

Molycorp – The Great Rummage Sale begins

☒ It is sometimes said that after a nuclear holocaust the only lifeform that will survive will be the cockroach. That said there are some hardy cockroaches indeed in the Rare Earth space. Indeed some managements must be almost masochistic in persevering despite the opprobrium heaped upon the metals they pursue and their own companies. Nevertheless Darwinian forces are at work and the original 200 plus Rare Earth wannabes have shrunk to a couple of handfuls. These are definitely the cockroaches..

But one may well wonder whether it is much fun to live in a post-nuclear world. What is the future for the survivors?

All the Right Pieces in All the Wrong Places

The US Rare Earth “giant”, Molycorp, is now a wounded beast and is going down fast. The hyenas are circling and the question is what value can be rescued from the ruins.

In popular imagination Molycorp is a mine with a processing plant, but long before that it was an agglomeration of assets including some small manufacturers scattered around the globe and some larger assets such as the Silmet plant in Estonia. It then transformed itself with the pricy purchase of Neo Materials which brought it a processing and distribution Empire which also included assets in other metals, such as Gallium. So while the Mountain Pass mine itself may have gone the way of the dinosaurs, and much of the costly infrastructure around it appear redundant, there is still value to be rescued from the broader Molycorp empire.

As we well know the Neo Materials entity did very well all by itself in the Great Rare Earth Boom. It did not need to be vertically integrated with a mine (though there are some

arguments that it may have inevitably been forced into that if China has applied the thumbscrews). However the Molycorp merger resulted in it being part of the same corporate grouping as a mine but was it actually vertically integrated? Was Silmet vertically integrated with Mountain Pass? Silmet's raison d'être was to process product from the Loparite mines in Russia's Kola peninsula, not to take product from the Californian desert.

We have all played Monopoly at some time or another with one of those players that buy whatever property they fall upon and they end up with a ragbag of assets and no sets of properties that you can take further (i.e. build houses or hotels). Molycorp's strategy was akin to this. It had some interesting "bits" of the global Rare Earth equation and while Neo Materials was like Monopoly's Park Lane card, Mountain Pass was definitely more like the Old Kent Road card.



So what might play out here? Clearly Mountain Pass is likely to return to being a playground for rattle snakes and jackrabbits. It is a great shame that so much above-ground infrastructure is there that shall be surplus to requirements. It has long been my contention that Molycorp should have had a second string to its bow in the form of a smaller Heavy REE focused mine somewhere. If it had done this then the existing processing facilities could have been utilized, repurposed and/or relocated to service a new mine with a more market-amenable REE mix. Instead we have a sizeable plant in the wrong place, designed for the wrong REE mix and arguably way over-sized for whatever "new" REE mine might be able to supply it.

So Who Gets What?

The emotions of Molycorp management must be torn. Most coming from the old Neo Materials are probably wondering how they can

get their hands on their old assets and ride off into the sunset. Possibly even Silmet and the other "early" acquisitions of Molycorp could be bundled with the Neo Materials processing and distribution network and make some sense. Ideally a private equity firm might back the escape bid giving the MCP debtholders some "widow's mite" to, in some small way, compensate them. The question though is what happens to the mine (essentially useless) and the plant at Mountain Pass. This is where opportunity knocks. But it is also a test of the credibility of the remaining REE *cucurachas*.. We could conjure with at least 4-5 names that could "do something" with the MCP mill and plant, if only their own projects were in a state to move forward. Even more critically though the managements would have to be serious about becoming producers. Conceivably an owner of a North American REE mine project could make a case to the debtholders for knocking together their mine with the Mountain Pass kit and making a more viable concept than the original Molycorp proposition. Why are they not stepping forward for this once in a decade opportunity?

On other fronts, the Silmet asset is looking vulnerable with its Russian supply source exhausted and its US "source" (even if merely theoretical) being shuttered. Then what to do...? The answer is for a combine between Tasman with its Norra Karr deposit in Sweden and the Silmet plant just across the water. Will this happen? We doubt it.. makes too much sense..

