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Neometals sitting on US$100B of in-situ titanium/vanadium/iron

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If 100% of Neometals' goliath Barrambie titanium-vanadium-iron project could be mined, it would result in a staggering top line income before production and extraction costs of around USD$100 billion dollars.

Even if just the high-grade titanium subset was mined, the project would still rake in a top line of around US$40b.

Neometals' Barrambie project has largely flown under the radar for Neometals who is better known for its work in getting the Mt Marion lithium mine near Coolgardie into production.

The company took the market by surprise this week by announcing a massive global resource at Barrambie of 280.1 million tonnes grading 9.18% titanium dioxide and 0.44% vanadium pentoxide.

Of note is the tenor of the ore body that extends to just 80m in depth located southeast of Meekatharra in the Murchison district of Western Australia.

The deposit contains nearly 26 million tonnes of titanium dioxide and 1.23 million tonnes ofvanadium pentoxide. With commodity prices for TiO2 sitting at around US$3,000 a tonne and US$30,000 a tonne for V2O5, simple maths unfettered by the complications of mining, show a crazy in-situ metal value in excess of US$100B at Barrambie.

The resource estimate was completed by well-respected, Perth-based Snowden Mining Industry Consultants, who suggested ore block cut-off grades of 10% TiO2 and 0.2% V2O5 were appropriate for resource modelling, based on current commodity prices and project economics.

Snowden also estimated an off the scale exploration target for potential resources outside the new mineral resource of approximately 470 - 700 million tonnes grading between 6 - 10% TiO2 and 0.3 - 0.5% V2O5.

The "Barrambie Deeps" constitutes the bulk of the new exploration resource target, with 400 - 600 million tonnes estimated at the same grade ranges for TiO2 and V2O5.

In the coming 12 months, Neometals intends to drill test the Barrambie Deeps target that sits beneath the current JORC-compliant resource to a depth of 230m.

The company will initially drill test the strike of the Deeps area on traverses 1km to 2km apart to establish continuity of the mineralisation.

Perhaps more importantly however, Neometals already has Chinese counterparties assessing samples of its ores to make a call on committing to an off-take agreement which could dramatically enhance the viability of the project.

This is pretty much the same playbook Neometals used at Mt Marion except this time the company has an additional ace up its sleeve - its Neomet mineral processing technology that management says can dramatically cut the cost of processing and upgrading deposits such as Barrambie.

Whilst the Chinese are currently assessing the ore using traditional processing methods, don't be surprised if Neomet is thrown on the table at some stage to sweeten the deal for Neometals.

Neometals Chief Executive Officer, Chris Reed said: "As we progress the dual-track evaluation of direct shipping ore and integrated titanium vanadium production, with strong market conditions and pricing, it is timely to update the Barrambie resource and maiden exploration target."

"Barrambie is globally significant in both size and grade, and offers significant optionality in terms of timing, scale and commodity focus for optimal development."

In 2015, Neometals completed a PFS at Barrambie, based on its 2013 mineral resource estimate for the project which focussed on sending a magnetic concentrate more than 800km to Perth, where it was to produce a premium-grade titanium dioxide for direct sale.

How things have changed for Neometals in 3 years, with a number of stars now aligning perfectly for company.

With Mid-West iron ore plays now winding down, significant shed capacity is opening up at the nearby Geraldton port should Neometals choose to direct ship its high-grade ore concentrate to China.

Importantly, vanadium prices have more than doubled and titanium prices have risen by more than 60% in the intervening few years.

The company is now also fully invested in the evaluation of two different routes for processing of its ore concentrates from Barrambie.

The conventional pyrometallurgical process envisioned in its 2015 PFS and/or the hydrometallurgical process option offered up by the company's Neometals' proprietary chemical based mineral processing technology, Neomet.

Neometals' subsidiary Alphamet Management is developing the Neomet Process, which uses a proprietary acid recovery process to vastly improve the recovery and grade of saleable metal products, without smelting the ores.

This process will potentially allow Neometals to beneficiate its Barrambie titanomagnetite ores on site, or perhaps even off-site and generate high quality TiO2 pigment, high grade V2O5 and high grade synthetic iron oxide pigment.

The vanadium product could be directly sold to refineries for fabrication of high value vanadium steel alloys, whilst the premium iron product could be sold to plants producing high value, low contaminant steels.

Neometals believes the successful commercialisation of the Neomet Process will be a complete game-changer for the mining and processing industry worldwide, virtually eliminating pyrometallurgical smelting processes and their associated pollution effects.

The company is also investigating the use of solar power at Barrambie to offset power costs and potentially lower the operating costs for the mining project.

In the near-term, Neometals is looking to complete and commission a pilot plant for the Neomet processing of the titanomagnetite ore concentrates and begin seeking strong partners to commercialise the technology.

The company will shortly update the 2015 PFS using current commodity prices filtered through the new resource model.

It will also optimise an ore reserve, suitable for commencing a DFS.

When it rains it pours and Neometals appears to be on a roll having also announced this week it had updated the mineral resource estimate for its Mt Edwards nickel tenements that were picked up in March during the Mt Edwards lithium project acquisition.

The JORC-compliant mineral resource for Mt Edwards now stands at 3.05 million tonnes grading 1.6% nickel for 48,200 tonnes of contained nickel.

The mineral resources are contained within six different deposits on granted mining leases, centred about 30km by road southwest of Kambalda.

Neometals procured the nickel rights from Apollo Phoenix Resources for A$1.8M, as part of a larger transaction focussed on the nearby Mt Edwards lithium project.

Just for good measure Neometals also has a $20m annual stream of cash coming in courtesy of its 13.8% stake in the Mt Marion lithium mine which it developed with two other partners.

That income stream doesn't look like stopping any time soon and with tens of millions in the bank and one major project already taken to production, this is one company that should be taken seriously when it says it has $100b worth of metal it wants to monetize.

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