



FIPR Institute

January 4, 2012

Mr. James Kennedy
Th.REE-M3 LLC
P.O. Box 410380
St. Louis, MO 63141

Dear Mr. Kennedy:

Thank you for your inquiry about the potential for Rare Earth Element (REE) production as a byproduct of Phosphate mining. Research on this issue was recently conducted by the Florida Industrial and Phosphate Research Institute, University of South Florida Polytechnic.

On an aggregate basis the total potential for recoverable REE resources from phosphate mining in Florida is around 22,600 tons per year. These numbers are based on annual production of about 20 million tons per year of phosphate rock product analyzing 700 ppm REE, and 20 million tons each of sand tailings and waste clay at approximately one third of the REE concentration in the rock product. A 50% recovery rate would equate to nearly 100% of current U.S. demand.

Low mineral concentrations do not present an insurmountable economic impediment to recovery because there are no direct mining costs associated with the Rare Earths. Furthermore, as a result of the high specific gravity of the mineralization low cost gravitational separation is possible within, and/or, at the end of the normal beneficiation process.

The old phosphate waste clay associated with historical mining operations is another potential source for REE. According to a 1989 study by Mobile Research, waste clay contained as much as 336 ppm of REE. Florida has accumulated over a billion tons of such waste clay, making this one of the largest heavy rare earth deposits in the U.S.

Some of these Rare Earths in Florida phosphate are associated with Thorium and Thorium's current regulatory status and complete lack of markets creates a liability that may exceed the economic value of these resources. Something needs to change.

Making regulatory changes and developing markets and uses for Thorium is one of the keys to unlocking these valuable resources for Florida and the United States. I appreciate your efforts in this, and hope this information is of use to you.

Best regards,

A handwritten signature in black ink, appearing to read "P. Zhang", written in a cursive style.

Patrick Zhang, Ph.D.

Research Director - Beneficiation & Mining