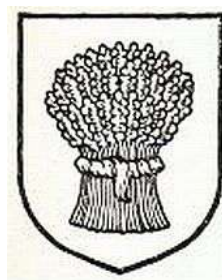


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HALLGARTEN + COMPANY

Mine Visit

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Alphamin Resources (TSX: AFM, OTC: AFMJF, JSE:APH) Strategy: LONG

Price (CAD)	\$1.24		
12-Month Target Price (CAD)	\$2.00		
Upside to Target	61%		
High-low (12 mth)	\$0.77 - \$1.32		
Market Cap (CAD mn)	1,581		
Shares O/S (millions)	1275		
	FY23	FY24e	FY25e
Consensus EPS		n/a	n/a
Hallgarten EPS (CAD)		\$0.119	\$0.159
Actual EPS (CAD)	0.05		
P/E	24.8	10.4	7.8
Dividend per share	6cps	9cps	15cps

Alphamin Resources

Excelling & Accelerating

- + Bisie, upon inspection, is somewhat of a model mine, where management have overcome a logistically challenged location to create two state-of-the-art Tin mines in the central African jungle
- + Mpama South has hit its production stride after only commencing operations in 1H24
- + Production for the whole complex is at a run-rate of 20,000 tpa of contained Tin and should hit 25,000 tpa in the near future
- + The Tin price continues to trade at the highest levels in half a century due to ongoing weak supply and strong demand fundamentals
- + Margins are exceptionally high at current Tin prices over \$30,000 per tonne and cash is flooding to the company's bottom line creating a virtuous circle of cash generation
- + The dividend has been hiked yet again and the company stands at a yield of ~9.7% at the current time
- ✗ Logistically the location in central Africa means long supply lines to the ports that have become subject to the vagaries of the extreme weather in the area
- ✗ Goma is a city living on borrowed time, but despite this is enormously vibrant in a devil-may-care way
- ✗ The company is still trading at a significant discount to where it would be if it was in a jurisdiction other than the DRC and listed in another market besides the TSX-V
- ✗ It would seem that enthusiasm for exploration away from the existing mines has faded somewhat

Seeing is Believing – (Finally) Visiting the Bisie Mine

Alphamin's management, in early October of 2024, organized a mine trip for investors and analysts to its massive Bisie mine in the northern DRC. This mine has been operating for five years now and has grown to be the largest tin mine in the world. The trip was poignant for us as it had originally been planned for March of 2020 and had been derailed by the onset of the global pandemic. We guess we dodged a bullet because if we had gone a few days earlier we might have been trapped at site for the duration! However, in the long run, we got there and extend our thanks to the company for the invitation and its hospitality. The adage here is "better late, than never".

Our previously planned trip was going to be just us at site. On this occasion, the five visitors were two analysts (both from London), two US fund managers and a London-based institutional investor.

It was relatively easy, once production started, for Bisie to claim the laurels as largest listed producer outside China. This took it to 4% of global tin production immediately. With very few new (or old) projects joining the fray the onset of production at Mpama South last year took Alphamin up to 6-7% of

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global production. Further to this the original mine also gets to claim credit as the highest-grade producer globally.

Mine Trip Notes – What they Are & Are Not

These notes are one of our lesser-known products. Over the years we have written a number of single mine trip notes and sometimes the rarer double-bill notes. Our last single mine trip note was that of Abra Silver's Diablillos project in Salta in mid-2023. The last one of the double bill notes being our writeup of the February 2023 expedition to the Altar project of Aldebaran Resources and the Los Azules project of McEwen Copper in Argentina's San Juan province. These can be found at our website at www.hallgartenco.com.

These mine trip notes are intended to focus upon the big context of the metals in question and the jurisdiction and then the facts of the trip and observations upon the project site. They are **NOT** initiations of coverage, and do not contain revenue projections, management bios or even the risks involved/envisaged in the projects visited.

Uniqueness Comes into Focus

The Bisie mine moving into production in 2019 was a key new addition to the world Tin feedstocks market, adding capacity of producing 12,000 tpa of contained Tin to a market that had seen erosion of traditional mines and sources over the last decade.

Now the mine has seen a further quantum leap in production with the addition of Mpama South, taking production up to what will shortly be a run-rate of 20,000 tpa, with a relatively short-term goal of hitting 25,000 tpa.



Goma – Dancing on the Volcano

The avant-garde composer Alban Berg said, in a March 1933 letter from Berlin, that: "The whole town and all its inhabitants are quite drowned in carnival din, masks and confetti..... Dancing on a volcano".

