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Cassini Resources confident of West Musgrave's future as a low-cost operation

Emma Davies, 16:00 Fri 28 Feb 2020

The company expects a decision to mine the West Musgrave project in the third quarter 2020, with the support of joint venture partner Oz Minerals' funding and development capability.

The open pit mine will have low operating costs with substantial by product revenue

Cassini Resources Ltd (ASX:CZI) managing director Richard Bevan told the RIU Explorers Conference last week that the Nebo-Babel deposit at the West Musgrave project is set to be a low cost operation compared to its peers.

The company recently released the pre-feasibility study (PFS) for the project with joint venture partner OZ Minerals Limited (ASX:OZL) showing a 26 year mine life which would be fairly resilient to any commodity price fluctuations.

Bevan said other drivers behind the low operating costs are the use of renewable power and the fact it's a low strip ratio, open pit mine project.

Bevan said: "Most of the nickel mines in Western Australia are higher grade but underground, so West Musgrave works because even though the grade is lower, the mining cost is also a lot lower.

"Our mining cost is around $12-13 per tonne, an underground operation is around $110-130 per tonne, we're mining 0.4-0.5 and they're mining 3-5%, so if you adjust that for cost per pound of nickel produced it actually comes out about the same."

By product revenue

Bevan said another factor that is often overlooked in the calculation of the C1 cash costs curve is any by product revenue.

He said: "For our deposits we have an equal amount of nickel and copper - for every pound of nickel that we produce we also produce a pound of copper – so we're sort of getting that pound of copper for free.

Compared to IGO Ltd's (ASX:IGO) Nova-Bollinger deposit, where the ratio is about 2.5 nickel to 1 copper, Cassini is sitting at a 1:1 ratio.

Bevan said: "The ratio of nickel to copper is more favourable in our ore body and that big by product credit keeps our operating costs low on a C1 cash level."

Load scheduling options

The company has also been quite innovative in the design and powering of the processing plant.

Bevan said: "The project has really lent itself to a great deal of innovation in the grinding and floatation circuit which is allowing us to load schedule and run some of the high intensity equipment, like the grinding mills, at times when we've got lower cost energy from the renewables."

The project is ideally situated to take advantage of renewable energy options, with the company pushing for 80% renewable power to reduce reliance on expensive diesel.

Bevan said: "Diesel's an expensive way to make power, so the site lends itself to renewables.

"We've actually a wind mast measuring the wind resource for the last two years, so we've got a known wind resource and there's plenty of flat, open space to put a wind farm and a solar farm.

"The project lends itself to it, but also the value uplift from reducing your power cost is quite material because of the expense of getting diesel out there and running a diesel power plant."

Opportunities to add value

The company is confident its Succoth deposit, which was not included in the PFS but was modelled into the mine plan at 156 million tonnes at 0.6% copper with some platinum group elements, adds significant upside to the project.

Bevan said: "The worst-case scenario for us is that Succoth adds another 10-20 years to the mine life.

"Once we get Nebo-Babel up and running there really is a multi-decade opportunity out there.

"We've now got a footprint of around 9,500 square kilometres, we're very confident with the amount of knowledge we have about the area and the geology that we're well placed to realise other opportunities over the passage of time."