



Resources

Stocks Down Under

📖 *It is much easier to put existing resources to better use, than to develop resources where they do not exist.* 🗨️

- George Soros (b. 1930), Hungarian hedge fund manager

— CARNARVON PETROLEUM

Holding on to black gold

— STAVELY MINERALS

Thank God it's Thursday

— BARDOC GOLD

Great project, lousy commodity price (right now)

CARNARVON PETROLEUM

Holding on to black gold

Stocks Down Under rating: ★★☆☆

ASX: CVN
Market cap: A\$ 391M

52-week range: A\$0.11 / A\$0.39
Share price: A\$ 0.29

Carnarvon Petroleum's Dorado offshore discovery of 2018 is turning out to be a 'company maker' even with the company owning just 20%. Carnarvon continued its forward momentum during the September quarter, following up with expansion targets through 3D seismic data and finalising its commercial and technical evaluations of the Dorado wellhead and offshore supply developments. The company's latest work with seismic 3D data has led to improved confidence in the Dorado Project and surrounding fields.

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STAVELY MINERALS

Thank God it's Thursday

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52-week range: A\$0.27 / A\$1.19
Share price: A\$ 0.86

The small-cap explorer Stavelly Minerals has been flying high ever since the first copper-gold hits at its flagship project of the same name in Victoria. The company has continued to return significant high-grade intersections in recent drilling, further reinforcing its view of the project as bigger in scale than previously thought. While we only have a small resource estimate at the Thursday's Gossan prospect at this stage, the market is assuming there's a new mine coming – indeed, maybe another Cadia.

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Share price chart



Source: Tradingview

The most unexpected find

Before Carnarvon and its partner Quadrant Energy found the Dorado oil and gas field in 2018, some seasoned explorers were close to giving up on the North West Shelf, arguing that, since it had been about 30 years since the last major discovery, the Shelf's better days were behind it. However, this offshore find was much bigger than expected, with the August 2018 estimate coming in at 171 million barrels of oil.

Dorado has been the shot in the arm Carnarvon shareholders have long been looking for. Not long after the discovery, Quadrant was bought by Santos (ASX: STO), so Carnarvon now has substantial backing for its plans to bring Dorado into production. The Dorado field (permit WA-137P), along with the Roc and Phoenix South blocks, make up the Phoenix Project in what is now called the 'Bedout Sub-Basin' of the Roebuck Basin. The Dorado development will support a wellhead platform with a 16 well capacity, hosting an initial 8-10 wells for production and gas reinjection.

Carnarvon continued in its development of the Dorado field during the September quarter by finalising its pre-Front End Engineering Design (pre-FEED). The company also talked about how the Keraudren 3D seismic data had helped pick the new exploration targets around Dorado, namely the Apus, Petrus and Kepler targets to the

southeast. Keraudren, which shares its name with Cape Keraudren near Port Hedland, represents the first time that a single vessel has been used to gather seismic data in Australia using a technology called 'source over streamer'.

A different kind of streaming service

In seismic the 'streamer' is the marine cable that relays seismic data to the recording seismic vessel, while the 'source' is the device that provides the energy to acquire the seismic in the first place. Historically the source was below the streamer. In recent years geophysics service providers have reversed that order and come up with much better quality data.

The people who ran the Keraudren survey have gone one better now and used a single vessel for both. The most recent data using this cutting edge approach shows an aggregate prospective resource estimate of 293 million barrels of oil for the new targets. Based partly on the knowledge about these targets, Carnarvon believes it will be in a good position to make an investment decision for Dorado in 2021.

Despite the oil price sliding into negative territory during 2020 and even the big oil producers slashing investments, Carnarvon is holding onto Dorado, since it would be remiss to sell out from the biggest oil find in decades based on a temporary oil price weakness. Oddly, Carnarvon could actually benefit from the effect of COVID-19 on the market, and especially its effect on the oil majors.

Earlier this year, Norwegian major Equinor pulled its exploration from the Great Australian Bight because of commercial (but possibly also environmental) concerns. Massive players like Exxon, Shell and BP have decided to cut exploration and development work on newer fields. In contrast, Carnarvon has a promising but singular focus in Dorado that patient oil investors will be looking for.

The nightmare that is 2020 is ending

Although 2020 has been a nightmare year for oil, the world still relies heavily on oil and natural gas, and players like Carnarvon have the backing of the Australian government when it comes to getting these projects online. Unlike some European zones pledging a zero-emissions target and a shift away from oil, Australia maintains that oil and gas exploration is critical. Carnarvon is mindful of the possibility that oil prices will come back slowly rather than quickly, but it is optimistic about oil's medium term prospects in a world that is usually energy-hungry and was so before Covid-19.

