OTCQB: REEMF

Rare Element Resources

Bear Lodge Critical Rare Earth Project

and Demonstration Plant Project

Developing in Wyoming a Secure U.S. Supply of Critical Minerals for Technology and Defense

Wyoming Joint Minerals, Business & Economic Development Committee Meeting Presentation - June 2022

Disclaimer
Forward Looking Statements

Rare Element Resources

This presentation contains forward-looking statements and forward-looking information (collectively, the “forward-looking statements”) within the meaning of securities legislation in the United States and Canada. Except for statements of historical fact, certain information contained herein constitutes forward-looking statements. Forward-looking statements are usually identified by our use of certain terminology, including "will", "believes", "may", "expects", "should", "seeks", "anticipates", "plans", "has potential to", or "intends" (including negative or grammatical variations thereof) or by discussions of strategy or intentions. Such forward-looking statements include statements regarding our vision and strategic near-term and longer term objectives, the likelihood of the continuation of the financial award from the U.S. Department of Energy and ability to progress through go/no-go decision points,, environmental benefits and potential cost savings of patented and patent-pending rare earth element processing and separation technology, our 2022 key objectives, demand growth for rare earth element materials, future prices, the planned demonstration plant timing, cost and expected outcomes, the Bear Lodge Project, including timing and estimated costs, timing for construction of the Bear Lodge Project, plans to advance toward full-scale production, future demand and supply affecting the rare earth element markets, and other aspects of our business and our prospects as well as those of industry participants.

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Certain information contained in this presentation has been obtained by the Company from its own records and from other sources deemed reliable, however no representation or warranty is made as to its accuracy or completeness. The technical information relating to the Project disclosed herein is based upon a historical technical report prepared and filed pursuant to National Instrument 43-101 - Standards for Disclosure of Mineral Properties ("NI 43-101") and other publicly available information regarding the Company, including the Company’s technical report entitled, “Pre-Feasibility Study Report on the Reserves and Development of the Bull Hill Mine, Wyoming,” filed on October 10, 2014, available on the Company’s website and under its profile at www.sedar.com (“SEDAR”). The historical technical information must be updated and should not be deemed current or reliable.

Rare Element Resources

Rare Element Resources (RER) is a Rare Earth mineral development company

Vision

To become the long-term, secure, reliable and sustainable U.S. source of separated critical rare earths essential for defense, electronics, automotive and industrial supply chains

Objective

Successfully complete a rare earth processing and separation demonstration project in Upton, Wyoming using our proprietary process and separation technology to become a world-class, domestic source of strategic rare earth materials in alignment with the rapid expansion of the rare earth permanent magnet market

Rare Element Resources' Competitive Advantages

- A secure **U.S.-based separated Rare Earth (RE) supply**
- High concentration of RE elements essential for **fastest growing, high-strength permanent magnet market**
- Exceptional Wyoming location for **cost-effective** infrastructure and highly skilled workforce
- Process technology **innovations** delivering **lower-cost, environmental** advantage
- **Fully delineated RE deposit comprised of critical REs especially high-grade magnet elements**
- **Exceptional support** from majority shareholder, General Atomics, and financial award received from the DoE for RE demonstration project
- **Majority shareholder**, General Atomics' affiliate, augments critical minerals expertise, government R&D partnership, contract experience and ability to move further down supply chain to potentially manufacturing permanent magnets for use in electric propulsion motors and generators for future technology, transportation and military systems

