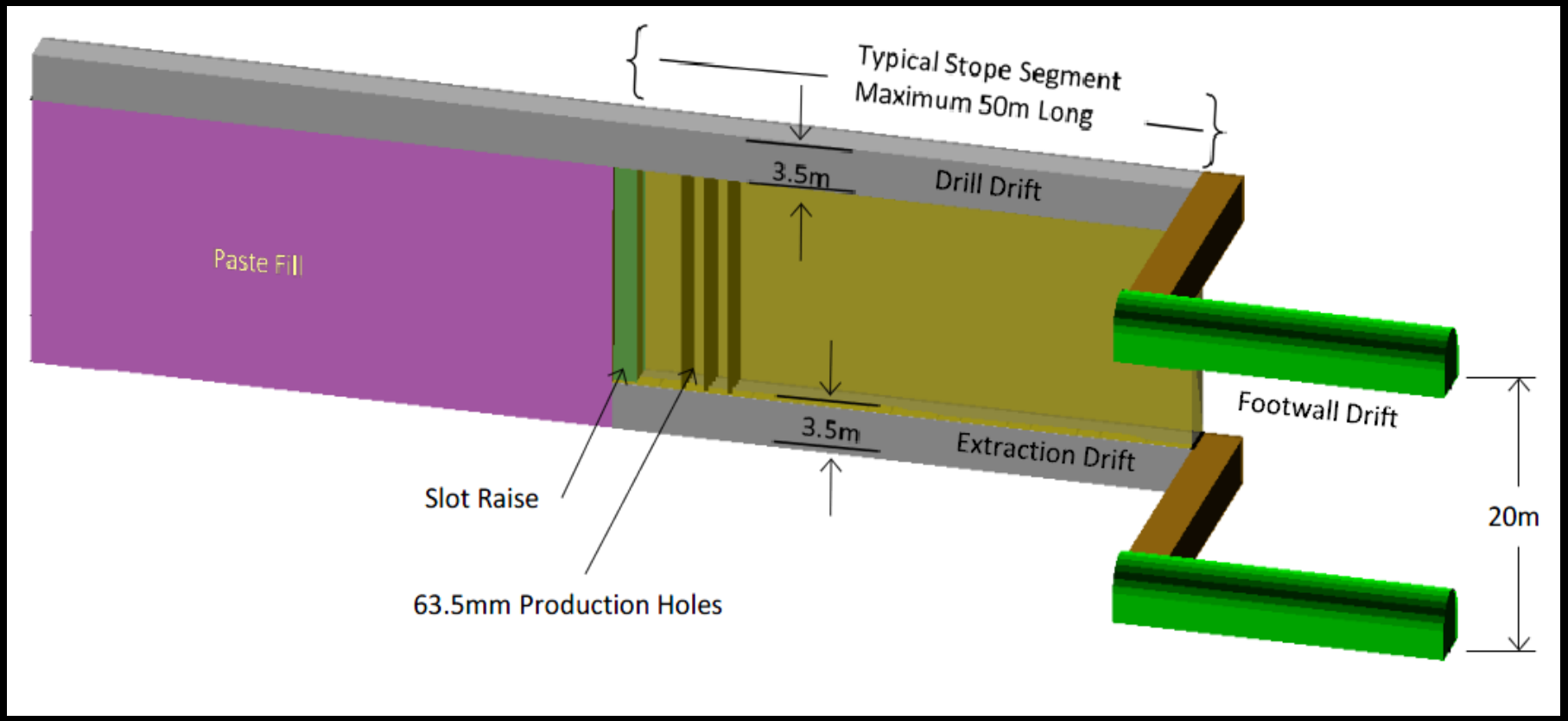
