

# Dark Monazite at U.S. Rare Earth's Lemhi Pass confirmed by U.S. Geological Survey

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PLANO, May 19, 2015 - [U.S. Rare Earths Inc.](#) (OTCQB: UREE), a domestic rare earths exploration company, has demonstrated that the Dark Monazite (a unique Neodymium and Europium-rich mineral) at its Last Chance Mine has lower potential processing costs as a result of mineralogical studies and metallurgical testing completed on its stockpile material, the company announced.

The Last Chance Mine is located in the Lemhi Pass Area of Idaho and Montana, and it contains one of the longest identified mineralized veins in the region. The Lemhi Pass area has been identified as having over 200 mineralized veins. The company holds 140 claims in the Lemhi Pass area which cover a significant number of these historically known mineralized veins.

The United States Geological Survey (USGS) has identified the presence of Dark Monazite at the Last Chance Mine. This unique mineralization, enriched in the mid-rare earth elements (particularly Europium) provides multiple avenues for continued process innovation, with the potential for a very significant reduction in acid consumption compared to other deposits' processing methods, the company said. Acid leaching in Rare Earth processing typically adds a significant contribution to the operating costs.

## Lucky Horseshoe

One of the company's claims holds the Lucky Horseshoe deposit which is part of the Lemhi Pass mineral trend and has been extensively studied in efforts led by Dr. Virginia Gillerman's Idaho Geological Survey's (IGS) team. Dr. Gillerman considers the Lucky Horseshoe and Last Chance veins to be part of the Lemhi Pass trend of mineralization, which typically has very high neodymium and europium concentrations. These are two of the highest-value rare earth elements.

Dr. Gillerman comments, "The entire Lemhi Pass district is enriched in mid-rare earth elements, and our team successfully used lab-scale standard crushing, gravity separation, and stepwise magnetic separation to provide a monazite fraction for detailed scanning electron microscope and microprobe analysis."

Both Hazen Research and IGS teams were able to effectively separate the enriched monazite from the gangue minerals with methods appropriate for scaled-up evaluation. The percentage of mid-rare earths in the monazite is significantly enriched up to 35% (by weight) of neodymium oxide and 5% (by weight) of europium oxide, levels not previously known to be found anywhere else in the world.

During the last two years, the company has pursued advanced exploration of the Last Chance Mine project, where, to date, over two short tons of material have already been removed from the mine-stockpile and sampled for metallurgical tests.

Kevin Cassidy, CEO of US Rare Earths, commented, "The metallurgical tests proving the Dark Monazite component of the mineralisation have come back with results far beyond our expectations. This met work is the key preliminary development work to move the Last Chance Project towards a low-cost, proven and feasible project. These works, moreover, provide a viable road map for continued improvements in beneficiation in follow-up and advanced work."

## Metallurgical Testing

In summary the work to date indicates that the main high-value rare earth minerals are Dark Monazite, enriched in Neodymium, Europium, and Xenotime (an Yttrium Phosphate mineral).

Moreover, early liberation and magnetic separation tests indicate that the cost of grinding the mineral will be lower than expected, because less than 0.1% of Total Rare Earths (TREE) plus Yttrium stays in fractions larger than +14 mesh, allowing for the possibility of a considerable reduction in material grinding for beneficiation. Grinding is typically one of the major contributors to processing cost.

The initial results of magnetic separation work potentially allows the company to process only 38% of the

bulk weight, with approximately double the "as-mined" rare earth concentration. Recoveries were in excess of 92%.

The recovery rate of the following assayed rare earths, based on feed to testing, was Lanthanum 94.1%, Cerium 94.1%, Neodymium 93.8%, Praseodymium 93.8%, Samarium 88.2%, Europium 92.8%, Gadolinium 91.6% and Yttrium 93.1% in 38% of the feed. The heavy rare earth fractions were not assayed at Hazen Research during these initial test sequences. The company anticipates that further metallurgical testing can improve on these results significantly.

The company believes downstream leaching acid consumption and processing costs will be greatly reduced from this result.

Multiple leaching tests were conducted independently by Hazen Research and SGS Mineral Services Canada on non-magnetically concentrated bulk sample material. Rare Earth extraction yielded recoveries of 79-78% for the light to heavy rare earth fractions and demonstrated the technical feasibility of higher recoveries. Continued optimized testing is anticipated by the company to improve these recoveries and future leaching tests will benefit from using the magnetic concentrates developed at Hazen Research.

### **Forestry Permit**

In further developments, the company has received a US Forestry Service metallurgical sampling mining permit for the Last Chance Mine which will allow accelerated project development in the beneficiation and separation of the rare earths.

### **About U.S. Rare Earths, Inc.**

[U.S. Rare Earths Inc.](#) is a U.S. based domestic mineral exploration, mining and claims-acquisition company based in Plano, TX. The Company holds approximately 22,000 acres of mining claims for rare-earth elements in Colorado, and in the Lemhi Pass Region of Idaho and Montana. The company is in the exploration stage and does not have any reportable reserves.

Rare earth elements are critical to many existing and emerging 21st century applications including clean-energy technologies such as wind turbines, hybrid cars and electric vehicles; high-technology applications including cell phones and digital music players; hard disk drives used in computers; microphones; fiber optics; lasers; and in addition, critical defense applications such as global positioning systems, radar and sonar; and advanced water treatment applications, including those for industrial, military, homeland security, domestic and foreign aid use.

IGS is administrated through the University of Idaho, Moscow Idaho.

For more information visit: [www.usrareearths.com](http://www.usrareearths.com)

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