

Dr. Laurino on pulling rare earths out of phosphate waste

December 14, 2015 – During the recent Technology Metals Summit, we had a panel titled **Future High Tech uses and sources of Technology Metals: Coming Attractions** that propagated a great deal of interest in Dr. Joseph Laurino. Dr. Laurino, President, CEO, and CSO of Periodic Products Inc. was in attendance after having just presented his results to the Phosphate Institute on pulling rare earth elements out of phosphate waste products two week earlier. He says “The goal of our company is not to go into mining or any real industry. We actually develop intellectual property. That’s what we do and that’s what we’re going to basically continue to do. We find people out there in whatever market there is to partner with and we want to apply technology that we actually have to whatever kind of problems you may have.” Hear Jack Lifton, Sr. Editor of InvestorIntel and several others engage in a dialogue and debate on how much rare earths may be accessed through this extraction technology process.

✘ **Dr. Joseph Laurino:** My name is Dr. Joseph Laurino, of Periodic Products. What we have is a series of plastics that actually flow onto water, bind metals, certain metals, and then sink. That’s our overall technology. The plastics have very, very interesting properties. They don’t bind sodium, calcium, magnesium. We can find the needle within the haystack if you will. Having that we also use the properties to make a series of extraction solutions, leaching, leaching solutions that – you can wash solids, soils or waste with these solutions and then the plastics can easily pull them out. Why am I here? Well, about a year and a half ago the Phosphate Institute gave us a grant to look at pulling rare earth elements out of the phosphate waste products. The results were actually presented about 2 weeks ago and we’re

able to pull out the waste elements out the rare earth out of the waste products in yields of about – 60% to about 70%. Prior to this they were able to pull it out at about 5% or 10% or so. If you then can open up the phosphate waste products as a source for the rare earth elements you can – there is a lot of phosphate ore mined and you can look at about 100,000 tons of the rare earth elements in the waste globally. It's a huge potential market.

Moderator: Can you explain a little bit more about the technology and where you are on the patent application process?

Dr. Joseph Laurino: The company currently has four separate U.S. patents for both the synthesis of the family. They have, if you will, claws, so we can move the claws around to bind various metals. We also have other kinds of patents, patents for the uses. We have four granted U.S. patents, 22 international patents. We have three separate patent applications in the U.S. and we have a couple of PCTs outstanding...to access the Technology Metals Summit panel, [click here](#)

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