We were reminded of this by Goma as the city is up close and personal with Mount Nyiragongo (an active volcano which erupted in January 2002 and May 2021) is a mere 13kms away. The area is an active earthquake zone with various other active volcanoes in the vicinity.

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Goma is the capital and largest city of the North Kivu Province in the eastern DRC. It is located on the northern shore of Lake Kivu and shares borders with Bukumu Chiefdom to the north, Rwanda to the east and Masisi Territory to the west. The city has an approximate area of 75.72 km² with an estimated population of nearly two million people according to the 2022 census.

The village of Ngoma was a port for lake traffic and a crossroads for the overland trade routes between Central Africa and the Indian Ocean. At the end of Belgian colonial rule the location was little more than a trading post with a surrounding economy of coffee and cocoa plantations plus wood extraction from the forests.

Goma's prominence as a regional centre on Lake Kivu started to grow and it earned the status of an extra-customary center in 1945. At the time its population was estimated at 8,600. In 1951, Goma was elevated to the territorial and capital level of North Kivu.

Limnic Eruptions on the Mind

They say that nothing focuses the mind like hanging, but limnic eruptions were more of a preoccupation than any noose while visiting Goma. This threat is not a preoccupation for most of the world, but for parts of Africa it is a very real and present threat.

But what is it? A limnic eruption, also known as a lake overturn, is a very rare type of natural disaster in which dissolved carbon dioxide (CO₂) suddenly erupts from deep lake waters, forming a gas cloud capable of asphyxiating wildlife, livestock, and humans. Scientists believe earthquakes, volcanic activity, and other explosive events can serve as triggers for limnic eruptions as the rising CO₂ displaces water. Lakes in which such activity occurs are referred to as limnically active lakes or exploding lakes. Lake Kivu, on which Goma (and Kigali, the capital of Rwanda) sits, is the largest un-overturned mass of carbon dioxide (and methane to add to the piquancy).

When a lake overturns the CO₂ hugs the ground and fills low territory (e.g. valleys) and advances insidiously and unnoticed, particularly if it occurs at night.

These events have occurred in the past (most recently in Cameroon) in isolated depopulated zones and the fatalities have “only” been several thousand and the lakes have been small. Lake Kivu, in contrast, has millions living around it.

Two significant changes in Lake Kivu's physical state have brought attention to a possible limnic eruption: the high rates of methane dissociation and a rising surface temperature. Research investigating historical and present-day temperatures shows that Lake Kivu's surface temperature is increasing by about 0.12°C per decade. As mentioned, Lake Kivu (and Goma) is in close proximity to active volcanoes, which might act as potential triggers for underwater landslides or other mass displacement of the gas.

Efforts to vent Lake Kivu's massive reserves of these gases have proven futile, as have projects to harness the methane as an energy source.

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The Rebels

There are reputedly three rebel “movements” in the far north of North Kivu province. The most active rebel groups include the Allied Democratic Forces, the (ironically named) Cooperative for the Development of the Congo, the March 23 Movement, and many local Mai Mai militias.

The Rwandan genocide of 1994 has engendered many of the problems in the region including fueling the so-called First and Second Congo Wars. The aftermath of these events was still having effects on the city and its surroundings in the last decade, and indeed in recent years.

The city was captured by rebels of the March 23 Movement, during the M23 rebellion in late 2012, but it has since been retaken by government forces. Then it was taken again by the same rebel group in 2022.

As has often been said of Africa, the colonial borders did not match the ethnic groupings and traditional historical and tribal structures. Likewise, in the northeast of the Congo and in Rwanda the traditional lands of the Hutu and Tutsi tribes straddled the borders of both countries, though ironically both were under Belgian rule in colonial times (at least after WW1, when the German colonial power was passed to Belgium in Rwanda).

The ethnic rivalries definitely fired up the Rwanda genocide but as always in many of these conflicts the mood music is monetary. In the case of the Kivu provinces the monetary reward included the smuggling of cocoa and coffee out via Uganda to the world markets, rebranded as Ugandan produce. More lucrative though was artisanal mining, with Gold, Coltan and Tin providing lucrative means of funding arms purchases. The enablers of this trade (i.e. the end industrial processors) will go unnamed here, but it doesn't take much in the way of street smarts to work out which country has benefitted most from “conflict” minerals whether it be here or Burma.

This is where the connection to Alphamin comes in (and some of the confusion). Bisie was first discovered due to the activities of artisanal Tin miners on the site and in other zones nearby (including where Rome Resources are pursuing their goals). The product in those days was under the control of rebels and helped fund their operations, so genuinely was a conflict minerals.