Conclusion

Rare Earth assets may be at giveaway prices these days and Molycorp may look like a doomed wildebeest, but there is material here to make a silk purse out of a sow's ear. The core Neo Materials assets are largely intact within the stricken corporate shell and the secret is going to be to apply some financial wizardry to liberate them without letting the debtholders realise the value of what they have. Even the rump Mountain Pass processing operations could be combined

with an existing project and given renewed life force. Silmet is somewhat more problematical but a combine with a European-based REE wannabe could give both parties a well-needed fillip.

Fortune favours the bold and the travails of Molycorp are producing a unique opportunity to other Rare Earth players to become hyenas and pick over the bones for tasty morsels.

Ecclestone on Tasman Metals: Dedication to rare earth production and a Zirconium 'kicker'

Ancient Greek and the Scandinavian region have been the inspiration for most of the names of the elements in the Lanthanide series of the Periodic table. Ancient Greek is a perennial for naming elements but Scandinavia came into its own with Rare Earths grouping because of the "discovery" of Rare Earths in Sweden back in the 19th century. Amongst those elements with Nordic nomenclature we have Terbium, Yttrium, Scandium, Ytterbium, Gadolinium, Holmium, Thulium and Erbium.

While Tasman Metals Ltd. (TSXV: TSM | NYSE MKT: TAS) is the leader in Scandinavian Rare Earths, it and its quasi-sister company Flinders have been named by their antipodean progenitors after famous explorers of the Great South Land, providing a paradoxical link between global extremes.

Norra Kärr

✘ Tasman's main target, if one needs reminding, is the Norra Kärr project located approximately 300 kms south of Stockholm. The project is near the towns of Jönköping and Linköping, from whence would come the required workforce for the mining operations.

The property was initially discovered in 1906. It was explored by the Swedish mining giant, Boliden AB, for nepheline in the late 1940's, and for Zirconium and Hafnium in the 1970's. However it was relinquished in 2001 and data from these previous efforts was only made available in 2009. The Swedish government declared it to be a "Project of National Interest" in 2002 which prevented conflicting land use.

Tasman claimed the ground in mid-2009 and first drilling began in December 2009 with a goal of proving up a heavy rare earth and zirconium resource. The deposit now has in excess of 100 holes amounting to around 12,000 metres. The first NI43-101 compliant resource was released in November 2010 and an updated PEA came out in July 2013.

Zirconium – The Bonus Metal

It is worth digressing into this metal because the traditional focus on Tasman has been rightly on the Rare Earth component but this metal is also an important part of the revenue mix. The closest parallel to Tasman, and an inexact match, is the Dubbo project of Alkane Exploration which in its mix of metals also can boast of being both Rare Earths and Zirconium. Frankly these days having any metals that can add to the value mix is a plus for the economics of a REE project (with Texas Rare Earths being the *non plus ultra* of multi-metal REE deposits).

As we shall discuss further on the Zirconium component makes for a useful percentage of the Norra Kärr product mix. Zirconium is mainly used as a refractory and opacifier, although it is used in small amounts as an alloying agent for

its strong resistance to corrosion.



The principal commercial sources of zircon are Australia, Brazil, India, Russia, South Africa and the United States, however the overwhelming amount of production (80%) of zircon mining occurs in Australia and South Africa. It is estimated by the USGS that Zircon resources exceed 67 million tonnes worldwide and annual worldwide zirconium production is approximately 1,400,000 tonnes. Zirconium is a by-product of the mining and processing of the titanium minerals ilmenite and rutile, as well as tin mining.

Most zircon is used directly in commercial applications, but a few percent is converted to the metal. Commercial-quality zirconium for most uses still has a content of 1% to 3% hafnium. This contaminant is unimportant except in nuclear applications. This brings us back to Boliden's original interest in the Norra Kärr deposit.

According to projections from Alkane Resources the global market of Zircon is worth around US\$2-3bn per annum. It also claims that, during 2014, consumer zircon inventories have been running down, then it expects the market to stabilize through 2015-2016, with a CAGR anticipated at 5%-7% pa over the next few years. Pricing in recent times has been around US\$1,400 per tonne for Zr imported into the US.

