

# Quest achieves strategic milestone with agreement to supply zirconia to TAM Ceramics

❑ Quest Rare Minerals ('Quest', TSX: QRM | NYSE: QRM) has announced that it has signed a non-binding Letter of Intent (LOI) with NY based TAM Ceramics Group (Tam), a zirconium products manufacturer. The LOI states that TAM will purchase some 24,000 tons of zirconium a year, or 100% of Quest's expected annual zirconium output, which it expects to produce from its Strange Lake deposit in northern Quebec. While many might be familiar with zirconium's uses as popular jewelry (Zircon or  $ZrSiO_4$ ), by itself it withstands heat, making it desirable as a refractory material. It is also highly resistant to corrosion and chemical degradation. The great majority of zircon is used directly in a variety of high temperature applications including cladding nuclear reactor and combustion chamber and welds in aerospace applications requiring high temperature resistance.

The LOI between Quest and TAM, apart from the sale of zirconium itself and the important vote of confidence from the market will enable Quest to further develop applications for zirconium, further developing its market. TAM has access to the relevant end users and marketing networks, making the Quest-TAM partnership far more important and strategic than it may seem at first glance and Quest will gain visibility in all the right places.

Quest Rare Minerals sits on one of the largest heavy rare earths (HREE) deposits in the world in a well accessible area, given that it will be mined in an open pit fashion. In May 2012, after very encouraging metallurgical tests, Quest was

able to separate zirconium and niobium (among other minerals) from REE concentrate, which allowed for the production of zirconium hydroxide using a reliable and reproducible method, which has delivered higher than expected recovery rates while avoiding the need to use very high temperatures or the use of sodium hydroxide, which make the process less energy (and related cost) intense and more environmentally friendly.

Additional testing has been performed at Quest's pilot plant since the first quarter 2013 in order to achieve the final production 'flow sheet'. Essentially, Quest' has been able to develop a cost-effective and highly efficient (that is high or +80% recovery rates) method to produce zirconium (and other metals) maximizing the value of the Strange Lake deposit. In addition, Quest has an advantage in being located in Quebec, one of the most mining friendly locations in the world from both infrastructural and regulatory points of view; both factors helping to assure Quest's reliability and long term supply potential to its target customers. Quest has proven its ability to address increased demand for permanent magnets, phosphors and pigments.

Quest's drive for efficiency will also make its products appealing for export markets, especially in view of the speculative trend supporting a stronger US dollar policy. A stronger U.S. dollar puts pressure on commodity stocks and increases the cost of energy and fuel, which are some of the largest costs incurred by mines. Geopolitical risks are also contributing to a higher energy cost scenario. Mines focusing on efficient operations and efficient processing, such as Quest, will be in a position to benefit. This is because, as Quest's CEO Peter Cashin has suggested, China could soon become a net importer of heavy rare earths, over which it now holds a virtual monopoly of supply. Cashin has suggested that this could start even as early as in 2014. This scenario is supported by Chinese REE export restrictions, applied to clean up both the mining and processing practices. The Chinese

themselves are encountering difficulties in the rare earths industry, having become increasingly aware of the harmful effects that occur when environmental considerations are overlooked.