



Molycorp Tolleson



Molycorp Mountain Pass



Molycorp Sillamae



Environmental Technology Innovation: Key to Sustainable Rare Earth Development

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Audience: EU-Japan-US Workshop on Critical Materials R&D

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Key Development Principles

- ◆ **Molycorp's Key Development Principles:**
 1. Environmentally superior processes
 2. Independent markets for cerium & lanthanum
 3. Globally superior economics

- ◆ **These principles have guided product research, process development and engineering for Project Phoenix, the Mountain Pass rebuild**



Environmental Technology Breakthroughs

1. Advanced Salt Recycle Process

- Allows us to convert waste salts into reagents for RE processing
- Virtually eliminates wastewater discharge

2. Solidified Permanent Tailings Disposal

- Paste tailings to be deposited on advanced liner system
- Provides for permanent tailings disposal in a licensed rad waste disposal area

3. Combined Heat and Power Plant

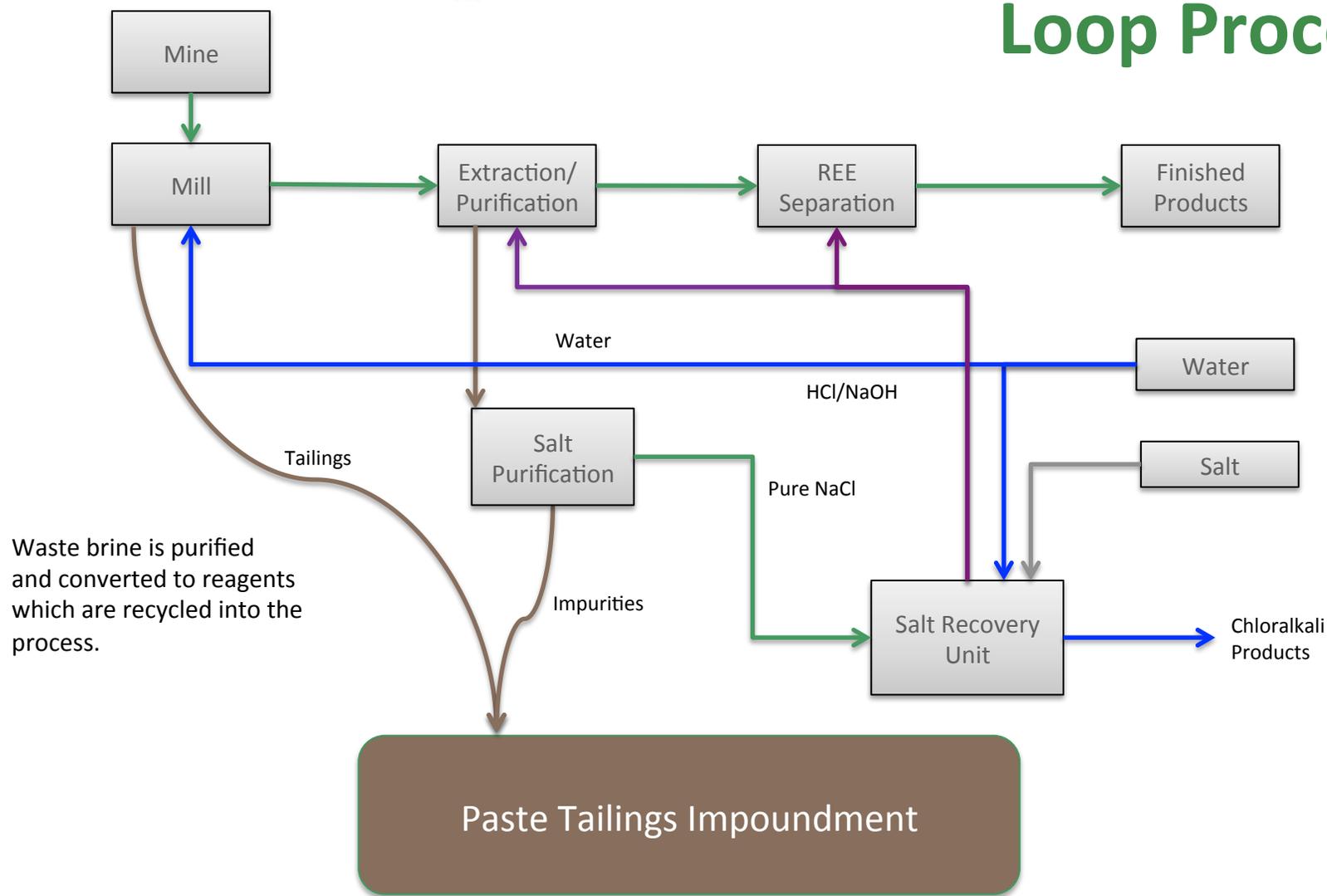
- Utilizes natural gas and eliminates use of fuel oil and other low-efficiency, high-polluting fuels
- Provides significant reduction in power costs
- Significantly reduces overall environmental footprint of project

4. High efficiency processing

- Maximizes rare earth recovery per ton of ore
- Minimizes reagent and power consumption