The artisanally-mined Tin, despite being highly valued as a metal, could not compete with gold or coltan in portability and value per tonne, so was never as lucrative as the other metals. After a site invasion by rebels in 2015, the rebel forces are now located at over 100kms distance as there is no mileage for them in the artisanal output as its now Alphamin's mine and most of the artisanal miners are now otherwise engaged (a number of them as AFM's employees).

The Mine Trip

Everybody flew into Goma via Addis Ababa, where Ethiopian Airways have managed to clinch the African markets by adopting the Turkish Airways model of hub-and-spoke (and by being competent with superior service). Well, superior to British Airways, but that is not hard to better.

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From the airport we were taken to a hotel on the edge of the town/lake where we had a dinner with the country manager, Albert Kitenge, in which he briefed us on his long history on the project.

The next morning, we visited the company's administrative offices (shown below), in-country, which were near the hotel. The company also has offices in Johannesburg and in Mauritius.



We were introduced by the country manager to the administrative team and to the HR and financial team. After roughly an hour there, we were driven to Goma's airport for the flight to the minesite. This has been delayed on the day because of mist obscuring one of the mountains near the minesite's strip, thus thwarting the plane taking off for Goma. Eventually the mist lifted and the plane arrived in Goma. After a 45-minute flight we arrived at the Bisie landing strip, which had been constructed by Alphamin at considerable expense as a few small creek valleys had needed to be filled in. The planes are leased from and operated by a Swiss company. Below can be seen the plane on the strip at the Bisie end.



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The landing strip was fairly bristling with security, both the company's security team and some members of the DRC army.



We then drove the 20-something kilometres to the mine, with an escort of two jeeps, one up front and one behind. Armaments were well in evidence.

The jungle is very dense and we passed thru two microvillages upon the way plus a large aggregates facility/pit which is used for road maintenance etc. Parts of the jungle were thinner where the locals slash & burn agriculture is undertaken. There were quite a lot of banana trees but not much else was evident of the crops in the area.

The trip took around 25 minutes, with occasional passing of guards stationed along the road or some of the locals waiting for "something", as is the nature of roads in Africa since time immemorial.

