



Rebirth of Rare Earths in the United States

Council on Chemical Research

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- **Green Energy**
 - **Rare Earth Magnets**
 - Hybrid vehicle motor generators
 - Permanent magnet generators
 - **Rare Earth Phosphors**
 - Energy efficient lighting
 - Displays
 - **Cerium compounds**
 - Autocatalysts
 - Drinking water treatment
 - **Lanthanum compounds**
 - Nickel Metal Hydride Batteries
 - Fluid-bed Cracking Catalysts

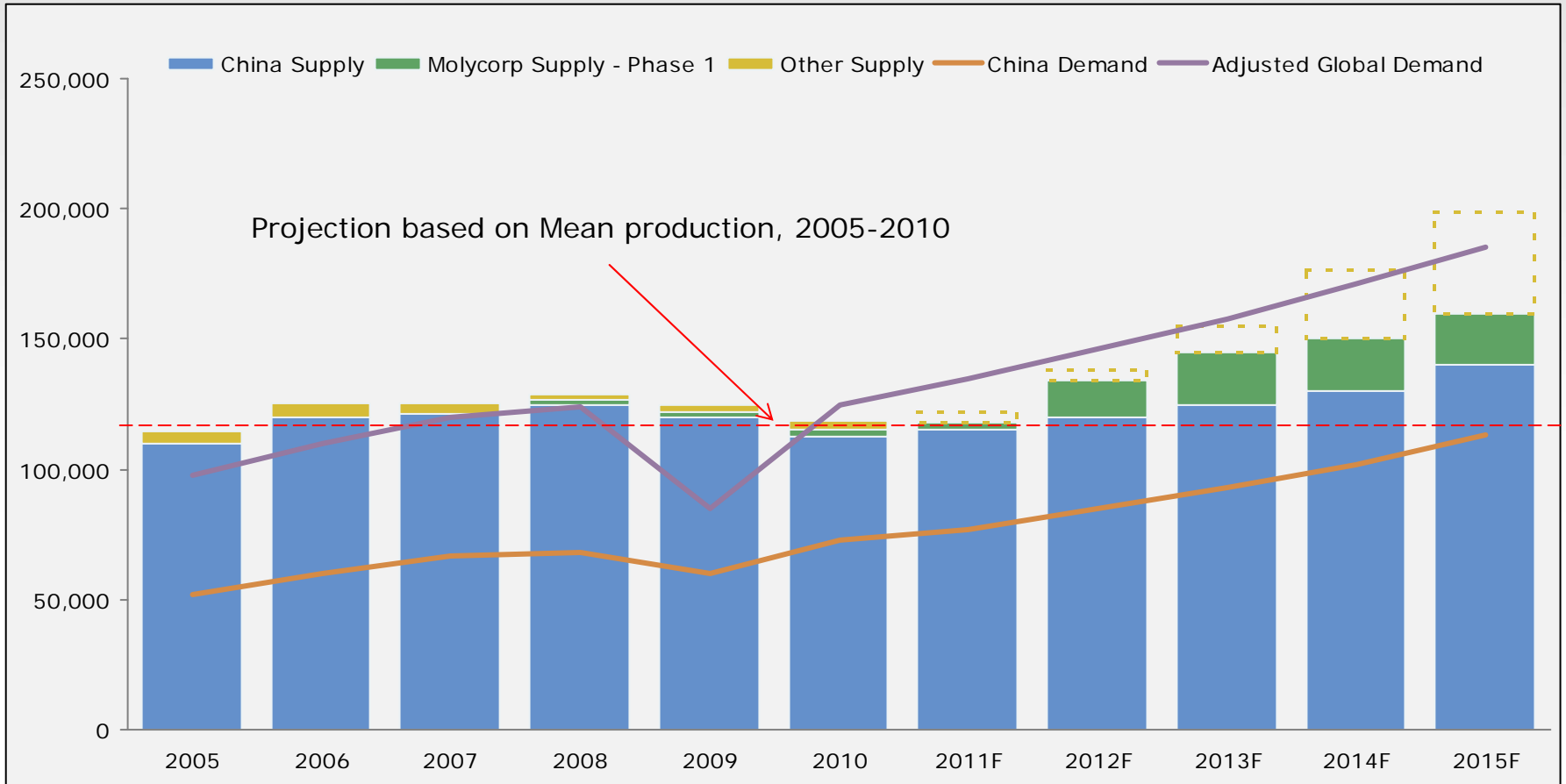
- **High Tech Applications**
- **Defense**
 - Telecommunications
 - Sonar
 - Radar
 - Guidance systems
 - Target and acquisition systems

