Critical Elements' Countdown to Construction

2017 hosted two major lithium milestones: the spot price rose to its highest ever levels, and the rate of growth was greater than in any other year; the race really is on to bring product to market in time for peak pricing. There are, of course, a number of lithium projects in development in anticipation of the supergrowth of the battery sector, but only some will be successfully derisked, proven feasible and ultimately pay dividends.

Earlier this month, Critical Elements Corp. (TSXV:CRE | OTCQX:CRECF) ("Critical Elements") filed a completed NI 43-101 feasibility study for their Rose lithium/tantalum deposit in Quebec, with an estimated production date of 3Q 2020. Having derisked the resource, the company can focus on raising the necessary cash to fund construction, but this deposit is extremely interesting given its dual focus; lithium, of course, is in the midst of a boom period currently, but tantalum also has a prospective future.

As the predominant use of tantalum is confined largely to the manufacture of capacitors for the electronics industry, the market for the transition metal has been in decline as capacitors have become smaller and smaller; however, the last few years has seen dramatically increased interest in supercapacitor arrays due to their ability to take on large amounts of charge in very little time. While capacitors will never entirely replace batteries for energy storage, there are a myriad of applications for which they offer increased efficacy as a result of the practically limitless number of charge cycles they can undergo.

What this all adds up to is a low-risk approach to the battery market for Critical Elements. Rather than relying on a single

basket, the company is able to secure their eggs in two, and the combination of a simple open-pit mine and conventional processing technologies means that the Rose deposit is now one of the safest bets in the junior sphere. The fact that the project lies within the mining friendly and low-risk jurisdiction of Quebec is merely the icing on the cake.

According to the study, the open pit will provide a mining rate of 1,610,000 tonnes per year of ore, and the spodumene processing plant has a nameplate capacity of 4,900 tonnes per day. It is expected that this will result in average annual production of 186,327 tonnes of chemical grade lithium concentrate, 50,205 tonnes of technical grade lithium concentrate, 429 tonnes of tantalum concentrate, all over an expected life of mine of 17 years.

For an investor interested in gaining exposure to the project, the average gross margin of 63.6% gives an after-tax NPV of CAN$726 million (at 8% discount rate), after-tax IRR of 34.9% and price assumption of US$1,500 per tonne technical grade lithium concentrate, US$750 per tonne chemical grade lithium concentrate, US$130 per kg tantalum pentoxide. The site’s average operating costs will be pretty low at only CAN$66.56 per tonne milled and CAN$458 (US$344) per tonne of combined concentrate.

The project is 100% owned by Critical Elements, and with an estimated initial capital cost of only CAN$341.2 million, this is an entirely reasonable ask when compared to some of the more complex projects which require upwards of a billion for launch. The Rose project will have a peak of 575 employees during construction and an average of 290 employees for commercial production, adding significant value to both the technology sector and the local labour market. If you’re late to the table and looking for a lithium play for your portfolio, this super-low-risk project has already performed extremely well for Critical Elements; the company’s share price has almost quadrupled over the last year, and it is

almost guaranteed to surge further as the construction journey makes additional headway.

A Critical Elements Rally?

A few years back, Goldman Sachs called lithium “the new gasoline”, and InvestorIntel has always stuck by the rare earth story, even at its bleakest. A company with a wide selection of projects focusing on a range of these highly requisite resources is rallying this month as its feature project advances ever-closer to feasibility.

Critical Elements Corp. (TSXV:CRE | OTCQX:CRECF) (“Critical Elements”) have 11 potential projects including the large Rose lithium-tantalum resource; an expansive, advanced stage resource located in

Quebec, comprising of 500 active mining titles covering a total of 260.90 km2. The completed Preliminary Economic Assessment (PEA) indicates that the operation could support a production rate of 26,606 tons of high purity, battery grade Li2CO3, and 206,670 pounds of Ta_2O_5 per year over a 17-year mine life. The company is keen to advance the project, and the single Financial Times analyst offering a 12 month price target expects Critical Elements Corp's share price to continue rising towards $1.30 over the next year from the current price of $0.79.

The Company is focused on minor metals and their projects target a wide range of valuable materials. Critical Elements has achieved its objectives to date with Rose, and is aiming to rapidly advance the lithium-tantalum project to production. The flagship resource is well located, with on-site access to infrastructures such as powerlines, road, air and rail access, and camp. The project hosts a current Indicated resource of 26.5 million tonnes of 1.30% Li_2O equivalent or 0.98% Li_2O and 163 ppm Ta_2O_5 and an Inferred resource of 10.7 million tonnes of 1.14% Li_2O equivalent or 0.86% Li_2O and 145 ppm Ta_2O_5; this particular area is by far the most advanced area of the property.

That being said, three other identified showings, namely Pivert, JR and Hydro, appear very promising. As surface observations reveal key similarities with the Rose deposit in terms of mineralogy, grades and thickness, the company intends to investigate these deposits further, by either trenching or drilling.

Critical Elements Corp. began exploratory work on the Rose property in late 2009, and the drilling and prospecting has yielded many significant results that highlight the potential of the entire property area for new discoveries. Out of 181 drill holes at Rose, 175 returned significant mineralized values for Li, Ta, Rb, Cs, Ga or Be, and in most cases, for

more than one of these elements. Mineralization is hosted within outcropping pegmatite dykes subparallel to the surface. The dykes and grades correlate well and show good continuity throughout the sections.

The Rose property is located in the northeast part of the Archean Superior Province of the Canadian Shield craton, more precisely within the southern portion of the Middle and Lower Eastmain Greenstone Belt (MLEGB). Although the MLEGB displays a wide variety of lithologies, most of the claims constituting the Rose property are underlain by intrusives containing rare-element LCT-type pegmatites.

Very few these days need an education on lithium and its applications in battery-tech, but tantalum enjoys indispensability in several niches. Tantalum is essential to the electronics industry for the production of millions of capacitors and high power resistors every year. It increases strength, ductility and corrosion resistance in alloys, and is used in surgical instruments and implants, as it causes no immune response. The supply of these critical metals is a precarious race indeed, but Critical Elements seem to have their bases covered to take on the year ahead; the year that many feel will be the year of fruition for numerous lithium-based projects.