

The U.S. Military faces the Rare Earths Supply Chain Gallows

“The industry is not mining, but its being directed by the mining industry – and its just not the same” explains an anonymous source that I pistol-whipped with questions on rare earths earlier this morning. Undoubtedly never to answer my calls again in the future, I start with: “I have been in the industry for 10 years and if I don’t understand, how can we expect anyone else too?”

10 years in the business and the reason I cannot quit the rare earths industry is that its like a high level business sudoku puzzle aching for a remedy. And no one can solve it because the rules change depending on what piece of propaganda you want to quote. With media sources texting me daily, the result is a regular agitation mobilizer, a spin cycle of the wrong data rotating around regularly without any resolution thanks to the internet and social media plagued by misinformation. And respectfully, these journalists, who are on a fact-finding mission to sort their message have yet to find a holy grail of information, just endless disjointed content of disinformation to which they cannot sort because even the experts can’t agree.

Determined to be a part of the supply chain remedy, having invested the hours, and well – I do believe that if we do not sort this out, our history books are going to have a lot of chapters that will start with: “we should have done...we could have done...but we didn’t.”

Taking an industry leader to lunch last month, he explained to an esteemed colleague that the real supply chain issue in North America is simple: **we cannot produce with the same cost**

efficiency of the Chinese. Talk to him and one would conclude that the game is over, in fact, it never started. That same week I spoke with an expert in Korea who was explaining how Chinese dealing with significant water issues. Hyper focus for a moment, and the theme of that conversation was that the real reason for the influx in the rare earths media attention is that the Chinese want the North Americans to get an opportunity to pollute their waters and air in the same way they have in taking over the global rare earths industry?

Make no err of understanding that this business is a dirty one, but the rumors of collusion and conspiracy make spy novels pale in comparison. Could this industry be that smart?

I would argue not, but it is indeed complex. And this debate does require a white board, a global map and toss in some basic history – and you too may radiate a false sense of intellectual superiority.

For the sake of this rare earths' discussion, we are dealing with 4 of the 17 rare earth elements known as the magnetic materials. The 4 magnetic materials heavily in debate in the news are usually about Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy) and Terbium (Tb). And the question we are discussing is **how the U.S. military will secure an independent source of rare earths and what will we need to do to create a supply chain to achieve this goal.**

Sounds easy, right?

Industry expert Alastair Neill agreed to go on record, he starts, **"The challenge is that the military wants to get independence from Chinese sourcing. The problem is that the military does not buy oxides, they buy components with the rare earths in them. What we need is the ability to convert oxides into metals and the metals into alloys and then turn these alloys into magnets."**

Let me add, Alastair also invested 20-minutes reminding me of

the 4-stage process for securing rare earths: (1) Mining – Source must be mined, result is ore; (2) Extraction – the ore must be turned into concentrate; (3) Separation – the concentrate is turned into oxides; and finally, (4) Metallization – the oxides through chemical processing are then turned into metals. Now if you re-read Alastair's quote, he starts at how the U.S. supply chain cannot handle the oxides (reference #3), without the oxides being turned into metal (reference #4), and then the metals being turned into alloys (welcome #5) and then the alloys, then being turned into magnets (final stage? Level #6). How many steps? I count 6 – clearly, this is not the same as mining gold.

To be clear, in the next couple of pieces on InvestorIntel I will examine trying to find the sources to mine, or stage 1 in the supply chain as presently we have only one producing, and the ownership includes Chinese investment. Get ready Hoidas Lake...am going down this road next!