- **China dominates the industry**
 - 97% of global rare earth oxide products
 - Approximately 100% of rare earth metal
 - Approximately 75% rare earth magnet alloys
 - Approximately 75% of global magnets
- **China is significantly reducing rare earth exports and prices are increasing**



Global Demand Growth Continues to Justify Diversity of Supply

Global Rare Earths Supply and Demand (mt, REO $\pm 20\%$)¹



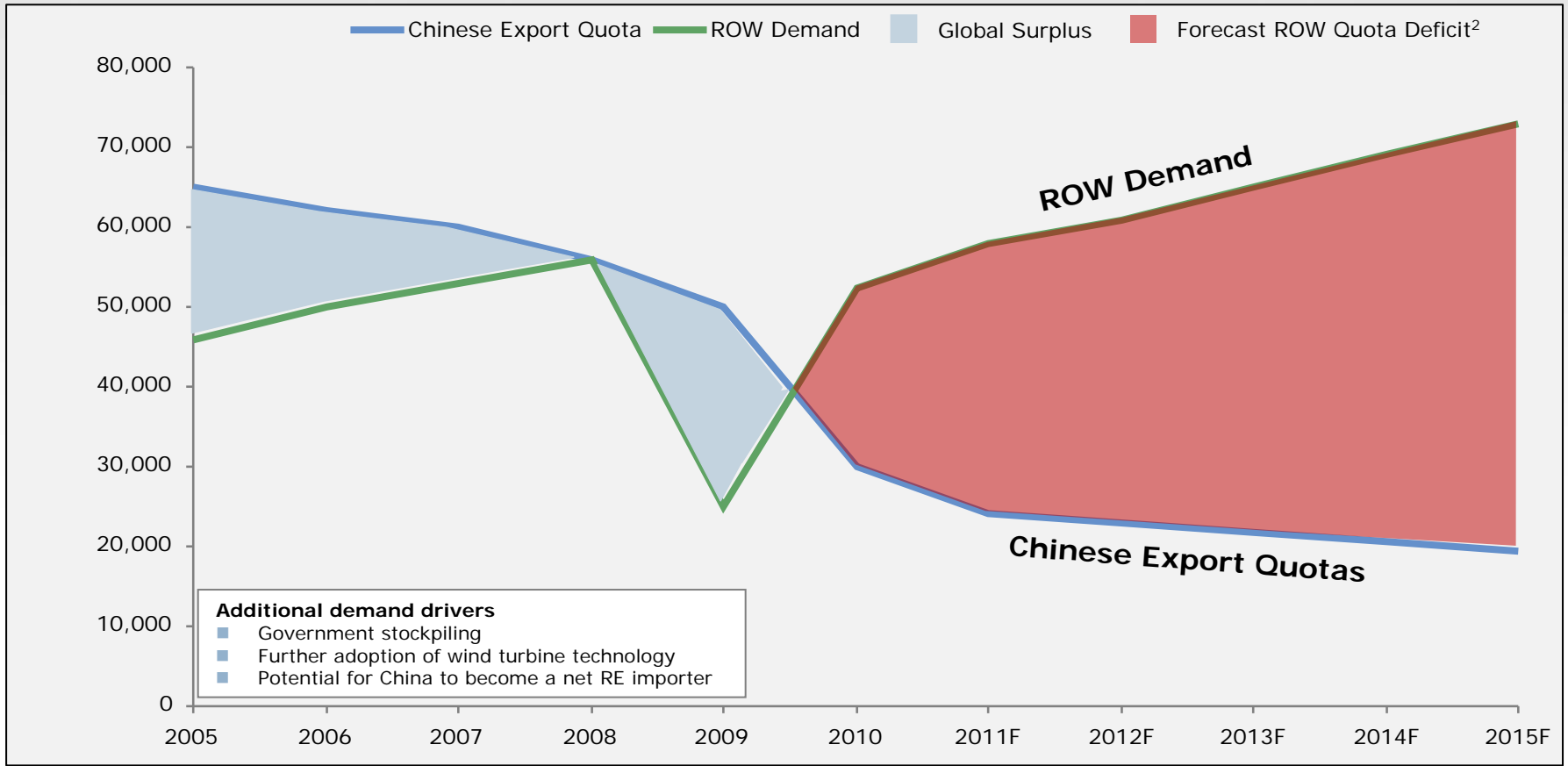
Source: IMCOA (January 2011)

