

# Musgrave right on Cue for development

by Michael Washbourne



The original Break of Day shaft

Musgrave Minerals Ltd has a problem of a good kind on its hands. While the company is tantalisingly close to defining the critical mass it requires to officially launch a PFS for its Cue gold project in Western Australia's Murchison district, the drill rig continues to turn up new discoveries which effectively reset the dial on any development plans.

It is a conundrum most explorers or aspiring developers would love to have and certainly one which Musgrave has openly embraced since making the first of several game-changing discoveries at Cue over the past two years.

Musgrave managing director Rob Waugh has presided over a number of conceptual mining operations for Cue since his company acquired the project from a struggling Silver Lake Resources Ltd in late 2015. He remains adamant the best iteration is yet to come.

"The thing about pre-feasibility studies is every single deposit you find needs its own PFS-level study on it,"

Waugh explained to **GMJ**.

"We're not expanding the existing deposits, we're actually finding new ones, so we basically have to go back to scratch at PFS level every time we make a new discovery on our ground, which is not necessarily a concept that the market fully understands.

"The story at Cue has evolved quite a bit over the last seven years, but we're in a position now where we've got a lot of background information for Break of Day and Lena which allows us to make a bit of a head start there. We don't have that yet for the new discoveries of White Heat and Big Sky, but

we expect that level of activity will commence shortly.”

Cue firmed as a gold mine in waiting after Musgrave announced a 41% uplift in total resources last quarter. The overall project inventory now stands at 12.3mt @ 2.3 g/t gold for 927,000oz, including a near-surface, high-grade trend of 982,000t @ 10.4 g/t gold for 327,000oz.

Maiden resource estimates were also unveiled for the Big Sky (4.65mt @ 1.2 g/t gold for 173,000oz) and White Heat-Mosaic (185,000t @ 11 g/t gold for 65,000oz) discoveries, both of which have only been drill-tested to 120m and 160m respectively.

Musgrave must now balance ongoing exploration with feasibility work. To that end, the company has appointed former Westgold Resources Ltd chief operating officer Anthony Buckingham as general manager, development to oversee the upcoming study phase and beyond.

Waugh said while an obvious pathway to production was beginning to take shape, he wants to see the company bank more ounces before confidently hitting the button on any form of development.

“We think because of the grade and the shallow nature of the high-grade mineralisation we have with Starlight and Mosaic-White Heat that we will have a reasonable development operation with good grades, good margins and good recoveries, but it’d be even better if we can make it bigger,” he said.

“We’re starting to build up towards that critical mass. There’s no doubt the market loves 1 moz. It’s easy math – 100,000 ozpa for 10 years – and obviously we’re now very close to that, but we think there’s lots more exploration upside that will allow us to build the resource even further.

Rob Waugh



“Anything above 1 moz is a real stepping stone for us. It’s a point where we can draw a line in the sand and say, ‘OK, we’ve got enough here for a standalone operation, let’s really push down that development pathway and see where we go with this opportunity, how big it can be and how quickly we can progress it to a development story.”

The fact Cue has reimagined itself on multiple occasions under Musgrave’s ownership was not something Waugh anticipated when he and former exploration manager Ian Warland settled on the project as the company’s new flagship asset seven years ago.

Musgrave’s initial plans were to build on the existing resource base across the Break of Day and Lena deposits, while quietly chipping away at some regional exploration opportunities on offer. For the best part of four years, many speculated the company would be confined to nothing more than a toll-treating arrangement with the nearby Tuckabianna mill, now owned by Westgold.

Interestingly, Silver Lake had originally packaged Tuckabianna together with the Cue ground but Musgrave could not justify the purchase price at the time.

Then, in early 2020 – just as the world was bracing for the onset of the COVID-19 pandemic – a systematic look at the geology brought attention to a particular drill result which did not appear to fit the geological model that Musgrave and others had been applying.

“It then became a question of whether we have the guts to turn the rig around and drill a hole in a completely different direction to every single other drill hole in the region for the last 20 years,” Waugh recalled.