Bear Lodge Rare Earth Project located in an exceptional U.S. location

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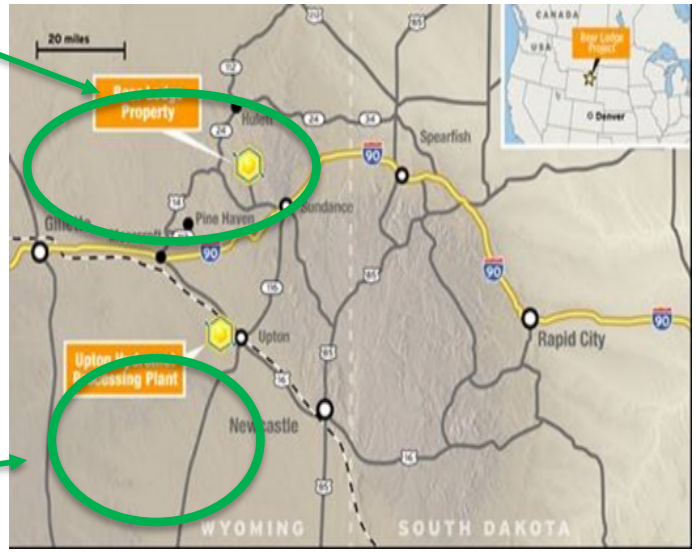
- **Bear Lodge Project**
  - 63 miles east of Gillette, Wyoming (NE WY)
  - Excellent infrastructure, including
    - roads, water, power, etc.
    - ready access to supplies
    - skilled labor



- **Upton Demonstration Plant & Bear Lodge Future Commercial Plant**
  - Hydrometallurgy plant near existing industrial park
  - with water, power, rail, and natural gas

Compelling Story for Investment

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U.S. source of critical rare earths (RE) serving fast growing, magnet-driven electric vehicle, wind turbine, defense and consumer electronics global markets

Strategic major shareholder, a General Atomics (GA) affiliate, has been actively involved in pilot testing and optimizing our proprietary RE processes being incorporated into demonstration plant

Patented and patent-pending improved RE processing in fewer steps with expected environmental benefits and cost savings over conventional processes

Received DOE financial award of $21.9M in early October 2021 to GA and consortium including RER, UIT and LNV representing approx. half of cost of demonstration plant; completed rights offering to raise matching funds in early December 2021; progressing permitting and early equipment procurement

Rapidly de-risking Bear Lodge Project through the demonstration plant with support from the DoE

