

Hastings' Heavy Rare Earth Project gains Ground from Technology Advancements

Posted on November 28, 2012 by Alessandro Bruno



In November, the Australian Nuclear Science and Technology Organization (ANSTO) has completed a second phase of its 'extraction of target minerals' initiative, which aims toward a more effective purification of the minerals. ANSTO was able to separate Zircon (Zr), Niobium (Nb)

and Hafnium (Hf) from the bake-leach fluid, or liquor, achieving an almost total rejection of major impurities. Similar results were obtained for Yttrium (Y). The liquor can itself give way to very unstable liquids, prone to premature crystallisation. ANSTO's very significant contribution has been to alter the chemistry in order to considerably extend the liquor's stability, facilitating control of the process and the extraction of the value-added minerals.

The ability to obtain separate production streams, each yielding its own value stream represents a strategic advantage for Hastings Rare Metals ('Hastings', ASX: HAS). ANSTO started validation and verification work with Hastings last spring for the Hastings Heavy Rare Earth Project. ANSTO has accumulated a vast experience with rare earth projects in validating the chemistry of REE resources, determining sulphation and water leaching parameters among other tests; ANSTO has also worked to improve solvent extraction methods for the recovery of such critical minerals as zirconium and niobium as well as rare earths via solvent extraction and selective stripping.

Hastings, thanks to ANSTO's technical achievements and collaboration, will now be able to produce separate REE streams, strengthening its market position by being better able to address the needs of individual customers, tailoring supply to demand. Hastings is running two REE projects in Australia and it is aiming to become one of the largest producers of dysprosium in the world, having a potential to supply some 10% of the world's Dysprosium needs. The Company is already developing the largest Dysprosium project in Australia (with HREO resources at 35% HREO: TREO), making it the world's fourth largest producer.

Heavy Rare Earth (HREE) products generate the highest value and, given that more than three quarters of the Hastings project involves HREE. Apart from Dysprosium, the Hastings project also distinguishes itself for having large and long term supplies (25 years) of Yttrium oxide, Niobium oxide and Zirconium oxide. In addition to its favorable technical achievements and attractive market positioning, Hastings has also acquired additional tenements adjacent to its HREE project adding flexibility both in terms of exploration potential and infrastructure flexibility. Essentially, the acquisition signals the start of another important phase of the project, which is its development. The additional area has seen some historical mining exploration, the latest such efforts dating back to the late 1990's, and the records have noted strong values for REE's. As for the infrastructure flexibility, the extra area makes it easier to determine where to locate such items as waste dump, tailing dams and the actual processing facility itself.

Hastings has also pursued a strategic marketing effort, securing important industry and government contacts in Europe, especially Germany and France. The latter countries plan to boost renewable energy generation from such technology as wind and solar power, requiring steady and reliable supplies of rare metals.

Hastings has made top level contacts with European manufacturers that can facilitate future discussions. The Hastings project, therefore, is of great interest to European (as well as others) high technology companies looking to secure critical rare metal supplies outside of China - which, for the time being, remains the main, if not the only, producer of dysprosium. The rare earth market is especially in Europe important because it does not have resources comparable to those in North America, Africa or the former Soviet Bloc countries; certainly, it cannot compete with China. Europe is a large consumer of rare metals, given its high number of automotive, aerospace and electronics end users. The British government is concerned by

resource nationalism and political risk as two major factors affecting the supply of rare metals, while a German member of the EU Parliament is urging the development of better rare earth recycling techniques in order to address the aforementioned risks. Hastings', therefore, has taken a very astute approach by taking advantage of an Australian trade mission to target the European market, which is in a scramble to secure reliable supplies of REE's.