Carnarvon ended the September quarter with what it called a 'modest' cash balance of \$113m and no debt, but the company probably isn't too worried about the future: as the biggest offshore oil story in a long while, Dorado is beginning to attract a lot of interest from companies looking to secure their own bit of the field. Part of the attraction is the plan to produce both oil and gas from Dorado. We think it's reasonable to call Carnarvon a solid four-star success story. Oil is gradually coming back and the next wells near Dorado could spice things up considerably. The only question for investors looking at this one right now is whether the oil market can return to full strength sooner rather than later.



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Stavelly cutting its own path in Victoria

Named after the volcanic belt in western Victoria, Stavelly Minerals' flagship is the Stavelly Gold-Copper Project, located 20 km northeast of Glenthompson, a town you'll pass by if you ever make the journey between Hamilton in southwestern Victoria and Ballarat in the central Highlands. If you're coming from Melbourne its about 250 km west. For some years prior to 2019, exploration at Stavelly had been focused on a prospect called Thursday's Gossan.

The name itself shows you how unadventurous resources companies can sometimes be when it comes to describing what they've got. A gossan is simply a deposit of the iron mineral limonite at the top of a sulphide mineral vein. Presumably Stavelly's prospect was identified one Thursday afternoon very late in the day. Gossans often indicate copper further down and in Stavelly's case there was a small resource in Thursday's Gossan of 28 million tonnes at 0.4% copper for 110,000 tonnes of copper before something big happened in September 2019.

Something big. Really big

The 'something big' was the discovery of shallow, high-grade copper-gold mineralisation along an ultramafic contact fault, where the assay results were showing grades of up to 40% copper as well as 3 grams per tonne gold and 217 grams per tonne silver. Yes, you read that right.

Stavely called this new find the Cayley Lode after Ross Cayley, who is a Senior Geologist at the Geological Survey of Victoria. We admit, that was a little more imaginative than 'Thursday's Gossan', even if Ross is a public servant by profession. The Cayley Lode has some people thinking this could be another Cadia, which, believe us, contains a lot more than 100,000 tonnes of copper. So a name change was definitely in order.

A year after Cayley's Lode came spectacularly to light, the company is celebrating some of its most significant intercepts to date, including 144 metres at 1.04% copper, 0.15 grams per tonne gold and 3.4 grams per tonne silver in one recent drillhole. Once Stavely concludes its near-surface drilling, the company will then go on to confirm the depth potential of the porphyry – the large, polymetallic systems that typically contain copper along with other important metals, like gold, lead and tin. Stavely has consistently announced good results and the market has rewarded it. The question is, can the company keep it up?

Australasia is lagging behind in copper-nickel projects

If you've watched TV at all during quarantine, you might've seen an ad from BHP spruiking the future of copper. Apart from showing the mainstream turn towards a zero-carbon future from big players like BHP, it also reinforces the need these companies have for 'forward-facing' metals that we'll need more of in the future.

BHP's Mike Henry recently pointed out that demand for copper and nickel is increasing right when high-grade deposits are becoming much more difficult to find, and that BHP and others are looking to juniors, like Stavely, to close the gap. Stavely's research backs BHP's concerns: there are very few high-quality projects coming online (with Australia one of the worst performers) and that in turn suggests an expected 15 million tonne copper supply deficit by 2035.

Currently, the aforementioned Cadia, which is the jewel in the Newcrest crown (ASX: NCM), and Northparkes, which these days is owned by China's CMOC, are the only copper-gold porphyry mines in Australia. While Stavely obviously wants to develop the next one, the company has barely scratched the surface in terms of Thursday's Gossan, in that it has only probed the shallowest portions of the deposit. Stavely has drawn parallels between the Cayley Lode discovery at Thursday's Gossan and the Magma Copper Mine in Arizona, which was mined for decades before BHP bought it in 1996 for \$3.2bn. The frontier-type system at work at Magma, previously not found anywhere in Australia, has been a learning curve for Stavely's team in that the 'Magma model' could potentially inform further exploration work here.

The hard work has only just begun

The Thursday's Gossan/Cayley Lode discovery was a re-rating event for Stavely, bringing its market cap from \$6m in 2014 into the hundreds of millions today. Still, exploring projects/porphyries of this nature is an intense and expensive process, especially for juniors. While Stavely is in a good position both economically and logistically (it has \$32m in cash as of the September quarter), the company's resource drilling program is still ongoing with the timeline likely to go out to February/March 2021 in order to complement its existing Thursday's Gossan resource estimate.

Not matter how long it takes, we believe Stavely is rightly excited about the scope the opportunity, both at the Cayley Lode discovery and in the Stavely province as a whole. We could argue that Stavely Minerals is a four-star company because of the porphyry it's sitting on or the subsequent investor confidence, but it's the copper fundamentals that give it a leg up. The company knows that copper is essential to future energy solutions and that's clearer now that majors like BHP move in the same direction. Four stars from us.