Skilled, veteran leadership and Board of Directors

China Rare Earth Exports: Reliability of Supply

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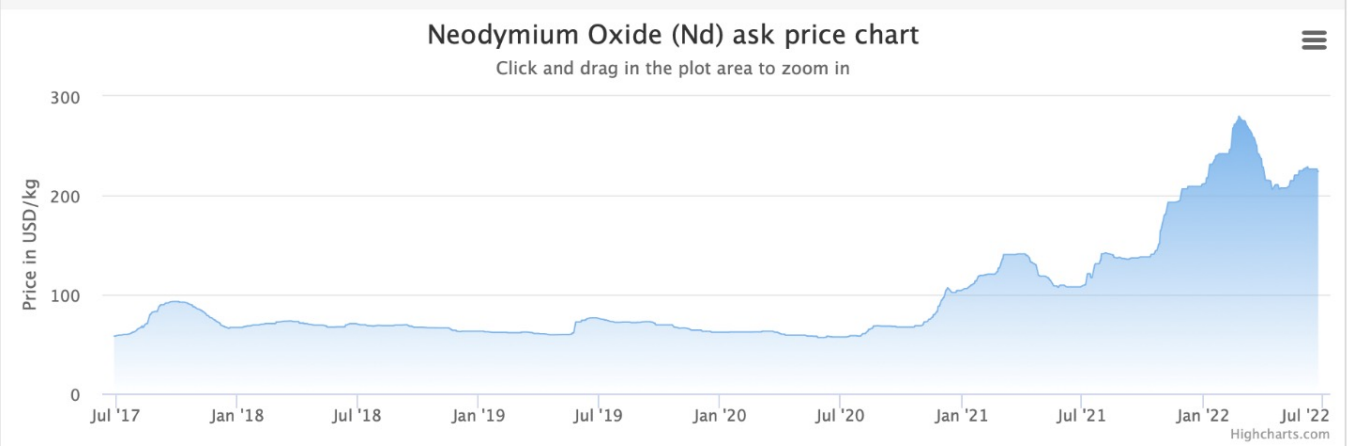
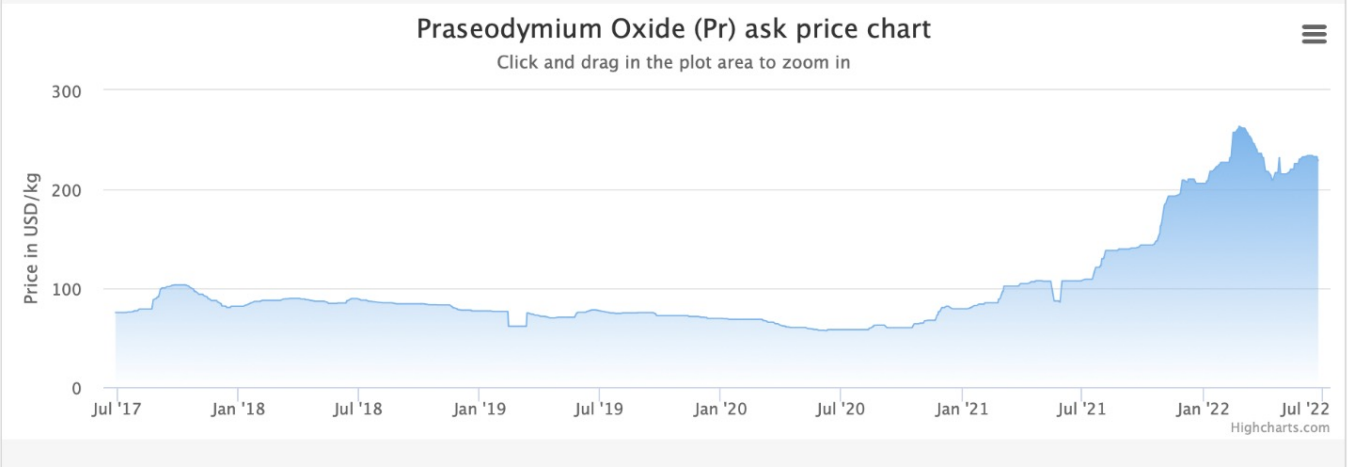
- China doubles down on RE supply chain-Forms new state enterprise by combining three large mining companies and two RE research institutes into one megafirm (China Rare Earth Group)
  - Group to control 60-70 percent of Chinese production and 30-40% of global supply
  - Goal – develop global strategic advantages instead of short term economic gain including increased pricing power and production efficiency
- China internal demand for REs beginning to outstrip its domestic supply
  - China importing REs
  - Fast growing Chinese EV and Renewable Energy markets

Chart source: S&P Global Market Intelligence, February 25, 2021

Nd-Pr Prices:
Responding To Global Demand





Current REE Prices

Nd= $224/kg

Pr = $229/kg

As of June 24, 2021

Charts: Kitco using Tradium prices

Bear Lodge Project: Systematically De-risking

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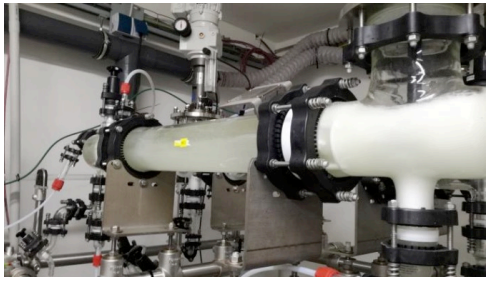
Advancing Towards Full-Scale Production through Demonstration Project

- World-class, long-life resource with expansion potential
- Expect to exploit higher grade material in first years for accelerated payback
- Business-friendly Wyoming location helps to minimize capital and operating costs; infrastructure and labor in close proximity
- Substantial progress made on all required permits
- Anticipate capital savings and environmental benefits (less waste) from our proprietary extraction and separation processes compared to conventional technologies
- Our pioneering technology and processes are expected to deliver value-added, high-purity, separated RE oxide
- Designing demonstration plant to prove scale and processes



