

On the threshold of a significant disruption to the domestic rare earths supply chain

In 1992, then Chinese Premier Deng Xiaoping pointed at Beijing's objectives saying: 'The Middle East has its oil; China has its rare earths.' This warning bell has been a wake up call in the midst of the current US-China trade war, especially given China now supplies 81% of the world's rare earths.

The US is now on a rapid search to find a secure source of rare earths outside of China, **ideally in the USA.**

Central to this rare earths supply problem is Heavy Rare Earth Elements (HREE), indispensable to a host of American industries including defence systems and artificial intelligence.

Ucore Rare Metals Inc. (TSXV: UCU | OTCQX: UURAF) is a well-funded development-phase mining company focused on establishing rare metal resources with near term production potential of heavy rare earths from their project in Alaska, USA.

Ucore's three key projects include:

- **Bokan-Dotson Ridge Rare Earth Project** in Alaska (Heavy Rare Earths – Dysprosium (Dy), Terbium (Tb) & Yttrium (Y)).
- **Ray Mountains Project** in Alaska (REE, Sn, W, Zr ± Nb, Ta heavy minerals).
- **The SuperLig®-One pilot plant** (an environmentally friendly, cost efficient separation technology for each

individual rare earth element).

Bokan-Dotson Ridge Rare Earth Project

Ucore's primary focus is the 100% owned Bokan-Dotson Ridge REE property in Alaska. The Project is located 60 km southwest of Ketchikan, Alaska.

Approximately 40% (by weight) of the rare earth elements contained on the Dotson Ridge property are heavy rare earth elements, including the critical elements Dysprosium, Terbium and Yttrium.



The Bokan-Dotson Ridge REE Project has the following benefits:

- The highest grade heavy rare earth deposit in The U.S. (NI-43-101 compliant).
- Excellent logistics: Only REE deposit worldwide with immediate deep water access. Accessible labour and prospective power.
- Anomalous skew towards Dy, Tb, Y which are among the most critical high demand HREE's.
- Located in Alaska, one of the world's leading mine friendly jurisdictions.
- Advanced metallurgy and separation regimes already established.

- Excellent local, state and federal support. In 2014 Ucore received unanimous support from the Alaska State Legislature authorizing the Alaska Industrial Development and Export Authority (AIDEA) to issue up to US\$145 million in bonds for the infrastructure and construction costs of the Bokan-Dotson Ridge Rare Earth Project.

Ucore's M3 Plan of Action

Ucore's M3 Plan to satisfy the needs of an independent American REE supply chain comprises three primary initiatives and commencing immediately:

- **Mine**— Advancing the HREE mine at the Bokan-Dotson Ridge Rare Earth Project to “shovel-ready” status.
- **Metal**— Developing the associated engineering for the individual REE and co-products processing and separation plant, the Alaska Strategic Metals Complex. Planned to be the first physical component of the mine, the Alaska SMC will be designed to process REE concentrate not just from the Bokan HREE Mine, but from other U.S. and U.S. allied-nation sources, into individual REE oxides for the burgeoning North American REE market.
- **Market**— North American market development and cultivation of the customer base for non-Chinese REE products in the Western World.



Mine

Bokan - Dotson Ridge HREE Mine

- 100% Ownership Rights
- PEA Development
- \$145 Million USD AIDEA Financing Approval
- \$35M CAD to Invested to Validate & Establish an NI 43-101 Inferred & Indicated Mineral Resource

Metal

The Mine's Alaska SMC REE Separation Facility & Separation Technology IP Acquisition

- 4 Years & \$9.9M CAD of IRAD to Develop & Plan to Acquire a Nanotechnology for REE Separation
 - First to Separate all 14 Commercial Lanthanides and Sc & Y employing Macrocyclic and Supramolecular Chemistry
 - Constructed a Pilot Plant for Commercial Scale-Up Verification of the employed Separation Technology Utilizing the Bokan Mountain Pregnant Leach Solution

Market

Non-Chinese Market Cultivation & Development

- Upstream Feedstock
- Downstream Utilization

Jim McKenzie, President & CEO of Ucore, stated: "Current international events suggest that the U.S. is now on the threshold of a significant disruption to the domestic REE supply chain."

The longer term vision for Ucore is also to become a leading advanced technology company that provides mineral separation products and services to the mining and mineral extraction industry.

The US needs to establish a safe rare earths supply source

Rare earths, and heavy rare earths in particular, are now among the most valued, sought after, and hard to obtain metals at a world level, especially outside of the China supply chain. No other naturally occurring materials are of greater strategic importance to the U.S. in terms of competing today at an international level with China. Industries that span all manner of high-tech applications, from national defense to AI, supercomputing, energy provision, transportation, and many more are heavily reliant on rare earth materials to enable the US industry to maintain leadership and a competitive edge with the rest of the globe.

Ucore's Latest news

Just in mid October Ucore announced: "The Company has finalized a project-specific advisory team for the purpose of designing its heavy rare earth element solvent extraction plant and processing capabilities in Southeast Alaska (the "SX Plant"), and with respect to its forthcoming anticipated proposal for near term U.S. Government funding.....The Defense Production Act (DPA) Title III office this year released a request for information on potential HREE separation in the U.S., which Ucore responded to in July 2019."

All of this means that Ucore is now firmly on the US Government's radar and increases their chance to attract further project funding. Ucore is already well advanced and

has a strong chance to progress to becoming a US rare earths supply source.