The Rare Earth Landscape 2025: Part IV – Fantastical Claims and the Harsh Realities of Mining Economics

written by Jack Lifton | January 5, 2025

We have recently been informed by both a paid and an ignorant media that some jurisdiction or other has the “largest” discovery (not a deposit, which is a discovery with proven economic (profitable) potential) of “rare earths” in the world. Since the English language has no degree of comparison after “largest,” I suggest that we use the term “bullshit” when describing a discovery that promoters refer to as the “largest.”

I note here that the best discoveries of desired minerals are accessible and can be brought into production with acceptable and available infrastructure costs using current technologies at a cost that allows their output of minerals or processed forms to be regularly sold into the world market profitably.

In 2025, we were regaled with announcements of the discovery of the world’s largest “deposits” (see above definition) of rare earths in Wyoming (USA) and Sweden. Now, for cheap political reasons, Greenland has joined the list.

Greenland’s mineral “wealth” are said to include, of course, the largest undeveloped “deposits” of rare earths and, wait for it, drum roll please, “Uranium!” in the known galaxy as William Shatner, pretending to be the captain of an enormous exploration vessel, might well point out.

For you ladies and gentlemen who don’t understand economics, I

might point out that “mining” an asteroid made of, for example, iridium would crash the market, with a supply vastly exceeding any demand, and so would be a worthless endeavor. The otherwise well-scripted television series For All Mankind makes this economically ignorant error a key storyline.

The metallic content of asteroids and the accessible surface of other planets could not possibly be valuable enough to recover and transport to Earth EVER!

I often wonder if Gates, Bezos, and Musk understand that mineral economics is governed by the rule of “produce it for less, sell it for more.”

Now, back to Earth and Greenland. Yes, there is uranium mineralization there, but the Greenlanders do not want the mining of radioactive materials in their country. The rare earth minerals in Greenland also contain thorium and uranium. When concentrated to economically workable levels, the radioactive thorium is often the highest element concentration in the mixed ore. The Greenlanders are not happy with this.

Mining companies have long considered Greenland a potential source of rare earths, bauxite, and uranium. However, expensive and inefficient process chemistry and politics have combined to defeat all such attempts.

The latest, serious venture is being carried out by China’s Shenghe Resources, a large state-backed and experienced miner of rare earths with radioactive content.

Donald Trump won’t be able to buy Greenland or conquer it with the Woke brigades of the formerly formidable U.S. military.

In any case, the Greenlanders will insist that the maximum value of its resources occur in Greenland, to the benefit of

Greenlanders.

So, nothing will come of the discoveries in Wyoming, Sweden, Greenland, the asteroid belt, or Mars.

May I suggest a filter? Why not look for discoveries that can be economically and profitably developed into producing mines in North America and the friendly states of South America?

And watch out for overreach. Financial fantasists, seeing that mining and first-stage refining (separation of individual rare earths from the natural mix, for example) cannot be profitable in most cases, announce that they will go downstream to higher-value-added products. This is always due to a lack of understanding of the true costs and difficult-to-master process technologies in the complex supply chains of value-added products.

Nowhere today is this overreach more notable than in the attempt of mining companies to go "downstream," in the case of rare earths, from the "mine to the magnet."

At best, this is a long trip with steep learning curves and very expensive. It is not a trip that the inexperienced in profitable production or not staffed with experienced engineers and workers should even attempt.


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