The PEA

As mentioned earlier, in July 2013, Tasman released an updated PEA on its main project. The chief findings were:

- an NPV of \$1.46 billion using what the company called a "conservative" metal price assumption
- an in-pit mineral resource of 41.6 million tonnes grading 0.57% TREO (51% HREO/TREO) and 1.7% zirconium in the indicated category

- 16.5 million tonnes grading 0.64% TREO (49% HREO/TREO) and 1.7% zirconium in the inferred category.
- an estimated mining rate of approximately 6,800 tonnes per year
- a 40-year mine life

The PEA estimated an initial capex of \$266 million for mine construction and start-up working capital (this included a 20% contingency of \$42.8 million). The Norra Kärr project has the advantage of already extant infrastructure including road access, power lines close by as well as rail access within 15 kms. This capex is neither high-end nor low-end. It would probably need an offtaker to be secured and/or a relationship with a nearby processor (as we shall discuss anon).

Operating costs were estimated at \$10.93 per kg of mixed TREO concentrate output.

Tasman has filed and been granted its mining lease for the project and continues to progress on the metallurgical testing that includes the development of a mineral concentrate as well as a mixed rare earth product for separation. The main byproduct of the project is zirconium though Tasman is also investigating the potential sale of nepheline to the glass industry in Europe.

The Revenue Mix

Tasman, like Rare Element Resources, has taken up the practice of using the term, CREOs (critical rare earth elements) to differentiate its product mix from that of the Great Unwashed of the REE space. The company projects that the majority of its future revenue (over 85%) is expected to come from only four major elements amongst the so-called CREOs. These include Dysprosium, Neodymium, Terbium and our old favorite Yttrium.

This is once again a tacit recognition by yet another company in this space that Cerium and Lanthanum are essentially “throwaways” in the mix, if not deleterious elements (in the

financial sense of the word). Tasman asserts that it is not reliant upon revenue from the lower value light rare earth elements, such as Ce and La.

The “Failed” Merger Attempt

Earlier in the year Tasman Metals Ltd. (TSXV: TSM | NYSE MKT: TAS) took the opportunity of the relative strength of Graphite to announce a merger with another company (**Flinders Resources** – TSXV: FDR) in its corporate grouping to corral all the cash into one place and run with two projects at once in the same country. This was an admirable facing of reality. Eventually the cashflow from graphite start-up (which is near to production) would help get the REE project onto its feet. This also tempted us to think that it might make sense to get a Stockholm listing once revenues kick in and lessen the sole focus on TSXV-type investors. However as things panned out the market hated the deal and it came to grief.

The More Obvious Synergy

With the Flinders deal having died the death, it does not mean that Tasman is no longer takeover material. In fact less financial and more synergistic deals could still be mooted. The one that strikes us as most obvious is some sort of arrangement with the 800-lb gorilla in the REE space, Molycorp. The rationale behind this one is simple in that Molycorp owns the Silmet processing plant in Estonia which used to source the bulk of its material from the Russian loparite mines. With those mines in a state of decay, the next obvious source with reasonable proximity is Norra Karr with a rather short maritime voyage away. Molycorp is not in the healthiest of conditions itself these days, but should it survive this current swoon then the synergies between these two assets are pretty clear. It would be interesting to know what sort of savings on the Tasman capex might be able to be achieved by exploring this possibility of a tie-up.

Conclusion

That elusive goal of marketing industry folk, the USP (Unique Selling Point), is now the Holy Grail of Rare Earth companies as well. The hunt is on to find ways to discriminate themselves from the rest and in the process get themselves into the First Class lifeboats. Tasman main things it has going for it are its management's dedication to production, the presence in the heart of Europe, the proximity to Molycorp's Silmet facility, a capex number in the lower half of the project inverse and the hitherto little noted Zircon "kicker" in the revenue mix.

A thought came to us (with our i-banker hat on) that while Molycorp taking over Tasman might be conventional thinking, a better outcome (given the current travails of MCP) might be MCP folding Silmet into Tasman and in the process becoming the largest shareholder in a merged entity. This would create an integrated European REE producer. Just a thought....