



Commodities Commentary

**The Rare Earth Metal's Shortage**

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America has a new dependency and it is not Middle East oil. It is instead several arcane metals known as rare earth elements (REE). I recently completed a due diligence trip to a new Discovery company of interest. Today I write on my experience with Avalon Rare Metals.

Rare earth metals are found almost exclusively in China. China, it seems, is likely to withhold these crucial metals for its own needs. Europium and Yttrium oxides (two of the rare earth elements) sell for USD\$450 per kilogram and \$15.50 per kg respectively. China has recently reduced both 2009 export quotas of these rare earth elements by 6.05% and 34% respectively.

In general these metals allow US companies to refine oil and build all sorts of information processing products for the new digital age. According to recent research W. R. Grace, for example, has only a three month supply of these metals.

Rare earth elements are critical to the information age. They will be an important piece of a clean and potentially green energy future. They are used in iPods, Blackberry's and plasma TVs. They are also important components of the magnets in electric motors sure to be important as electric cars become more plentiful. I will write more on that application in a future article. In most applications there are no substitute metals for rare earth elements.

And so in Canada's remote Northwest Territories I completed a visit to Avalon's Thor Lake rare earth deposit. You may remember Thor Lake itself. Many years ago a Russian satellite crashed into the lake causing considerable angst amongst the Canadian government to say nothing of the local First Nations people. The lake was frozen at the time and the beryllium heat shield from the Russian nuclear reactor was found out on the ice.

The Thor Lake deposit is an amazing ore body with a complete suite of both light and heavy rare earth elements.

And so an enterprising Canadian exploration company called Avalon Rare Earth Inc. is now developing one of the world's largest and highest quality light and heavy rare earth deposits. It's located a few miles from Yellowknife, the capital of Canada's Northwest Territories. Yellowknife is closer to Tokyo than Vancouver.

The ore body is situated on the Hearne Channel of the Great Slave Lake (one of the ten largest and 6th deepest lakes in the world) it is easily accessible by barge. Avalon's CEO Don Bubar has assembled a team of experienced and dedicated employees. I counted 164 drill holes in the ore

body which extends over 10,500 acres. Get the picture? This ore body will be developed because a rare earth deposit is, in Avalon's grade and configuration, rarer than rare. The ore body contains 61.1 million tonnes at a grade of 2.05%. An NI 43-101 instrument (required Canadian certification) has been completed detailing and verifying the grade and tonnage. An important advantage of the Thor Lake ore body is that it contains the valuable and scarce heavy rare earth elements.

A word on definition: Avalon's heavy rare earth metals are oxides of, Europium, Terbium, Dysprosium, Gadolinium, Thulium, Lutetium, Thulium and Ytterbium. These always occur together. This, evidently, is God's will! There are other metals in the Avalon deposit at Thor Lake including gallium, niobium, thorium, zirconium, beryllium and more. We leave the analysis of these metals for another day. You probably have never heard of these arcane metals before – but please believe me they are critically important to the 21st century US and Canadian economies. Do a little research on the Internet and you will quickly realize their importance

Some thirty years ago the great liberator of China's economy, Deng Xiao Peng remarked that China would eventually become the Saudi Arabia of rare earth elements. His vision n has proven correct. There are a few rare earth deposits in Canada. Avalon's Thor Lake is one and Qwest Uranium is another. There is one known deposit in the US.

I recently visited Capital Hill in Washington DC where I found a number of legislators expressing serious concern over the new dependence of the US on China's rare earth largesse. The Defense Strategic Stockpile lists 24 metals that we must be import (100%). Rare earth elements are almost certainly at the top of this list. It is worrisome that Congress is close to passing a punitive mining law that will seriously impact the exploration for and development of such valuable resources in the US. Few people realize the impact that such a mining law may have on our economy.

Avalon's shares have recently moved much higher. May I encourage you to examine this discovery investment? My focus everywhere and always is on a technique I developed after teaching at the University of Virginia and James Madison University for many years and then working with Heartland's Bill Nasgovitz on micro caps analysis. I have called it Discovery Investing. As such I spend about 60% of my time in the natural resource sector.

*Dr. Michael Berry is the former Wheat First Professor of Investments at James Madison University and an Assistant Professor of Business Administration at The University of Virginia. He is also a former Wall Street money manager. He has spent the last 5 years developing the discipline of Discovery Investing. Dr. Berry believes that the coming resource constraints in the world, stimulated by a rising Quality of Life Cycle in the emerging world, will require significant discovery efforts in many different areas including natural resources, bio tech, high tech and infrastructure development. He publishes Morning Notes by Michael Berry. These are complementary and may be accessed at: [www.DiscoveryInvesting.com](http://www.DiscoveryInvesting.com).*