

RESOURCEStocks Q&A: Julian Hanna

PARTNER CONTENT



MOD Resources is going from strength to strength as it moves towards development of its majority-owned flagship T3 copper-silver deposit in Botswana. Managing director Julian Hanna highlights the rapid progress and robust prefeasibility study for RESOURCEStocks.



MOD is creating local employment opportunities and has a Ghanzi-based geological team

RESOURCEStocks: MOD has just announced a two-tier prefeasibility study for T3 which outlines a robust base case based on reserves and an expansion case using existing resources. What do you believe are the standout features of the base case scenario?

Julian Hanna: The base case PFS model, in its own right as a standalone nine-year opencut mine, is very robust not just commercially but technically as well. It also sets us up for the future in this highly prospective region with a centrally located processing plant which can provide future processing for any satellite deposits discovered in the surrounding area. For this reason the T3 mine has been named "Motheo", which means "beginning" in Setswana. This name originated from a naming competition held at a primary school in Ghanzi where our operations are based.

Once Motheo is in operation we will be looking to recover the maximum value possible from this wonderful deposit. Standout features coming from the base case PFS include the US\$77million per annum free cash flow at \$3/lb copper over the life-of-mine with relatively low-end of the spectrum \$1.22/lb cash costs. The all-in sustaining cost of \$1.36/lb puts us in good shape for a start and we will be very focused on driving these costs further south during production.

Pre-production capital is \$155 million and payback is about 2.7 years and we'll also be looking at how we can improve on this during the feasibility study which is underway. The early payback results from

high-grade shallow ore and our base case break-even price for copper is \$1.78/lb. Here we are today at a \$3.20/lb copper price so the potential margins look good.

Then on technical grounds, the big widths at Motheo, the low stripping ratio and the high quality and grade of the concentrate that will be produced should set this deposit apart from the rest. Already, strong interest has been shown by off-takers and metal traders and if the copper price continues its current trend and drilling keeps delivering, we think there's substantial upside in this mine.

RS: The expansion case after two years is expected to be funded from the free cash flow of US\$77 million/year from production start. That takes mine life out to 11.7 years to produce an annual average 28,000tpa copper and 903,000oz of silver, what are the highlights of this scenario and how are the parameters likely to change, given an updated resource is expected next quarter?

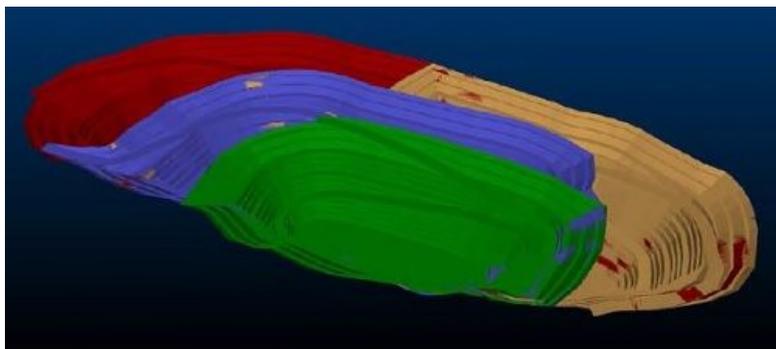
JH: Highlights of the expansion case PFS model include increased annual copper production, lower stripping ratio, increased mine life and a material jump in NPV and EBITDA.

We've completed a substantial amount of infill and extensional drilling already to upgrade the inferred resource captured by the expansion case, into measured and indicated category. Results to date have been encouraging, so we're reasonably confident of the assumptions used in the expansion case. The main impact of the expansion will be a wider and deeper pit and a plant upgrade to 4Mtpa. The very favourable geometry of the resource also provides a high level of flexibility to further optimise production and a decision to commit to the expansion case is not actually required until after two years of operation when a large part of capital is expected to have been repaid.

RS: How are you going to manage the T3 project as an operation?

JH: Since the discovery of Motheo, MOD has committed to a model based around employment within Botswana, local training, and supporting small business and community in Ghanzi District where we operate. To achieve this objective, a Botswana company, Tshukudu Metals Botswana, was formed in 2016 with its own board and management team to manage all day-to-day operations on site. Technical support is provided by a group of very experienced exploration, mining and processing specialists and consultants based in Australia and South Africa who can bring global expertise and the highest possible standards to the project.

This model has been very successful with our exploration team to date and is now being expanded as the project approaches the development stage and goes into production. With the recent downturn in mining elsewhere in Botswana, Tshukudu has been able to employ a solid core of experienced exploration and mining people, which will grow. Motheo will be the first mine in Ghanzi District and we look forward to introducing high standards into all areas of the project, including safety, environmental management, mining, processing, site rehabilitation and community involvement.



The proposed base case 4-stage pit

RS: You've described T3 as a "starting mine" given the potential regional upside - where does investigating this potential sit, in relation to moving towards development?

JH: With the completion of the PFS, Motheo now has its own life with its own study and development team moving it towards production. So after two years of more or less non-stop drilling, our five star exploration team can now to start to focus on the surrounding area, bearing in mind we have a huge licence holding and dozens of targets to drill.

