



Mercenary Geologist RAPHTE

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EARLIER THIS YEAR YOU WERE VERY VOCAL ABOUT GRAPHITE BEING A BUBBLE...

It was a bubble, and one that burst very quickly. The price of graphite has dropped about 30 per cent from its high about six months ago.

About 40 or 50 public companies piled into this space over the course of six months or so. Many of them came on about the time the price started went down again so I would imagine most of those companies are going to purgatory for awhile. Where they go from there remains to be seen.

IS THE MARKET FOR GRAPHITE AS EXCITING AS PEOPLE SAY?

It's a supply- demand thing, the Chinese are running out of flake graphite; most of what they mine is amorphous graphite. They are consolidating the domestic industry and restricting exports, as they have with all the specialty commodities.

There will be increased demand for lithium-ion batteries and that has nothing to do with electric cars in any way shape or form; it's because there's increased demand for small lithium-ion batteries. Historically those have used synthetic graphite, but synthetic graphite costs five to ten times what natural graphite costs; so we are now developing the technology to use natural flake graphite by converting it to spherical graphite. Very high purity spherical graphite is required for lithium-ion batteries. A lithium-ion battery uses five times the amount of graphite as it does lithium. Therefore, increased demand is largely technology driven.

ALL THESE FIELDS ARE EXPANDING WHILE THE SUPPLY SIDE IS GETTING SQUEEZED...

That's exactly right, especially outside of China. Most of the demand for lithium-ion batteries comes out of the Far East: Japan, Korea, and China, so there is a large end-user market in those venues.

There's a demand availability in the market that needs to be filled with new supply and the people that have the most advanced projects will be in production first and they will fill that need and everybody else gets left by the wayside."

It's the same old thing where the Chinese undercut the graphite market in the late 1990s to early 2000s, and mines failed in Canada, Sweden, Brazil, and elsewhere. Those old projects and mines are being revitalized right now.

Flinders Resources, Focus Graphite and Northern Graphite are the three TSX companies that are probable winners in this space, at least in the short to mid-term.

There's demand availability in the market to be filled with new supply. In my opinion, the few companies that have the most advanced projects with good economics will be in production first, they will fill that need, and everybody else will be left by the wayside. The three aforementioned companies are the ones that are furthest along toward production. Whether their projects are economic and, in the latter two instances, can be financed to production remains to be seen.

AS TO QUALITY...

Graphite deposits have two key components: flake size, which is the individual graphite particle size and grade. So having a larger flake composition and distribution and a minimum grade of about five per cent graphite is generally ideal. Less than that grade requires mining a higher tonnage to obtain the end product and results in a higher cost of production. This can be balanced somewhat by a larger flake product that commands higher prices on the market. **IR**]

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The Mercenary Geologist Michael S. "Mickey" Fulp is a Certified Professional Geologist with a B.Sc. Earth Sciences with honor from the University of Tulsa, and M.Sc. Geology from the University of New Mexico. He has 35 years experience as an exploration geologist and analyst searching for economic deposits of base and precious metals, industrial minerals, coal, uranium, oil and gas, and water in North and South America, Europe, and Asia. Mickey is well-known and highly respected throughout the mining and exploration community for his ongoing work as an analyst, writer and speaker.