



Resources

Stocks Down Under

📖 *The most erroneous stories are those we think we know best - and therefore never scrutinize or question.* 📖

- Stephen Jay Gould (1941 - 2002), Paleontologist and science historian

— **SOVEREIGN METALS**

Implanted titanium

— **ARAFURA RESOURCES**

Getting there

— **WEST WITS MINING**

Not quite at wits end yet

SOVEREIGN METALS

Implanted titanium

Stocks Down Under rating: ★★★★★

ASX: SVM
Market cap: A\$ 253M

52-week range: A\$0.11 / A\$0.67
Share price: A\$ 0.59

You've seen Base Resources (ASX: BSE) move smartly ahead ever since its Kwale mineral sands mine in Kenya commenced production in late 2013. Well, ASX may also host a worthy successor to Base Resources in the form of Sovereign Metals. Sovereign's recent Kasiya discovery in central Malawi may be the Next Big Thing in the global market for rutile, that wonderful mineral that gives us titanium.

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ARAFURA RESOURCES

Getting there

Stocks Down Under rating: ★★★★★

ASX: ARU
Market cap: A\$ 234M

52-week range: A\$0.054 / A\$0.30
Share price: A\$ 0.185

90 minutes north of Alice Springs, Arafura's Nolans Neodymium and Praseodymium Project is very close to construction, but the company is grappling with offtake agreements and funding initiatives to get the project into production. As is usual for rare earth producers, time is of the essence to meet the looming supply and demand imbalance. But as one of the few non-Chinese rare earth companies even close to being shovel-ready, Arafura (like so many other juniors) is finding ways to circumvent China's hold on supply.

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Share price chart



Source: Tradingview

The world is in danger of running out of rutile. Time was that we needed that mineral mainly as a pigment to be used in paints, plastics and anything that needed a bright white colour. However, rutile's other name is titanium dioxide (TiO₂), the compound that makes up about 95% of your typical rutile deposit. As the demand for titanium metal has increased so has the demand for rutile. Titanium is showing up everywhere these days. You've probably heard of titanium implants in dentistry. There's also plenty of titanium going into aerospace and marine applications, not to mention its use in the construction and automotive industries, and so on. At the same time demand for rutile has risen, very few new rutile mines have come on stream other than the aforementioned Kwale mine of Base Metals, which today is worth perhaps 12% of global rutile demand. Sovereign Metals reckons that it can potentially be next with Kasiya in Malawi.

Pivoting from graphite

If you've heard the name Sovereign Metals it was probably in connection with the battery mineral, graphite. The company started kicking around in the southern African nation of Malawi looking for graphite around 2012. It discovered a fair bit of it in 2015 at its Malingunde project, not far from the Malawi capital of Lilongwe. The thinking was that this deposit of the mineral saprolite hosted ample amounts of coarse flake graphite that could be mined at low cost. By November 2018 Sovereign Metals had completed a Preliminary Feasibility

Study (PFS) to prove that it was on to something. For this project, US\$49m in capital costs got you US\$201m in NPV pre-tax, at a 10% discount rate. The only downside was that 2018 was a lousy year to even think about a graphite project, so the share price barely responded.

Thank heavens that, not long after the Malingunde PFS, Sovereign Metals also found rutile. At least, it found hints of it, reporting in January 2019 that re-assays of hand-auger holes on its saprolite-rich ground had found nice grades of titanium dioxide, ranging from 1.9% to 2.3%. Since Sovereign Metals controlled close to 4,000 sq km in central Malawi, the potential for a genuine rutile discovery was high. Early metallurgical testwork on the samples was promising and the particle sizes were what rutile users were looking for. And by 2020 the drill testing was yielding good intersections.

A solid year of progress

By the end of the Corona Crash, Sovereign Metals was pretty sure it was on to its first rutile discovery. About a week before the general market bottomed, drilling at a prospect called Kasiya, to the northwest of Lilongwe, had shown high grade intersections very close to surface, including 7 metres at 1.27% rutile and 8 metres at 1.17%. The great drill results continued to come in, so that by June 2020 Sovereign Metals could talk about Kasiya as its 'emerging company maker' thanks to the increasing size of the mineralised zone and an easy-to-work flowsheet.

Over the next nine months the company's confidence in Kasiya has continued to increase. In recent days the company has also started talking about a second deposit nearby called Nasaru. Between these two deposits Sovereign Metals believes that it currently has about 91 sq km of rutile mineralisation close to all the infrastructure you'd want to start developing a mine here.