¹ Does not reflect Molycorp's potential to increase production to 40,000 mt of REO per year following completion of Phase 2 expansion plan, but instead reflects anticipated production of 19,050 mt of REO per year beginning in 2013



Chinese Exports Constraints Require a Western World Supply Response

Global Rare Earths Forecasted Deficit¹



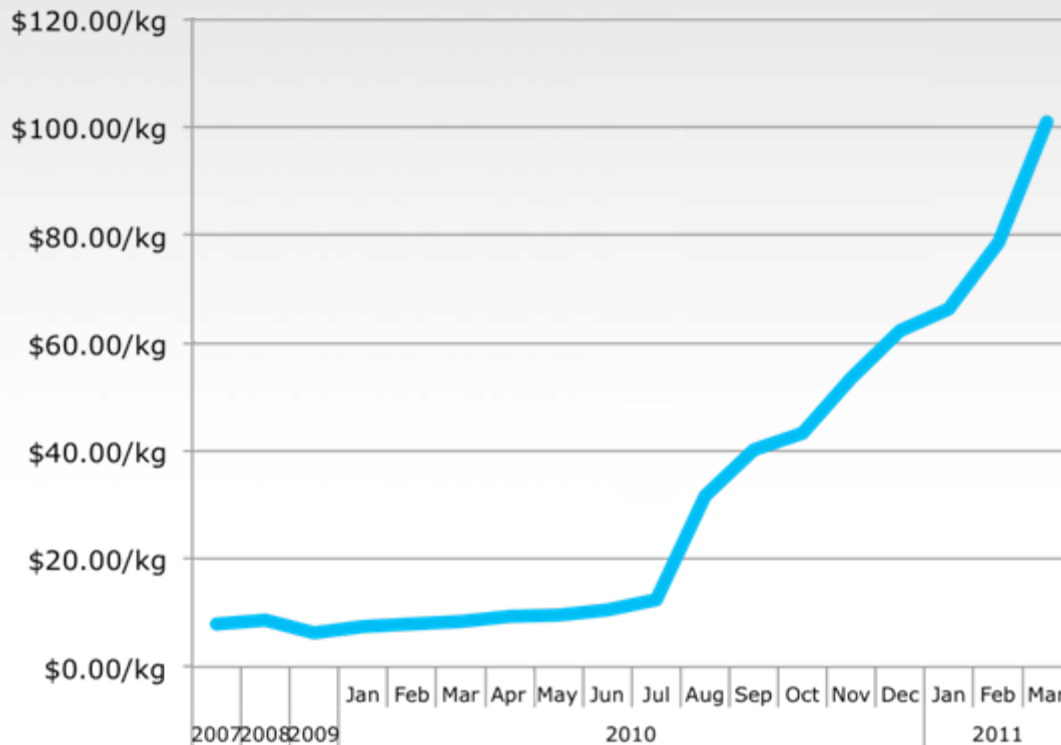
Source: IMCOA

¹ Based on actual announced quotas through the first half of 2011 and IMCOA forecasts (35% reduction compared with the first half of 2010); Please refer to page 9 of the Form S-1 Registration Statement for information regarding Chinese quotas

² ROW quota deficit shows the supply deficit that would occur should no REE production outside of China comes online

Pricing (\$/Kg)

Weighted Avg. Oxide Price



Source: Metal-Pages.com

Pricing drivers

- **China continues to focus supply inward, despite growing ROW demand**
 - Dramatic consolidation of Chinese rare earths industry
- **Existing rare earths production insufficient to meet expected market demand**
- **National strategic stockpiling**
 - China, Japan, and S. Korea currently stockpiling
 - US and EU looking to stockpile

- **Reestablish Rare Earth Processing in the United States**
 - Environmentally Superior
 - Low Cost Production
 - High Quality Products
- **Reestablish Rare Earth Supply Chains**
 - Mine to Magnet Strategy