RER's pilot plant at General Atomics' affiliate UIT in Germany

Next Step:
RE Demonstration Plant

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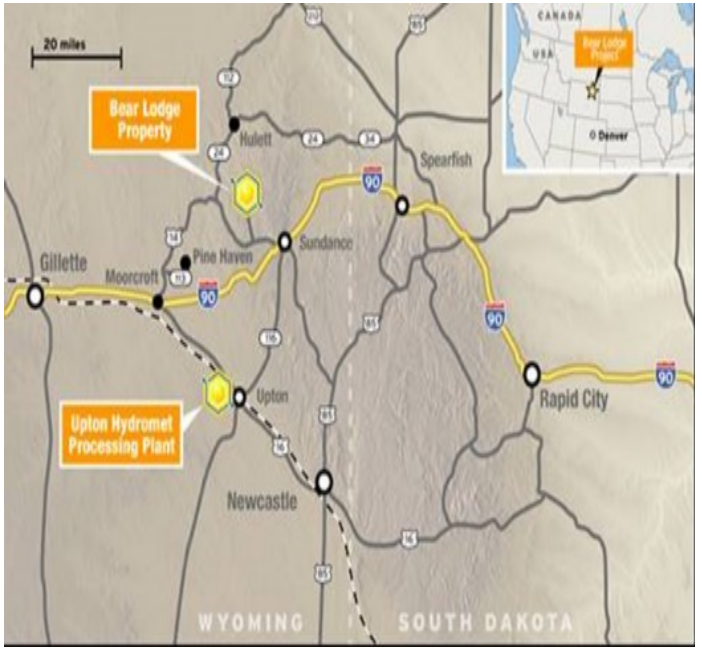
	Rare Earth Processing and Separation Demonstration Plant
Location	Upton, Wyoming
Total Est. Cost	$44M
Project Funding	Half through DoE financial award and half through other financing, including proceeds from rights offering.
Purpose	To demonstrate, at commercial-scale, the operational flow sheet and scalability for final plant design.
Design & Construction	18-26 months
Operation	12-14 months using previously stockpiled sample
Proprietary Technology	Confirming RER's proprietary process produces saleable 99.5% purity Nd-Pr, using fewer steps at expected lower costs.
Current Status	Advancing Demo Plant Design and NRC Licensing, identifying early procurement of long-lead time equipment to offset potential supply chain delays



Proprietary and Enhanced RE Processing and Separation

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RER has patented and patent-pending RE recovery and processing technology

RE Recovery:

- Highly-selective use of oxalic acid early in process delivers exceptional purity
- Eliminates Thorium at initial stage for safe, efficient disposal

Processing / Separation:

- Produces ultra-pure concentrate and process enhancements
- Pioneering variation of conventional solvent extraction technology for rare earths
- Innovative precipitation of rare earths from organic phase eliminates stripping steps of conventional processes