The benefits of operating where nothing much ever happens

We last talked about Malawi in Stocks Down Under last New Year's Eve when looking at Lotus Resources (ASX: LOT), the uranium project developer. Malawi, population 19 million, is a southern African country about the size of the US state of Pennsylvania. Its neighbours are Tanzania to the north, Mozambique to the south and Zambia to the west. The country doesn't rank highly when the Heritage Foundation ranks economic freedom and the Fraser Institute reported no opinion of Malawi in its 2020 Annual Survey.

Malawi does, however, have two important advantages when it comes to seeking international investment into its resources sector. Firstly, nothing really bad much ever happens there and the country is a democracy, although in 2019 the re-election of President Peter Mutharika was overturned by the constitutional court due to large-scale irregularities. And secondly, the infrastructure is fit for purpose. On that last advantage, there's adequate grid power and paved roads and, importantly, there's a Logistics Corridor that allows goods to get down to the port city of Nacala in Mozambique.

Sovereign Metals's share price has re-rated smartly off the back of Kasiya and the company's prospects generally in rutile. The stock was 8 cents on 13 March 2020 and by 21 April 2021 it was 59 cents. The trouble for Sovereign Metals right now is that there's no resource estimate for Kasiya yet and we're still some way away from a feasibility study. That said, the commercial prospects of graphite project developers are coming back smartly in 2021 and Sovereign Metals has yet to re-rate to cover the notional PFS value of Malingunde.

So, we believe there's room for this stock to continue to move upwards on the reasonable expectation of further progress in rutile. For us that makes Sovereign Metals four stars.

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Share price chart



Source: Tradingview

Nolans ahead of the pack

The Nolans Rare Earth Project, 139 km north of Alice Springs, not only has rare earths, it also has phosphates, uranium and thorium. The resource is 56 million tonnes at an average grade of 2.6% total rare earth oxide (TREO) with NdPr (neodymium and praseodymium) representing over a quarter of that. As critical rare earth elements necessary for permanent magnet production, NdPr are core to Arafura's production and offtake strategy.

While the original DFS was completed 2019, an ore reserve update has improved the project's fundamentals leading to a (minimum) 39-year mine life and annual NdPr oxide production of 4,325 tonnes per annum. The financials also put Nolans as one of the (potentially) lowest cost producers, with an operating cost of US\$23.7/kg NdPr. The capital cost, mind you, will seem oppressive to some – it's about A\$1bn. However, after that billion has been sunk, Nolans has a Net Present Value of A\$968m (10% discount rate) and an Internal Rate of Return of 17.9%.

Now that Nolans is theoretically shovel-ready after finalising environmental and Native Title approvals, not to mention the receipt of Major Project Status, the main concern going into 2021 is funding. No surprises there. The company's 2020 testwork program has been verified by various supply chain partners, paving the way for offtake agreements for its final rare earth oxide products. Aside from NdPr oxide, this also includes SEG-HEG (middle and heavy rare earth) oxide and Ce (cerium) oxide for use in several jurisdictions.

Getting around China's rare earth monopoly

As Arafura is a producer of an intermediate (oxide) product, an obvious choice for potential offtake agreements is China. But while producers rely on the country's dominant mine-to-magnet supply chain and export ties, COVID-19 delays helped highlight the fragility of the chain as well as the Western world's overreliance. Rather than compete directly with China's long-term EV strategy, Arafura is targeting specific Tier 1 Chinese magnet makers for leverage with markets in Japan, Korea the US and Europe. As the company believes Nolans could provide 5-10% of global NdPr supply, Arafura's endgame is to build confidence with those end-users leading to direct customer engagement with NdPr users not aligned with China's EV dreams.

That is also critical to the company's funding strategy: more offtake agreements with users who value Arafura's product and ESG (environmental and social governance) will ultimately make life easier when it comes to talking with project financiers.

Further diversification away from China could also reduce China's influence on the NdPr price. While Nd and Pr prices have risen – also helped partially by pandemic hurdles – Arafura believes that current pricing does not reflect the true market dynamics for critical mineral demand. The existing rare earth supply for auto-manufacturers moving toward Electric Vehicles still mostly comes from China and that is largely the result of slow government backing of new rare earth projects.

Now that China is switching gears from miner to importer of rare earths, Arafura's MD, Gavin Lockyer, sees an opportunity to both manipulate China's need for supply as well as create relationships with customers for NdPr before the real supply deficit and price hikes hits. It's unlikely to be enough, however, for the simple reason that the world probably needs another 29,000 tonnes of NdPr by 2030.