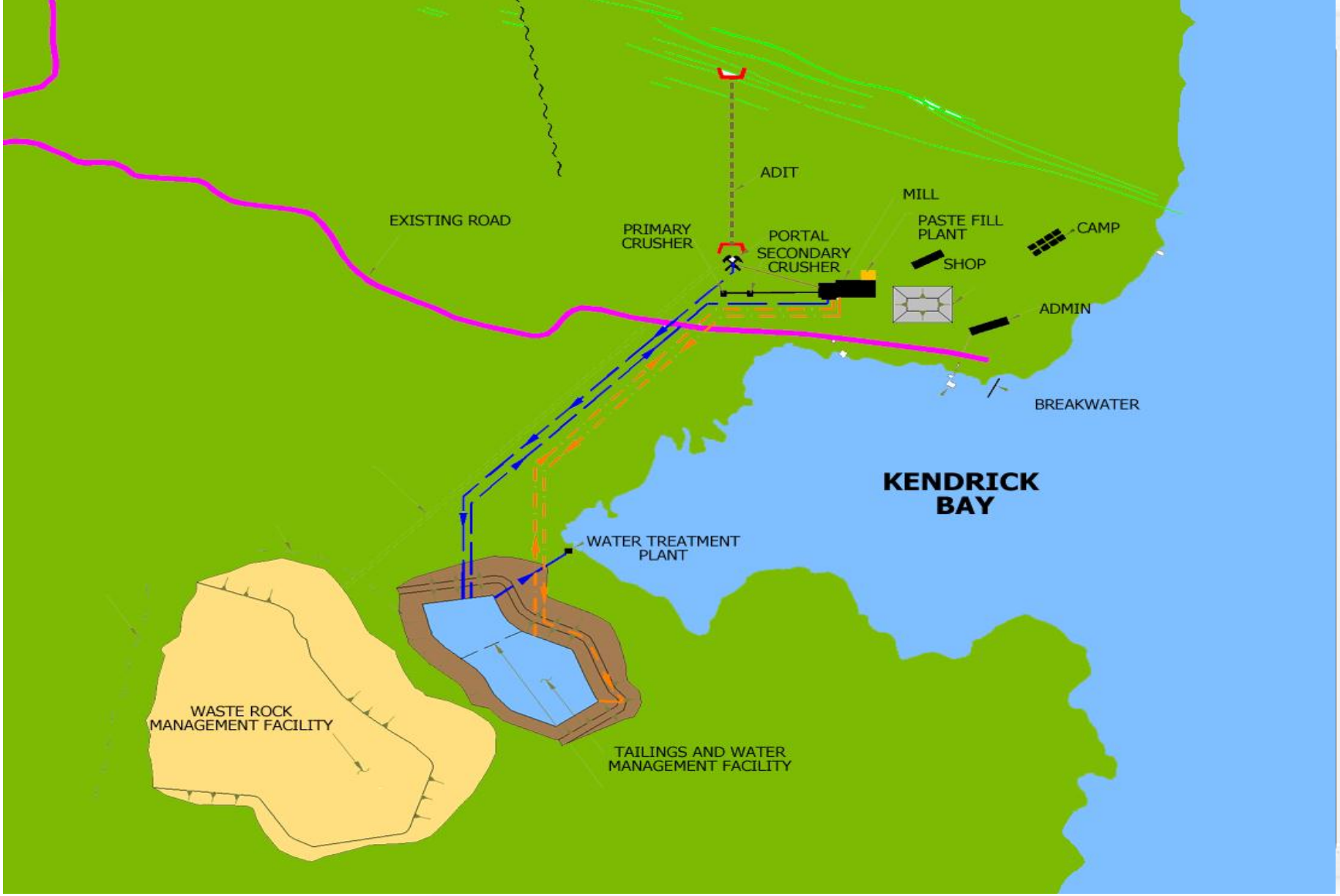
Mine **Operations**