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Share price chart



Source: Tradingview

A roadmap to production

Bardoc recently updated its mineral resource estimate for the Bardoc Gold Project, 40 km north of Kalgoorlie, which has provided the company a firm reason to advance development. Back in March, the company released its Prefeasibility Study outlining a LOM (life of mine) of eight years with an estimated 135,000 ounce per annum at an AISC (All-in sustaining cost) of just A\$1,200 per ounce. The project's resource was upgraded in late September, so Bardoc now hosts 3.3 million ounces with an ore reserve of 790,000 ounces. Apart from bringing the company a step closer to 1moz and tier 1 status, the update will inform Bardoc's upcoming Definitive Feasibility Study (DFS) due in March 2021.

In just the last few weeks, the company has made gains at its cornerstone Zoroastrian and Aphrodite deposits and identified multiple new zones of gold anomalism at underexplored deposits, including North Kanowna Star. Bardoc made a great exploration call in October when it found a new high-grade shoot just beyond the underground part of the Zoroastrian deposit, only 600 metres away, which returned an intersection of 11 metres at 4.69 grams per tonne gold. Such an active quarter has shown a real opportunity to expand on the current resource, further reinforcing Bardoc's new 40,000 meter drilling program designed to find new discoveries and add some more value to the development. As it stands before the DFS, the project has a Net Present Value of A\$600m (at the usual 8% discount rate) and an Internal Rate of Return of 55% at a gold price of A\$2,530 per ounce.

Close to where the action is

That's the trouble for Bardoc Gold right now. Gold was over US\$2,000 an ounce in August but now it's back near US\$1,800, which translates to about A\$2,450. Investors have liked what they see in Bardoc but they don't want to re-engage with this one until gold has a new head of steam behind it. When gold does start running again, Bardoc is well placed because, as a general rule, investors like Eastern Goldfields gold projects the closer they are to the capital of the Goldfields, Kalgoorlie.

For the team behind Bardoc Gold – which is made up of former ex-Pilbara Minerals, Norton Goldfields and Barrick Gold management – the tier 1 Kalgoorlie region already holds promise for explorers willing to look for it. Until 2018, the 18 exploration deposits which now make up the project were only a series of largely unexplored areas. Today, Bardoc has a tenement area of 250 square km and robust PFS metrics from historically worthwhile deposits, mainly the Zoroastrian, Excelsior and Aphrodite deposits.

The next 1moz gold producer...thus speaketh Zarathustra

Zoroastrian? Yes, they named a gold deposit after an adherent of one the world's oldest continuously practiced religions. The folks at Bardoc have faith that Zoroastrian and the other deposits can deliver for them, because only about a third of its resources were considered as part of the PFS.

The next 40,000 meters of drilling will focus on cornerstone deposits, like Aphrodite as well as satellite deposits May Day and Kanowna Star, which could support further expansion and bring Bardoc a step closer to its 1moz reserve target. The Aphrodite deposit has had issues with refractory ore mineralisation – gold ore that contains ultra-fine particles naturally resistant to standard processing – which is why Bardoc will construct a flotation circuit to provide gold concentrate. At present, only a few big name Australian operators are conducting gold concentrate sales (notably Evolution Mining), but Bardoc sees this as a burgeoning market with smelter demand from Asia. While it's a production element that won't come into effect until year two, Bardoc predicts the concentrate will help carry production, which is why it plans on securing offtake agreements in the December quarter.

With our powers combined...

The next twelve months are bound to be crucial for Bardoc now that multiple works are in the pipeline before first gold production by late 2021. While the next step is the DFS, including a binding offtake agreement for gold concentrate and resource infill drilling at Zoroastrian and Aphrodite, most of the company's attention will be at Mayday North, El Dorado and North Kanowna Star. These deposits have not yet been included in the mine plan. As Bardoc is fully-funded on the path towards its DFS with \$29.4m in cash reserves after a further \$24m capital raising in July, \$5m of that will be put towards both brownfield and greenfield exploration.

While Bardoc has a massive drill campaign ahead of it, the tenacity in its detective work will probably get the company to its target ore resource. Most of the deposits have been hit before – Zoroastrian has been mined in some form since the 1890s – but Bardoc's strategy of acquiring and developing the project into one standalone operation looks likely to pay off.

With plenty of new finds likely before the final investment decision, we think Bardoc Gold has a good future ahead. The only reason we say two stars for this one right now is that a weak gold price is carrying all before it. Once gold turns, switch those two stars to four.

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Pitt Street Research Pty Ltd is founded on more than 40 years of combined experience researching companies in a range of different sectors.

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