Just in the immediate T3 area, we have around 1,000sq.km of very prospective joint venture ground with numerous targets. T3 is the only target, apart from T1 and its neighbour T2, that has been properly drill tested in this area. Needless to say, over the last two years we've just focused on T3 - now we can move on and pull out all the stops on the surrounding exploration. Meanwhile, environmental approvals for drilling have been progressing, so the next six months should be very exciting in terms of the quality of the targets that are going to be tested.

T3 has also been invaluable in terms of understanding the geology and progressing a project in this region which has previously had no mining history. Our operating company in Botswana, Tshukudu Metals, has built strong relationships locally and at a government level and with the stakeholders around us. Tshukudu is now well-known in Ghanzi District where we support local employment and training and are introducing a number of community initiatives. Tshukudu is about to appoint a community relations officer and open an office in the main shopping mall, so we will be very visible! All of that impacts Tshukudu's standing in the community and a lot of work goes into that side of things.

RS: T3 was discovered less than two years ago and you and Metal Tiger (30%) have agreed to proceed with a feasibility study starting this quarter - what has made such rapid progress possible?

JH: T3 is a relatively straight-forward project. It has a wonderful geometry with wide ore zones starting at shallow depth around 30m below surface. We are planning a conventional openpit mining operation, with a low stripping ratio and flexibility to be expanded in stages. Additional things like the very favourable metallurgy should also work in our favour.

The local infrastructure is hard to beat, with the Ghanzi highway only 12km from site and Ghanzi town has everything we require 80km from site and within daily commuting distance. Grid power, which will have a huge impact on the T3 project, is due down the highway by 2022. The government has committed US\$450 million and awarded contracts to commence the transmission line. The Kalahari Copper Belt is located in north-west Botswana. Grid power along the highway will support tourism, help develop the substantial cattle industry and open up new opportunities in the region so it's an important development for Botswana as well.

RS: MOD is continuing to reveal significant intersections, such as the highest grade yet of 18m at 4.3% copper and 94g/t gold, from infill drilling announced earlier this year. You have eight rigs on the go, what do you hope to see from ongoing exploration now you've doubled the budget to A\$10 million?

JH: Eight drill rigs are still at T3 doing resource infill and underground extension drilling, including testing a deeper 11km long structure called "T-Rex" which sits underneath T3. In late March or early April we anticipate environmental approval for drilling to start on all the farms surrounding T3. This should open up many other top tier EM and soil anomalies in the area we call T3 Dome, so our geologists are hoping to have some fun testing new targets, and can't wait to start.



MOD MD Julian Hanna

In addition to T3 Dome, work is progressing rapidly on a much larger exploration project called T20 Dome, about 100km west of T3 Dome and along the same structural zone. The only previous drilling is at T4 on the northern edge of T20 Dome where MOD intersected an interval of 6% copper in early 2016. Drilling at T4 stopped when T3 was discovered and we haven't been back since.

Soil sampling has been completed over the eastern part of the T20 Dome which has resulted in a 60km long, up to 20km wide area with numerous unexplained copper and zinc anomalies. We are about to start an airborne EM survey to cover around 700km² of the T20 Dome to try to narrow down targets for drilling.

RS: What makes T3 differ from other copper projects along the Kalahari copper belt?

JH: It's a very wide vein hosted deposits - up to 50-80m wide, compared with most deposits in the region which average 5-10m. Geologically T3 sits about 300m above the prospective geological contact whereas all the other deposits we're aware of occur on that contact.

T3 has had no prior exploration. It is also unique because the area around T3 Dome and extending to the T20 Dome is largely covered by a very shallow surface layer of calcrete. We think this calcrete blanket has in effect suppressed the surface expression of copper in the underlying sediments. Previous explorers along the copper belt ignored minor copper soil anomalies and focussed on stronger anomalies. Now we get very excited by anomalies that they rejected. Tshukudu has collected some 31,000 soil samples along 140km of the structural zone and found many anomalies similar to T3 so you can imagine we can't wait to start drilling those.

RS: What key milestones does MOD aim to achieve in 2018?

JH: The T3 Pit Project feasibility study is expected to be completed by the end of the year and we're getting the mining permitting process underway later in the year. So with the pit on its way we want to scope out the potential of high-grade vein mineralisation below the T3 pit as a possible underground target.

At the T1 deposit 20km north of T3 MOD has a small 2.5Mt resource containing 2% copper and 50g/t silver. The resource upside there is very strong and MOD has received permits to start drilling and we hope to kickstart this program in February.

RS: How is the timing of T3's development - aiming for construction next year and production in 2020 - placed in terms of anticipated demand in the global copper market?

JH: We seem to be in a good space because while many analysts focus on Chinese demand for copper, the long term supply lines are starting to face problems both politically and technically. To meet any expansion of copper demand, in electric vehicles for example, there are not many new regional-scale copper opportunities out there to meet this demand or replace ageing production. Only about one-third of Kalahari Copper Belt within Botswana has seen any meaningful exploration in the last 20 years. The two-thirds of the belt we control is virtually untouched. Considering MOD discovered T3 with the first drill hole into a copper soil anomaly only two years ago, you can probably see why we are so optimistic about the future.