Conceptual Project Design

Unique Technology

Utilizing ore sorting and mag. separation

- Sorting rejects approx. 50% of mill feed as waste
- Magnetic separators reject approx. 50% of feed
- 1,500 tpd mine but 375 tpd leach and separation circuit

RESULT IS ALL TAILINGS WILL GO U/G AS BACKFILL

Solid Phase Extraction (SPE)

- Process invented by Intellimet together with Ucore
- Nitric acid leach at 90 Deg. C
- SPE columns separate individual rare earths

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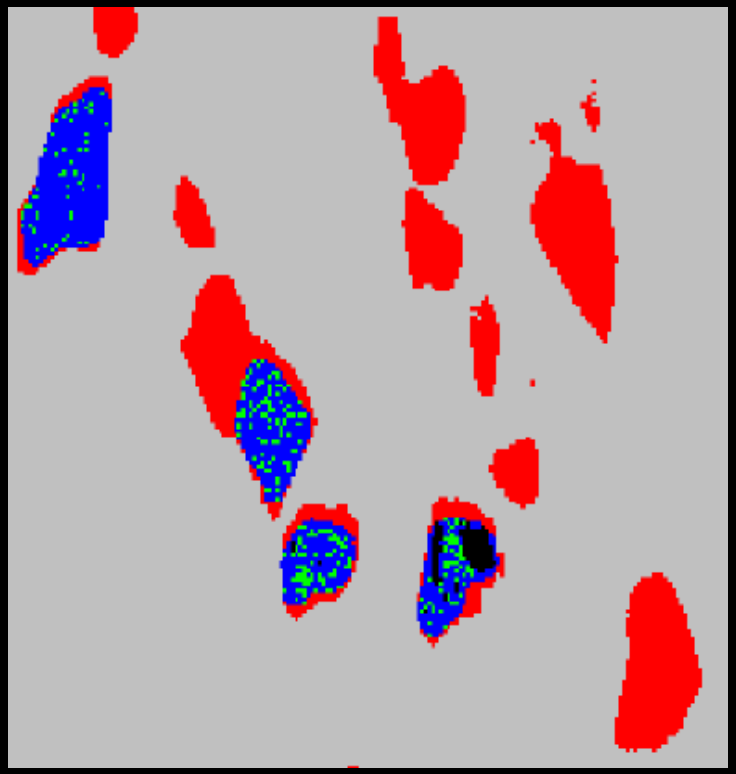
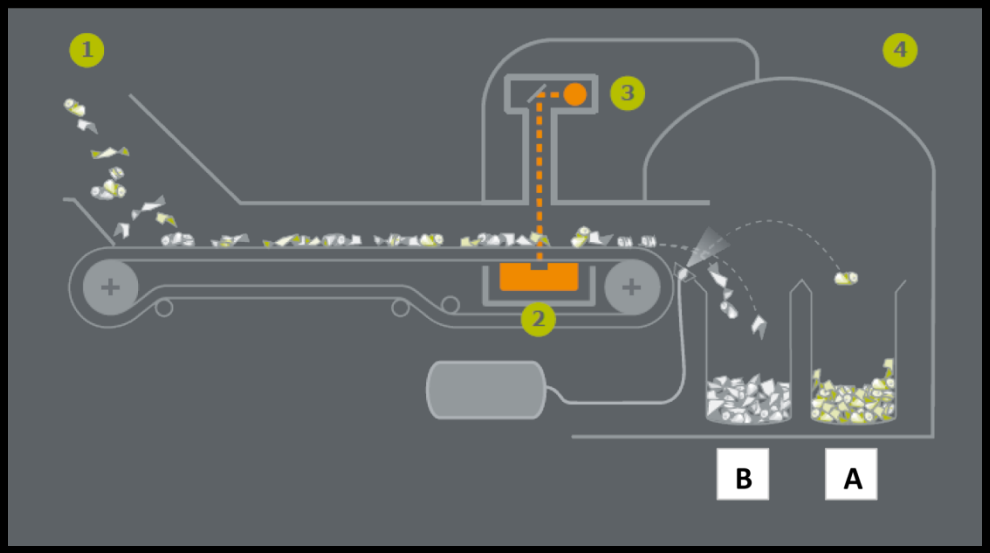
Ore Sorter



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



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Solid Phase Extraction

- New nano technology
- First stage separates nuisance materials such as thorium, uranium and iron. U/G with paste backfill.
- Subsequent series of columns separates individual rare earths and then precipitated as oxides.
- Separation occurs very quickly so columns are very small. Therefore has low capital cost.

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Steps to **Production**

PEA

Complete Feasibility Study

2012				2013				2014			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Permitting Process Starts

Commence 1.5 year construction program

(Upon Receipt of Permits)

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 tonnnes Dy_2O_3, 14 tonnes Tb_2O_3 and 515 tonnnes Y_2O_3