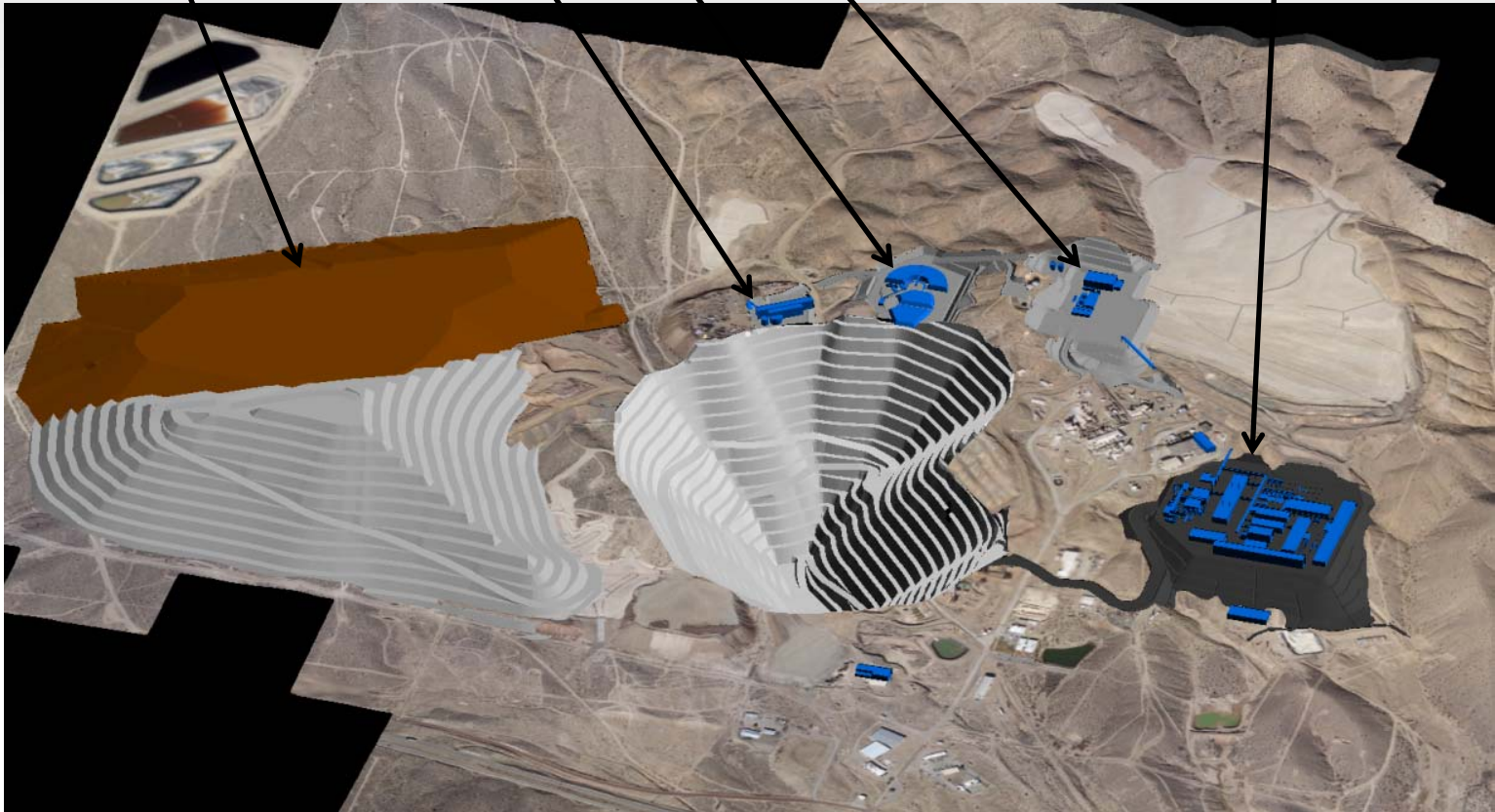
95 Acres Paste
Tailings Storage

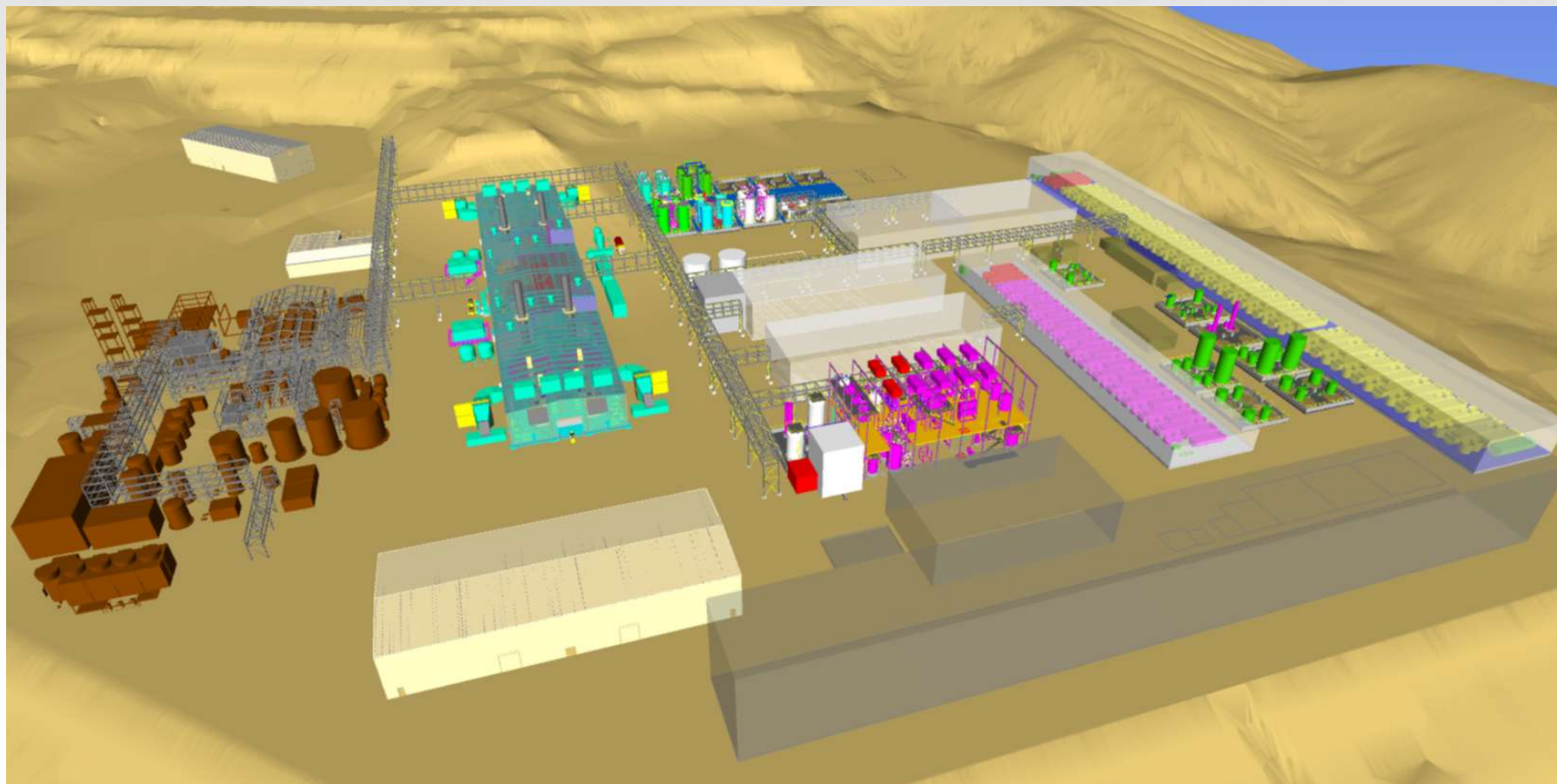
15 Acres Paste
Tailings Plant

11 Acres Crushing

9 Acres, Rare Earth
Chloride Production &
Purification

36 Acres
Separations, CHP,
Salt Recovery,
Ancillary
Facilities





Chinese producers significantly oversupplied the global market with high quality low priced products.

- Low prices
- High availability
- Belief that Chinese producers would always supply world demand

Operations

- Mining operation ended in the summer of 2002
- Minimal processing of stock-piled feed stocks

Personnel

- Three technical people
- 2 chemist
- 1 hydrometallurgical engineer
- 12 plant operators



Corporate Attitude (Unocal)

Rare Earth Business

- It is not possible to compete with China
- Molycorp not able to compete

Rare Earths were not a core business for an oil company

Considered complete shut down and remediation of the site



Rare Earth assets and associated intellectual property in 2008.

Key Accomplishments To Date

- Project planning in Q1 2009
- Project team commissioned 3Q 2009
- Initial Public Offering 2Q 2010
- Zorbx products launched 3Q 2010
- Pre-stripping Began 4Q 2010
- Acquisition of Silmet 1Q 2011
- Acquisition of Santaku America 1Q 2011

Two Phase project

- Phase 1 Produce 20,000 mt of separated Rare Earth Oxide products
- Phase 2 Expand operations to 40,000 mt of separated Rare Earth Oxide products

Capital Cost

- Phase 1 \$495 million
- Phase 2 \$280 million

Water treatment

- Waste water recreational water
- Drinking water
- 290 US and Foreign Patent applications

