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.

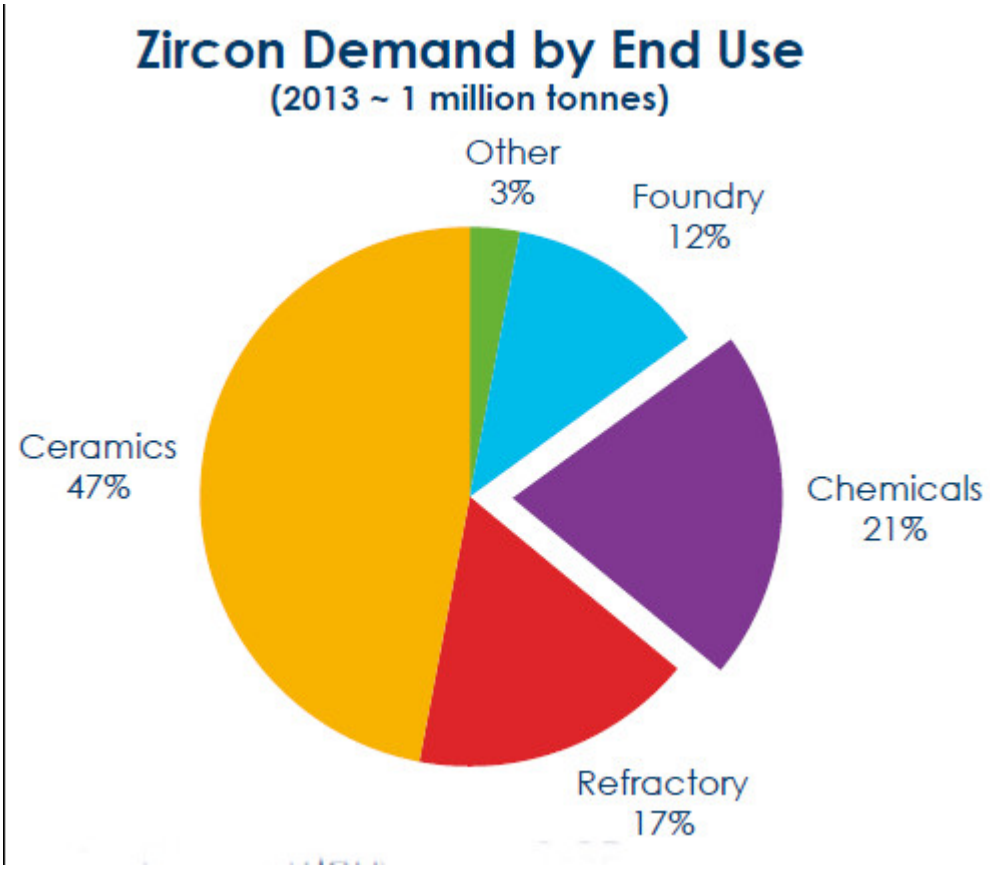
However it was relinquished in 2001 and data from these previous efforts was only made available in 2009. The Swedish government declared it to be a “Project of National Interest” in 2002 which prevented conflicting land use.

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…..