No longer a question of 'wait and see'

Arafura is targeting a Final Investment Decision (FID) later this year, but the aim is to get 85% of NdPr production underpinned by offtake agreements first. As the process from mining to separation is done wholly onsite, the results from the company's pilot program (including metallurgical testwork) has informed the first phase of engineering works at Nolan, including the front end engineering and design (FEED). The testwork programs, aside from verifying the quality of the products, have also helped to enhance the DFS and lower costs, but the capital cost for Nolans still stands at that \$1bn we noted above.

As a Major Project with Northern Territory Infrastructure Facility (NAIF) status, Nolans will likely be subject to funding from state and federal government sources, but it's hard not to agree with Arafura's contention that legislation and funding for rare earth projects has been slow. With Nolans as an alternative supply source of NdPr, Arafura is in an exciting position as it looks to benefit from the EV revolution while negotiating a challenging market. If the company can find the right customers, it might provide more supply chain avenues for other rare earth companies going forward. Four stars from us.

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If you know the history of South Africa you'll know the importance of the Witwatersrand to that country's economic development. The Witwatersrand, often simply called 'the Rand', is the long ridge upon which the great city of Johannesburg and its vast urban conurbation was built. It means 'ridge of white waters' in Afrikaans, and yes, it's the reason South Africa's currency is called the Rand. For a long time Joburg was good for just one thing ... gold, which was fair enough. Since the first discoveries in 1886, the Rand has yielded something like 1.5 billion ounces of the yellow metal. That could be half of all the gold mined in the entire world for the last 130 years. Melbourne-based West Wits Mining hopes to be able to add to the Rand's tally once it gets approval to go ahead with its Witwatersrand Basin Project. Which could be sooner rather than later.

There's plenty more gold in that thar ridge

The company's name of West Wits Mining refers to the fact that it is trying to develop a part of the West Rand Goldfields, one of five groups of fields that make up the core of the Rand. Back in 2007 a South African company called DRD Gold (JSE: DRD) and an ASX-listed company called Mintails (a tailings retreatment outfit which has since gone bust) merged five idle West Rand leases to form West Wits Mining. The leases centred around Roodepoort, which is 20 km northwest of downtown Joburg. The Doornkop Gold Mine of the major miner Harmony Gold (JSE: HAR) is not far away from West Wits leases, in the world famous Soweto area.

Before West Wits, and thanks to low gold prices, the vended leases had become the stomping grounds of the so-called 'zama zama', which are locals who do artisanal mining. West Wits believed that the vended leases were good for 4 or 5 million ounces of gold, which was not unreasonable given they had produced tens of millions of ounces historically. Gold at the time was headed up and had reached about US\$800 an ounce. The new company set about proving up the potential of its West Rand leases confident of good times ahead.

How do you like a 4.4 million ounce resource?

West Wits's confidence on resource size became a reality last year. In October the company increased its JORC 2012 resource for the Witwatersrand Basin Project to a cool 4.37 million ounces, being 35.1 million tonnes at 3.88 g/t gold. Shortly before that upgrade the company had commissioned a Bankable Feasibility Study on an operation targeting five development areas that would produce 50,000 or 60,000 ounces a year over 20 years. The capex would be low because of all the infrastructure in the neighbourhood. For example, Doornkop is known to have excess capacity at its plant. So, Harmony being amenable, West Wits would not have to build its own plant. And there are several shafts in place so not much new shaft development would be required. The relevant environmental approvals had been granted in June 2020. A Black Economic Empowerment deal had been worked out as per South African requirements. And the gold price, even after it had eased back from its mid-2020 highs, was still favourable. All that was needed was the Mining Rights in the two main lease areas, one called DRD, the other called the Rand Lease.

Yes, please, Minister

Which brings us to West Wits's current problem. The environmental approvals may have been granted, but, as West Wits explained in a 7 December 2020 market release, they have been appealed by various parties. The mining rights can't be granted until these appeals are dismissed, which is the right of South Africa's Minister of Environment, Forestry and Fisheries. The latest we know, as per West Wits's 18 March market release, is that the Minister has yet to make a decision, but has asked questions related water pipeline infrastructure. Which sounded technical rather than political and suggests that West Wits will ultimately get the mining rights it is looking for, the company having done its homework in terms of making sure the Witwatersrand Basin Project fully complies with all the relevant environmental regulations. At which point, there is potentially a lot of upside here.

West Wits stock may have re-rated after the October 2020 resource upgrade, but those 4.4 million ounces are still only changing hands at about US\$20 when you consider West Wits's miserably low Enterprise Value. Sure, there's a 'Beloved Country' discount in here, but an asset as big as West Wits is unlikely to stall once the mining rights are granted. Consequently, while investors need to be wary of negative sentiment around the regulatory process in South Africa, for those who are careful with their timing this one can be four stars.

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