RER's pilot plant at General Atomics' affiliate UIT in Germany

Demonstration Plant Location: Upton, Wyoming

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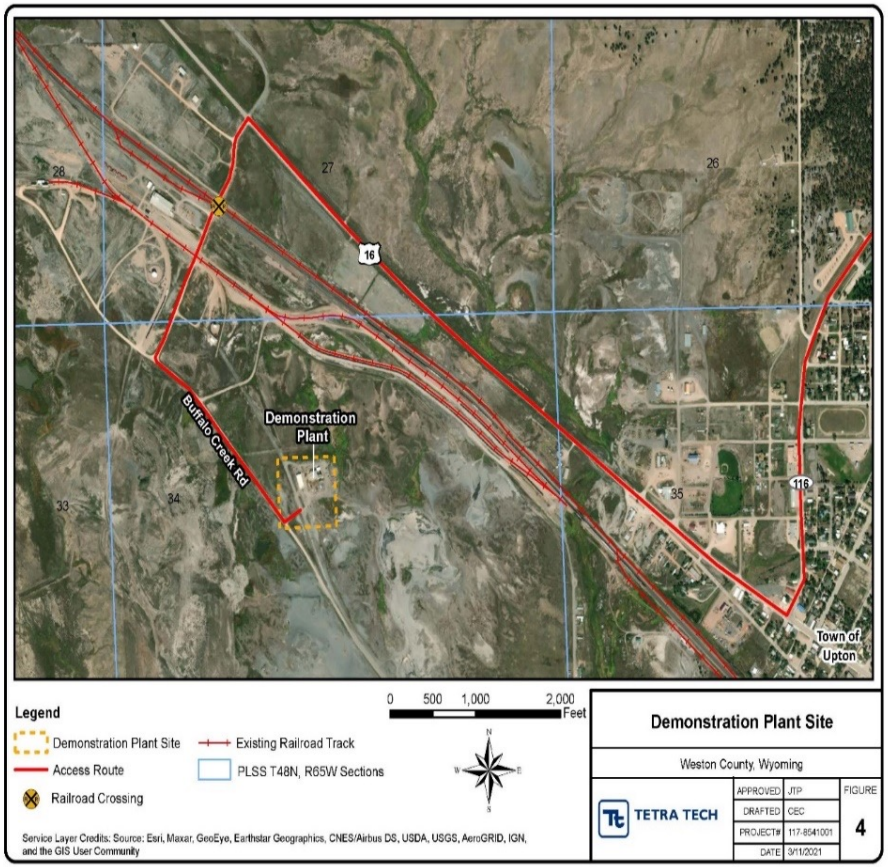
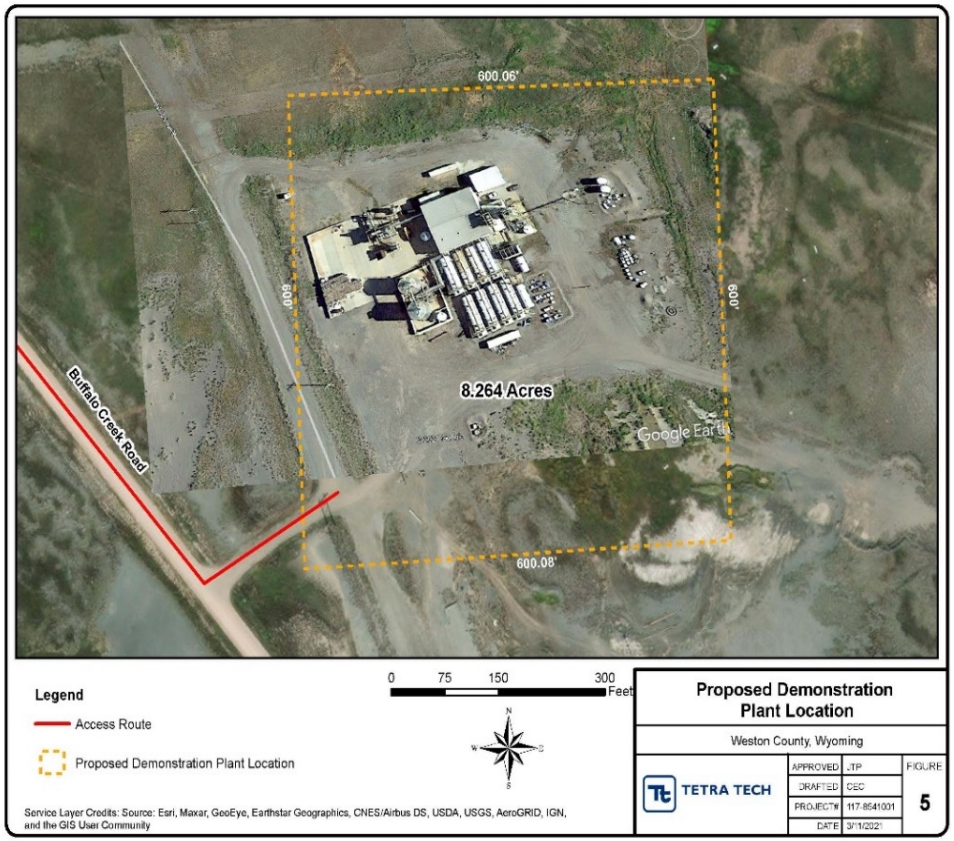