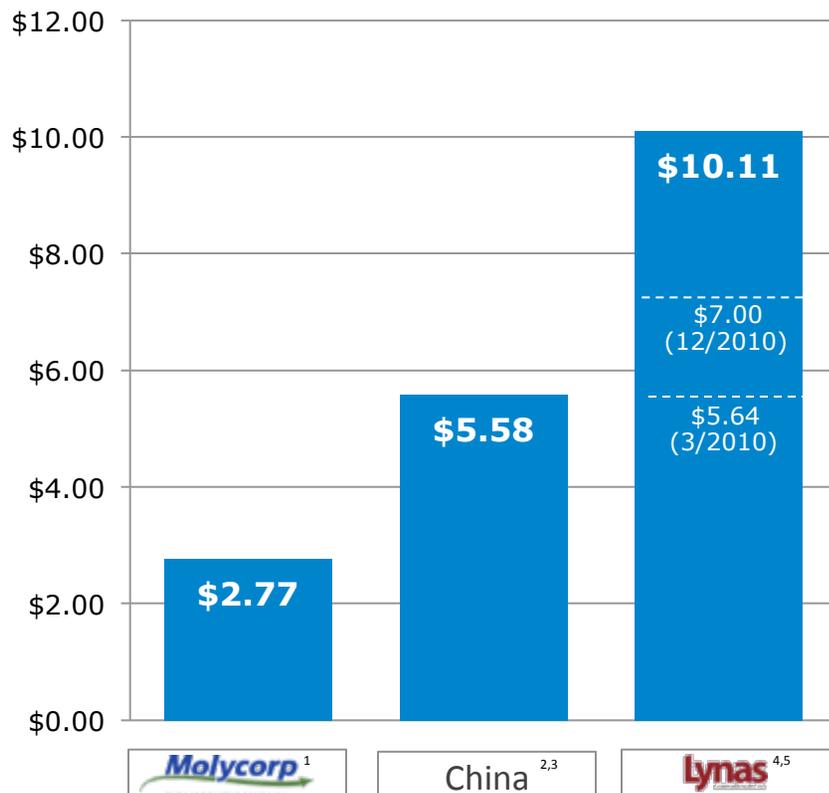
Mountain Pass Closed Loop Process





How Technology Innovation Drives Our Competitiveness

Current Average Rare Earth Oxide Production Cost (per kg)



1 Based on SRK production costs as of April 28, 2010

2 IMCOA

3 Wang Guozhen, the former VP of China Nonferrous Engineering and Research Institute, indicated that China's production costs may double as a result of ongoing environmental reforms.

Base cost numbers were not quantified. (Metal-Pages.com, Jan. 7, 2011)

4 Based on Lynas presentation as of 12/7/2010

5 Lynas statement as reported in Metal-Pages.com, March 23, 2011.

Cost-advantaged processing drives significant commercial advantage:

- Greater power reliability and efficiency via onsite natural gas co-generation
- On-site reagent production and acid recycling
- Process technology breakthroughs
- Infrastructure
- Molycorp maintains its cost structure as the lowest in the world and may benefit from synergies in the Phase 2 expansion process

Competitors face increasing costs:

- Chinese focus on reducing environmental degradation has increased cost structure
- In December 2010, *Lynas* revised upward its estimated costs for the Mt. Weld project⁴
- In March 2011, *Lynas* revised upward again its estimated costs for the Mt. Weld project⁵



Our Approach to the HREE Issue

1. Increase HREE production via recycling

- Magnets
- Phosphors

2. Increase efficient use of HREEs in key applications

- Boulder Wind Power's technology
- DOE projects with Ames Lab

3. Utilize new cracking technology

- Allows full utilization of all minerals in the Mtn. Pass ore body
- Allows use of mineral concentrates from other sources

4. Identify and develop new HREE resources



We Apply Our Development Principles to HREE Exploration

Resource Screening Requirements

1. Adequate ore grade (2% min.)
2. REE distribution skewed toward HREEs
3. Path to environmentally superior processing



New HREE Resources

- ◆ **Molycorp is tapping into its 57 years of exploration experience and data**

- ◆ **Now Focusing on 4 New HREE Prospects**
 - All have high (> 4%) REO ore grades and very significant HREE content
 - All have mineralizations that can be processed by Molycorp
 - None of these have been discussed in the media or are associated with publicly traded rare earth mining companies



New HREE Resources

- ◆ **One of These Four Deposits is in the U.S.**
 - We own all necessary mining claims
 - Within easy access to Mountain Pass
 - High ore grade and high HREE content
 - Preliminary results from surface sampling indicate:
 - 1.6% Tb
 - 0.5% Dy
 - 0.8% Eu
 - 3.5% Sm
 - 2% Y
 - 21% Nd
 - 5% Pr
 - Surface occurrence extends > 10,000 feet
 - Can be readily processed at our facility



New HREE Resources

◆ Next Steps

- Complete instrument surveys
- Conduct drilling program
- Estimate the extent of mineralization and define the “ore body”
- Conduct hydrometallurgical analysis
- Develop mine plan
- Secure mine permits



Summary

- ◆ **Mountain Pass Rebuild Has Been Driven By Our Key Development Principles**
 - Environmentally superior processes
 - Independent markets for cerium & lanthanum
 - Globally superior economics

- ◆ **Multi-faceted Approach to the HREE Issue**
 - Rare earth recycling
 - Use advanced technology to increase HREE efficiency
 - Increase HREE recovery with Molycorp's advanced process technology
 - Aggressive geological exploration

- ◆ **HREE Resources**
 - Four high-priority projects
 - One of which is close to Mountain Pass



Questions?