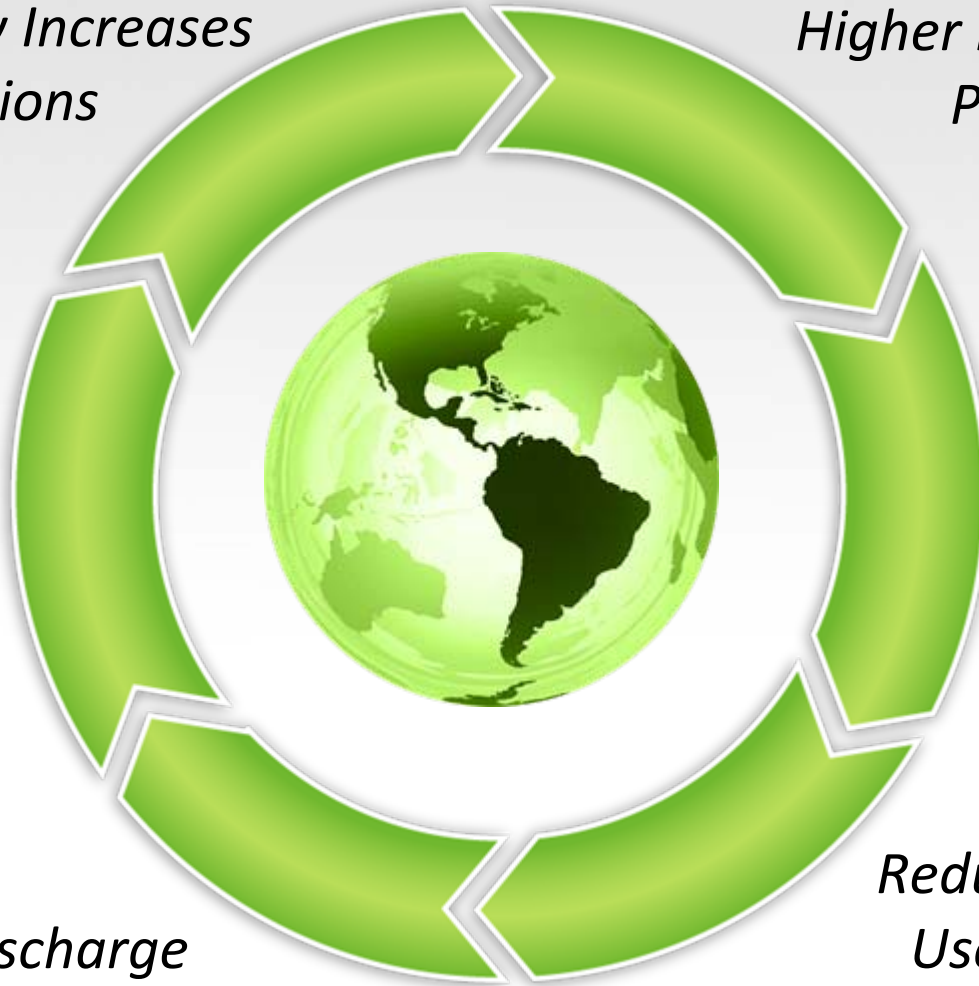
Process Technologies

- One patent application
- Numerous trade secrets

*Energy Efficiency Increases
and GHG Reductions
With On-Site
Natural Gas
Co-Gen*

*Large
Reduction of
Reagent Use*

*Near-Zero
Wastewater Discharge*



*Higher RE Recovery and
Process Efficiency
Breakthroughs
Allow for Same
Amount of
Product Using
½ The Ore*

*Dramatic
Reduction in Process
Use of Fresh Water*



Project Components

Mineral Recovery and Beneficiation

- Mine
- Mill
- Crushing and blending
- Paste Tailings
- RECI3 Leaching
- Impurity Removal

Chemical Plant

- Counter Current Liquid Ion Exchange (SX)
- Separated Rare Earth Product Production

Reagent Regeneration

- NaCl Purification
- Chlor-Alkali Plant

Water Purification Plant

Combined Heat and Power Plant

- Four 12MW Natural Gas Turbines
- Four HRSG's for additional steam production

Rare Earth Metal Production

Technical Staffing has been our most significant issue.

- Began redeveloping our technology organization in 2004
- Little success with experienced technologists
- Hired and trained new graduates
 - BS, MS, PhD Chemists and Chemical Engineers

We would like to work with universities to better prepare young scientists and engineers for industrial jobs.

Reestablish advanced science and development of rare earth materials