- Upton Logistics Industrial Center
- Lease agreement executed with owner Tiger Transfer LLC in 2021

- 8.2 Acre Brownfields Site
- Phase 1 Environmental Survey Completed
- RER to add 18’x34’x32’ building



Demo Plant:
Permitting and Licensing Requirements

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- USNRC Source Material Possession License Required – solid NORM waste to be conditioned (neutralized and immobilized) for disposal off-site
- Non-hazardous Industrial Waste
- WDEQ-AQD Air Quality Permit

  For emissions generated from:

  - Crushing/Screening dust
  - Leach reactors, NaOH scrubber
  - Calcination kiln discharge via scrubber
  - Digestion reactor discharge scrubber

All solid waste generated by the process will be neutralized, conditioned and shipped off-site to licensed storage facilities.

1000-ton Demo Plant Feed Sample Ready for Processing

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Resource (Q6)

1,000 Ton Bulk Sample Previously Extracted for Feed to Demonstration Plant

Trench exposed near-surface main dyke and was bulk sampled along 300 foot length
Trench reclaimed in 2015

Bulk samples ranged from 3.65% to 14.65% TREO with an average grade of 10.1% TREO

Demo Project Schedule

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To achieve the demonstration plant project objectives, the program is divided into three performance periods for a total expected 40-month timeline.

- (1) Design - 12 months
- (2) Procurement and Construction – 12 months
- (3) Operations – 12 - 14 months
- Licensing and permitting will proceed in parallel with periods (1) and (2) and may extend into early period (3).
- DOE contract was completed October 1, 2021
- Permit and License Applications being prepared, NRC application submitted
- Plant Procurement and Construction 2022-2023
- Plant Operation 2024

Demo Plant Project Construction and Operations

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Demonstration Plant in Upton, Wyoming will be under construction for approx. 10-12 months and operate for approximately 8-12 months.

- Operations are expected to be within the final 8-12 months of the full 40 –month project
- During operations, expected employment to be approx. 15, ensuring training and development of skilled RE technical labor is advanced for the future full-scale processing and separation plant.
- Opportunity for coordination in training programming with University of Wyoming School of Energy Research
- Tax and other related benefits to Town of Upton and Weston County.

Demonstration Project and Furthering Bear Lodge Planning

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Year 1 | Year 2 | Year 3

- Finalize demonstration plant design. Construction. (18-24 months)

- Revisit Feasibility Study, potential resumption permitting process. (18-30 months)

- Operate demonstration plant (12 months)

Potential State of Wyoming Project Support Areas

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Wyoming support is critical to success for the RER Rare Earth demonstration plant and the Bear Lodge Project.

- RER is in conversations with Wyoming Energy Authority (WEA) regarding grant opportunities and Wyoming Business Council (WBC) with regard to potential infrastructure, training, and other support needs in Upton, Wyo.
- RER is communicating with the Town of Upton regarding current and future infrastructure needs to support its industrial park and creating favorable business environment for industry growth
- Training/Education and Cooperative University Programs being explored
- Permitting and Licensing:
  - Wyoming should seek Agreement State Amendment for REs with the NRC for the future of REs in the state
    - Stay competitive with other RE Agreement States, for RE production and downstream magnet production, research for Univ. of Wyo. and more.

Questions?

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