

Kenny on Frontier Rare Earths positive PFS results and mine-to-money strategy for rare earth production

June 17, 2015 – In an **InvestorIntel** interview, Publisher Tracy Weslosky speaks with James Kenny, Director and CEO of Frontier Rare Earths Ltd. (TSX: FRO | OTCQX: FREFF) on the recent positive pre-feasibility study (“PFS”) results for the Zandkopsdrift Rare Earth Project in South Africa. Results discussed include the increase in Frontier’s NPV (net present value), revenue projections for Phase One and how Frontier Rare Earths’ business mandate is to go from mining to production of 14 high-purity individually separated rare earths.

Tracy Weslosky: James, it’s my understanding that your PFS is one of the most detailed ones that have ever been put out on the rare earth sector and it actually positions you as one of the top frontrunners for production in the sector.

James Kenny: Thanks Tracy. We’re very pleased with the outcome on the detail of the study that it went into. You bring up a good point, there have been several economic studies published by various rare earth perspective developers, but a lot of those studies don’t go the full way through from mining through the end separated product. Our business plan and our strategy has been consistent over the last several years and we are going from mining through to producing a range of 14 high-purity individually separated rare earths, which I think is unique amongst those emerging rare earth developers.

Tracy Weslosky: Well, not only is it unique, but for our InvestorIntel audience that may not be familiar with the

story, not sure how you couldn't be, cause we've done a lot of coverage of Frontier Rare Earths over the years, but presently they have \$25 million in the bank and they're trading almost at market cap right now with your cash. Is that not correct?

James Kenny: \$22 to be exact, but I think your point about us trading at or close to our cash value is correct.

Tracy Weslosky: So now I want to ask you, if you don't mind, about your PFS, what do you think are the highlights from it because I read it and I thought the NPV was very interesting. If we could just discuss this and then, of course, I do want to talk to you about your unique critical rare earth oxides and your permanent magnets rare earths as well.

James Kenny: Sure. Yes, I mean, the financial profile of the project is very strong. The prefeasibility study has been done at a range of discount rates to take a midpoint of 10%, in that range, as I think you're referring to, generates a project net present value of in excess of \$2 billion dollars, which is obviously very encouraging and an internal rate of return post tax of approximately 30%. These are very strong metrics I think both in their own right and compared to the peer universe in which we operate.

Tracy Weslosky: I felt additionally one of your competitive attributes had to do with the revenue that you were projecting from phase one. Can you talk to me a little bit about that?

James Kenny: Yes Tracy. Our plan for Zandkopsdrift is to develop the project in two phases...to access the complete interview, [click here](#)

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Interview: Rare earth leader Frontier Rare Earths on track to deliver Pre-Feasibility Study in 2014

✘ James Kenny, CEO of Frontier Rare Earths ('Frontier', TSX: FRO), a rare earth play in South Africa, spoke to Tracy Weslosky, Publisher and Editor-in-Chief of InvestorIntel about the Zandkopsdrift rare earth element project in the Northern Cape Province of South Africa. Frontier is currently focused on completing a pre-feasibility study for an area in Zandkopsdrift in partnership with the Korea Resources Corporation (KORES). KORES holds a 10% interest in the Zandkopsdrift project. It also has rights to offtake and 10% of production in a deal that has made Frontier one of the few junior rare earth miners to have secured a strategic partnership.

Frontier has also clearly identified the main ore, monazite, from which it will extract its rare earth products. Monazite offers well known and cost effective processing possibilities because the ore contains cerium, neodymium, praseodymium and lanthanum. Kenny said that "all studies completed and we are performing metallurgical test programs, which should be ready by end of Q1, 2014". Kenny pointed out that the project is very economically viable. Indeed, Zandkopsdrift will certainly be one of the first of the various rare earth companies that have emerged in recent years to start producing high quality separated rare earth products outside of China at a projected 20,000 tons/year.

Kenny noted that the preliminary economic assessment published in 2012 projected 900 million dollar capital cost for the plant construction is actually efficient considering the net present value to Frontier of 3.6 billion dollars. "Project finance will be difficult and securing of capital will be a challenge but Frontier has put together a compelling investment prospect, based on low capital and operating costs at Zandkopsdrift are significantly lower than in many other rare earth projects" and it can be assumed that the labor costs will be lower compared to North America while its open pit mining makes it cheaper than underground mining and Kenny notes that "two projects with the same capital costs can have fundamentally different economics", which means that a number of factors must be considered to evaluate cost effectiveness.

In Q2, metallurgical testing work will be completed leading to pre-feasibility study in Q3 and the definitive feasibility study starting at the end of Q3 and lasting for the next 9 months. What will the market conditions be? "Nobody really knows –said Kenny – but if capital requirements are removed, construction timeframe for the separation plant will be two years and commencement of production in 2017". Moreover, the important consideration in rare earth projects is to identify the ones with deposits in accessible locations and near critical infrastructure: "we will need a reasonable volume of water ...we have assumed that we will not be accessing groundwater but rely on a reverse osmosis desalination plant and pump the water to Zandkopsdrift, 35 km away", said Kenny. As for the rare earth separation plant, it is not something you would normally associate with mining; essentially it is a chemical plant, which should ideally be developed in an industrial setting where you have even greater infrastructure requirements.

In this regard, Kenny concludes that "we are again quite fortunate that there is the coastal town of Saldanha Bay where we will set up our separation plant and we are very well

serviced by transportation and infrastructure”.

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