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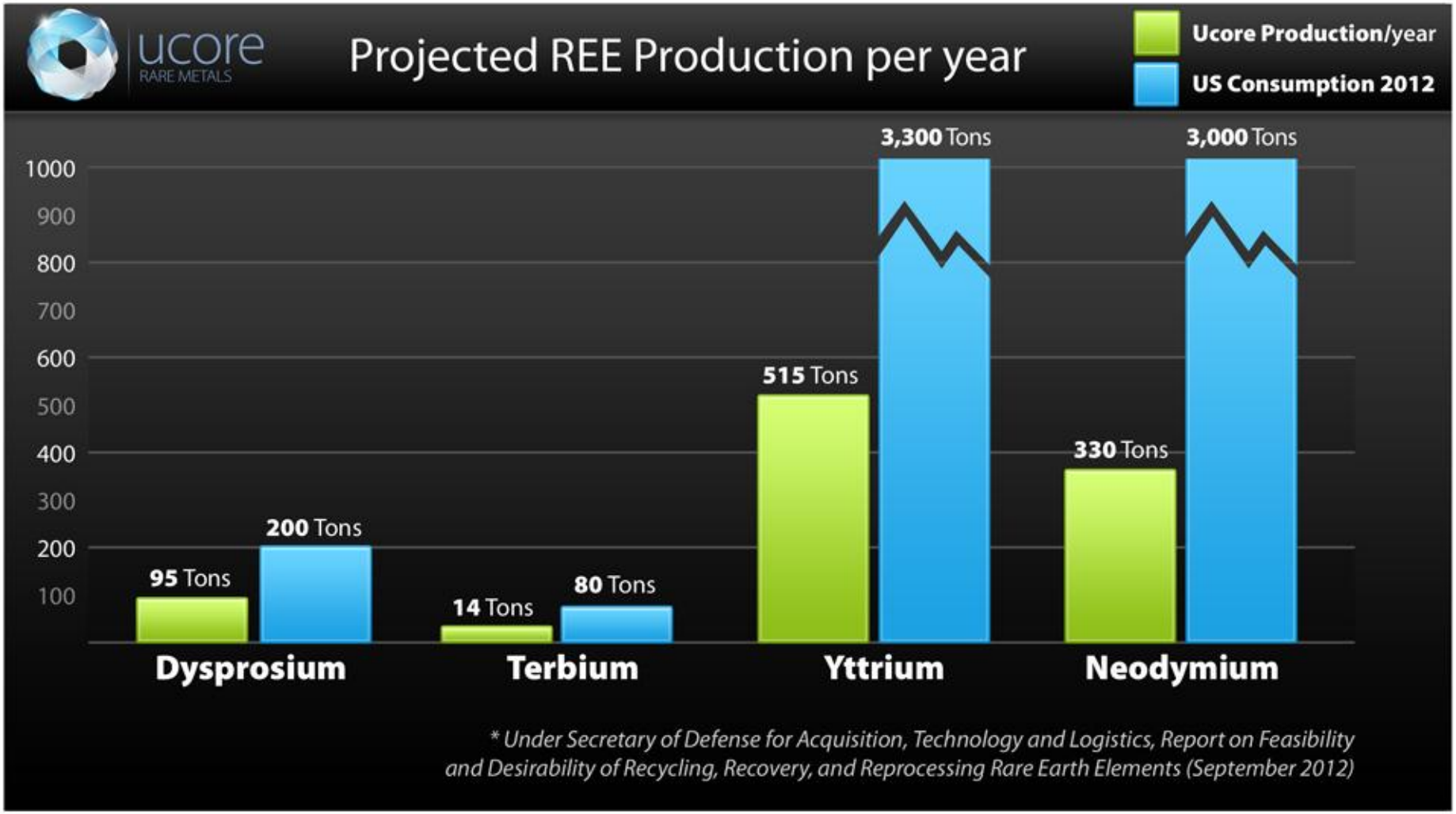

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Community/Gov't Relations

- Local hire and training: meet regularly with KIC, UAF, UAA and UAS.
- Community outreach: met with a number of POW Tribal Associations, Ketchikan, Saxman and local fishing groups. Presentations to Craig Mining Symposium and Ketchikan AMA.
- Gov't. Outreach: meet with Govenor's office, legislators and their staff and support POW road bill and State support resolution. Have DoD support.

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Whats Coming

- New resource – 2nd quarter
- Award Feasibility Study – 1st quarter
- Secure off-take agreements - 2013
- Award pilot plant contract – 1st quarter

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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
- New technology results in production of individual REOs
- Great opportunity for a new industry for the State

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