

# **A highly attractive 'US based' rare earths project awaiting funding**

As discussed previously the ORE Act introduced by Senator Ted Cruz is the first step in recognizing the need for a domestic supply chain for critical materials, including rare earth elements (REE). Additionally the US Defense Department recently stated that it will seek \$1.7 billion for rare earths purchases in the 2021 National Defense Authorization Act.

One of very few companies that has a quality US based rare earths deposit is Rare Element Resources Ltd. (OTCQB: REEMF). Their flagship project is the Bear Lodge Critical Rare Earth Project in northeastern Wyoming, USA. The Project has a projected 45-year mine life with an initial 9-year high-grade zone.

**Bear Lodge – A world class resource in a top tier mining district in Wyoming, USA – Location map**



In 2011, the US Geological Survey determined that the Bear Lodge Project contains one of the largest disseminated rare earth deposits in North America. Extensive geological work by the Company since 2004, including drilling, geophysical and geochemical sampling and assaying, has resulted in a Measured & Indicated Resource of **18 million tons grading at 3.05% Total Rare Earth Oxide (TREO)** at a 1.5% cutoff grade. This includes 3.0 million tons of Measured and 15 million tons of Indicated resource. Total contained M&I Resource is estimated at **over 450,000 metric tonnes of TREO**. It is worth noting that the cutoff grade is the starting point for some projects.

The site has easy access and within a short trucking distance there is an industrial park with a railway, utilities and large unused land. This is an advantage unlike a number of potential opportunities in the space which are located in remote locations with challenging logistics. The one challenge is that the deposit is in the Black Hills National Forest but with the current administration and the desire to establish a domestic source this should not be an impediment to

permitting. As indicated on their website “the US Forest Service is preparing the Environmental Impact Statement (EIS) on the site, the draft of which was completed in January 2016 and is now suspended. The Company completed its applications for two key permits/licenses with a goal of receiving them at the same time as the final record of decision, the decision document for the EIS, which is currently on hold until markets support resumption of the process.”

The project’s most valuable end-products are Neodymium and Praseodymium (Nd/Pr) oxide which would account for over 80% of total potential revenues. It has some Terbium and Dysprosium (Tb/Dy) (approx. 0.5%) which with Nd/Pr would produce 95% of the project’s potential revenues.

In February, 2020, President and CEO of Rare Element Resources, Randall J. Scott, stated:

“We are very encouraged by the pilot plant results using our proprietary technology to produce a thorium-free Nd/Pr oxide. This product is key to unlocking the supply chain for rare earth magnet production in the U.S. Our ability to produce this product is timely given the current interest and associated funding initiatives of U.S. governmental agencies. The Company recognizes the critical nature of the products produced from the Bear Lodge pilot plant and we will continue to work closely with those who can enhance our trajectory to full production.”

The October 2014 PFS resulted in a post-tax NPV10% of US\$330 million and a post-tax IRR of 29%. Even better was that the upfront CapEx came in at a very low US\$290 million with only a 2.9 year payback period. All very impressive numbers for a 45 year life project. The Company sees potential for further cost reductions helped by their proprietary technology, additional by-products. If they choose to take a modular approach to development then this could cut PFS initial capital costs by 50-60%.

The Company also stated:

“The attractive location is a key factor in the Project’s low capital costs. Its proximity to a major interstate highway and a transcontinental rail line, as well as the availability of low-cost power, natural gas and water, means infra-structure development costs will be low. Additionally, local communities will be an excellent source of skilled personnel as residents of the area are experienced in natural resource development and operations.”

Rare Element Resources has developed a proprietary RE recovery/processing technology. The technology has delivered a 99.999% pure, thorium-free TREO powder that has then been separated into heavy and light rare earth fractions in a single step. Optimization work continues with a focus on reducing costs and further separating the fractions into products attractive to potential end-users. This work was done with Umwelt-und Ingenieurtechnik GmbH Dresden, Germany (“UIT”), an affiliate of Synchron. Synchron, is a division of General Atomics, a leading US contractor to the defense department. Synchron owns 49% of Rare Element Resources after exercising its option to purchase company shares in October last year

Construction of the Bear Lodge Project is expected to take 12-16 months after receipt of the necessary permits (EIS on hold awaiting financing), completion of a positive Feasibility Study, and securing project financing.

### **Closing remarks**

Rare Element Resources has a highly attractive ‘US based’ rare earths project, with excellent economics, including a low upfront CapEx of \$290 million. All that is needed is some funding. Given the recent new high priority towards rare earths, and particularly US rare earths deposits, one would think that Rare Elements Resources’ fairly advanced stage Bear

Lodge Project would stand an excellent chance of achieving funding. It is certainly in the national interest.

The current market cap of Rare Elements Resources is just US\$84 million. Analysts see plenty of upside ahead with a price target of \$2.90 which compares favorably to the current price of \$0.812/share.