“There’s pluses and minuses with turning the drill rig around, but sometimes you need to be brave and the outcome ended up being a very positive one for us. It didn’t only just open it



Musgrave exploration manager Jonathan Gough



Waugh pans for gold samples

Evolution Mining can earn up to 75% of the Lake Austin tenements by spending \$18 million on exploration over a five-year period. Musgrave will retain 100% of the ground if that expenditure commitment is not fulfilled

up for Starlight, we found new lodes and new orientations and White Light, White Heat and Mosaic all followed.”

Musgrave was one of several WA-focused explorers, headlined by De Grey Mining Ltd and its monster Hemi find, to make significant gold discoveries in 2020 and there was certainly a period where the company was floated as the potential next “market darling”.

Shares in Musgrave peaked at 76c in August 2020 either side of the company raising \$6 million and \$18 million for exploration and resource growth activities at Cue. While both gold and stock prices have come off since, Waugh remains thankful for that brief moment in the sun.

“It was almost the perfect storm with great results and a really good time in market,” he said.

“We’ve seen in the past companies might have had good results, but the market has been flat and you don’t get the

response. Musgrave has certainly experienced that before. We had some earlier results at Break of Day where we hit 20m @ 20 g/t and it was just the wrong time in the market.”

While bonanza hits such as 18m @ 179.4 g/t gold are usually enough to captivate the market, the near-surface nature of the mineralisation only enhanced Musgrave’s profile within resources investment circles.

“Some of those grades were just 4m below surface,” Waugh said. “We really haven’t seen anything that shallow in the WA Goldfields for a long time, decades potentially, so you can understand why it grabbed shareholders’ and the public’s attention.”

Prior to the Starlight discovery and the chain of company-making events which followed, there were times when even Waugh was questioning whether Musgrave had stalled in its progress at Cue.

A geologist with more than three decades of experience, including stints with Western Mining and BHP Ltd, Waugh has come to appreciate the highs and lows that come with running a junior exploration company, especially during Musgrave's formative years when the focus was on greenfields exploration in the company's namesake region of South Australia.

"You always have these points in any development or any project where you think maybe you've tested all the targets and maybe that's all there is," he said.



Musgrave non-executive director Brett Lambert (right) with senior exploration geologist Masha Pastuhov and exploration manager Jonathan Gough

"Exploration is truly a game of highs and lows and that extends even to a daily basis, where you absolutely live and breathe every drill hole, especially as a junior. But, one drill hole can also make a difference between a new opportunity and a new discovery. So yes, you do hit those flat spots, but then it's about trying to get your energy up, looking at new ideas, looking at it differently and coming back.

"All projects have a limit and companies will ask, 'are we throwing money away here, are we better off looking something else?'. For where Musgrave is at right now, we don't think we're anywhere near that point yet at Cue. The team are generating new ideas every week, there's still lots more to be found."

Alongside the growth of Big Sky and White Heat-Mosaic, Musgrave has identified fresh targets at Amarillo (11m @ 8.4 g/t gold from 66m and 7m @ 23.7 g/t gold from 102m) and Waratah Trend (2m @ 28.1 g/t gold) to keep the company's incredible run of exploration success ticking over.

In some respects, a move into the development sphere for Musgrave will take Waugh's career full circle, having begun professional life as an open-cut gold mine geologist in Norseman before moving to the Scotia underground mine.

"My first four years were in mine geology and then in exploration for the 25 years since, across multiple commodities, but

starting in gold and back there now," Waugh said.

"Taking a project from scratch all the way through to development would be a fantastic thing for this company. But for myself personally, my love and passion is exploration so I can see myself transitioning away from a frontline position as managing director as we transition to a production company and having a person come in that is aligned and has a lot more experience in a production sense."

With plenty of exploration work still to come, there will be no requirement for Waugh to contemplate such a decision anytime soon, especially with high inflation currently offering little incentive for the development of new mines.

Waugh anticipates Musgrave has at least six months of PFS-level activities to complete at both Big Sky and White Heat-Mosaic before committing to a full-blown feasibility study on Cue.

"The inflationary side is certainly very challenging at the moment, but it's a bridge we really don't have to cross for another six months or so," Waugh said.

"From our point of view, we just need to focus on this next six months and we can make some decisions after that, depending on what the outlook of the market is at that point in time.

"Who knows, we might get lucky and add some more deposits to the resource, in which case we'll need to do additional PFS-level work anyway."



Musgrave's discovery of the Starlight lode in early 2020 was a game-changing moment for the company