

# Building the Cornerstone to a Secure, Domestic Rare Earth Supply Chain

February 2024

OTCQB: REEMF

- *Demonstration plant construction underway utilizing the Company's proprietary rare earth processing/separation technology*
- *Leading-edge technology company, General Atomics, leads demonstration plant project team in confirming process economics and advantages*
- *World-class Bear Lodge Project rich in key magnet materials – neodymium (Nd) and praseodymium (Pr) – with efforts focused on maximizing value from these rare earths (REs)*
- *Strong Federal and State support with Department of Energy and Wyoming Energy Authority committing over \$26M to demonstration plant project*

Construction began in December 2023 on the Company's rare earth (RE) recovery/separation demonstration plant, located in Upton, WY. This effort is a direct result of years of testing and refinement of the Company's proprietary technology, led by General Atomics (GA), one of the largest private technology companies in the world and whose affiliate is Rare Element Resources' (RER) majority shareholder.

After taking an equity position in RER in 2017, GA immediately assembled a team of some of the brightest minds in the industry. As a leading technology developer, GA was aware of the necessity of establishing secure sources of the rare earths (RE) essential to many key defense and high-tech commercial applications. RER's proprietary processing/separation process and the Bear Lodge Project are at the forefront of their efforts to develop a domestic supply chain to support their many businesses and U.S. interests.

## Time for a New Technology

Advancements up to now in the RE recovery arena have been almost non-existent. Traditional methods are water intensive and generate significant waste. The Company's technology has the advantage of being a closed system, recycling both process water and chemicals. The four-step process reduces mass, removes low value REs and

precipitates out the naturally occurring radionuclides all before separating out the magnet REs.

Pilot plant testing in 2020 confirmed the process' environmental advantages and successfully upgraded a Bear Lodge ore sample to produce a >99.5% pure Nd/Pr oxide; two elements key in high strength permanent magnets. This work demonstrated RE recovery could be done at a lower cost and in a more sustainable process than traditional methods.

## Our Rare Earth Demonstration Plant in Wyoming

Given this success, a GA-led team, including RER, began engineering and design work on a demonstration plant to scale up the process and generate the economic and operational data necessary for a commercial facility. At the same time, the team was able to secure financial participation by the Department of Energy (DOE) for \$21.9M, or approximately one half of the plant's initial budget estimate. Construction is expected to be completed in mid-2024 with operations to follow for 12 to 15 months.



Rare Element Resources and its partners, through development of the Bear Lodge Project, are striving to become the cornerstone of a domestic RE supply chain, providing a consistent, high-quality source of critical RE components to advanced technology applications.

**Rare Element Resources**

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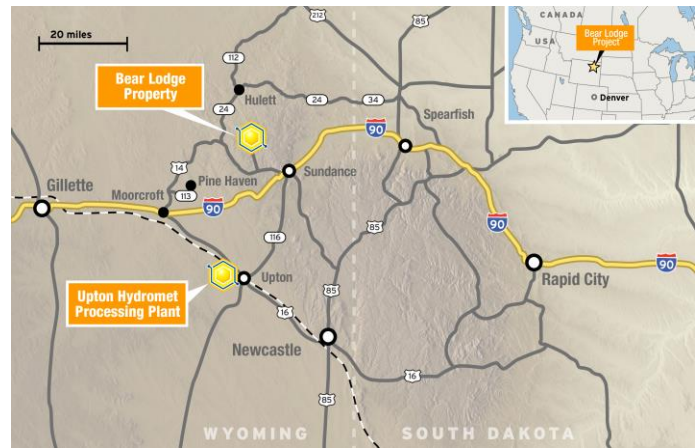
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Construction is taking part on two tracks. Site upgrades and renovations are progressing while equipment is being assembled offsite. This equipment will then be transported to the plant site on skids for assembly. Together this should allow for an expedited startup.

### **Bear Lodge Positioned to be a Secure Rare Earth Source**

The Bear Lodge Project, located in northeast Wyoming, is set to be a significant North American RE producer. Extensive geological and geophysical work completed on the Project has confirmed the quantity and quality of the mineral deposit making it a world-class mining district. This resource, coupled with its advantageous location and strong local support, position the project to become the cornerstone for a dependable, long-term domestic supply source of REs.

- **Outstanding Mineralized District** – Not only does the Project have a well-defined and drilled mineral asset, but it is also one of the highest-grade deposits for the critical magnet REs, most significantly Nd/Pr. Demand for these REs is expected to increase five-fold over the next 30 years, driven by their use in green technologies. With this anticipated growth, RER is focused on maximizing the value of these REs.
- **Additional Targets Identified** – Drill results on three additional targets within RER’s claims indicate good potential to extend the Project’s life.
- **Exceptional Location** – Wyoming’s history of mineral development and pro-business focus, coupled with its skilled workforce and business-friendly tax climate, make it an excellent state for our project. In 2022, the Wyoming Energy Authority (WEA) granted RER \$4.4M to use for construction of the demonstration plant. This strong statement of support demonstrates Wyoming’s ongoing commitment to creating jobs and economic diversity.
- **Excellent Existing Infrastructure** – The Project has easy access to a major interstate, transcontinental rail, natural gas, water, and low-cost power.
- **Permitting Work** – Significant environmental and baseline data has already been collected, and RER has established relationships with key federal and



state regulatory agencies. These efforts will set a good foundation when Project permitting resumes.

- **Technology Upside** – Additional future revenues could be generated through tolling of third-party materials.

### **Importance of a Reliable Rare Earth Supply**

Known as “the seeds of technology” REs make possible today’s technology – from the miniaturization of electronics, to the enabling of green and medical technologies. In permanent magnets, REs radically boost magnetic strength allowing applications to be smaller and more efficient.

China understood something long before the rest of the world – that REs were going to drive the future of technology. This realization led to a calculated strategy to establish control of the RE supply chain. In 2022, China was responsible for 85% of the world’s refined supply of RE minerals and 92% of the global magnet products.<sup>1</sup> This dominance has given China unfettered political and economic power and has allowed them to weaponized the exports of REs. Because of the importance of REs in both defense applications and technology advancements, this monopoly has raised significant concern. Both the Biden and Trump administrations have acknowledged that developing U.S. sources of REs is a matter of national security. Agencies like the DOE and Department of Defense have been actively supporting the development of projects in the U.S. and other allied countries to secure RE sources independent of China.

<sup>1</sup>Politico Magazine, “China Dominates the Rare Earth Market” 12/14/22