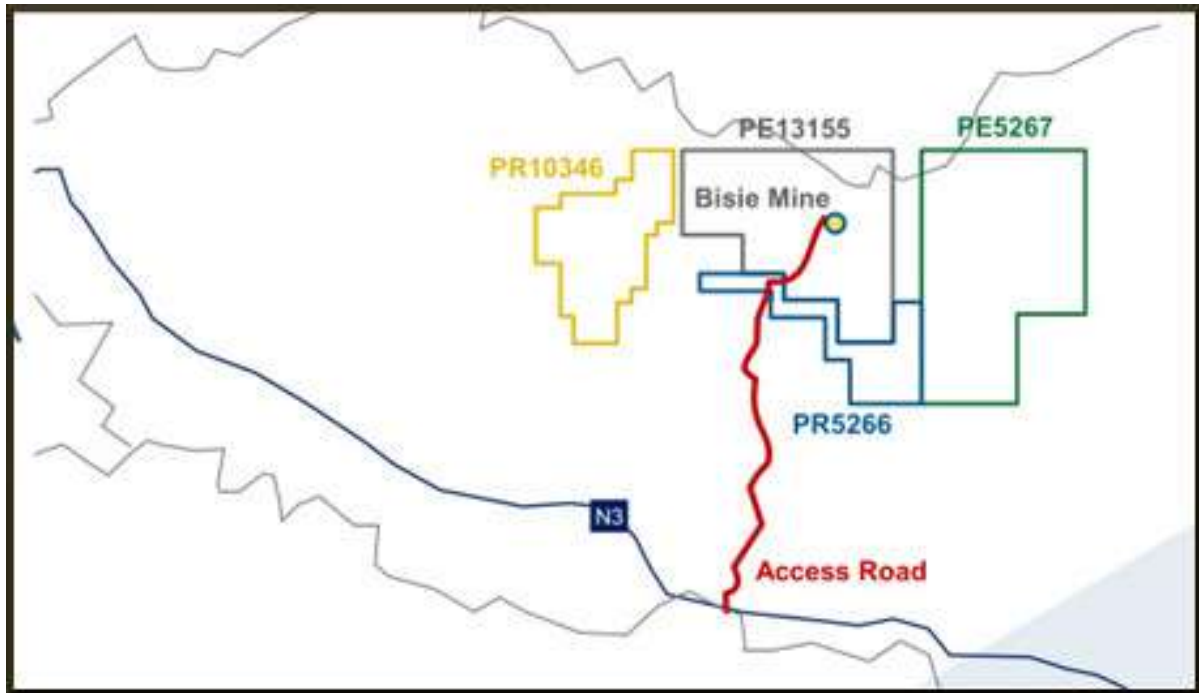
The Bisie Mine

The company's main asset is the Bisie Tin mine



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in the DRC. It is located roughly 180 km west-northwest of the regional centre of Goma and about 210km due West from the Ugandan border. There is novel mineralisation at Bisie, which includes high-grade Tin, Copper, Zinc, Lead and Rare Earths.



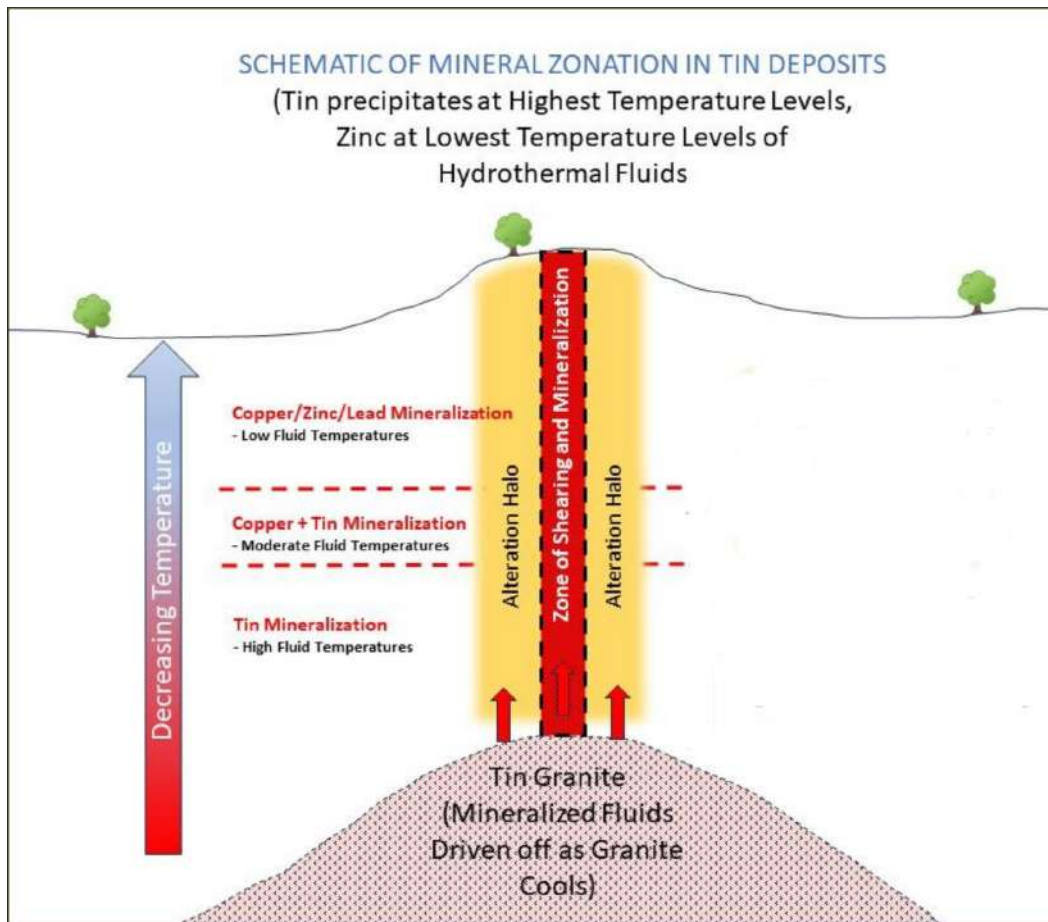
Bisie consists of the Mpama North mine (mined since 2020) and the newly-producing Mpama South mine, located ~750 m south of the original mine. The company's 84.14% subsidiary, Alphamin Bisie Mining SA holds 100% ownership over three exploration permits that cover 1,470 km² of prospective ground in the North Kivu Province.

The Geology

The Bisie Complex is underlain by Kibaran Orogenic Belt lithologies, interpreted as being an inter-cratonic collision zone with different periods of extension and compression. The two units present at the mine are the lower Paleoproterozoic basement composed mainly of dolomites, quartzites, amphibolites, mica schists and migmatite gneisses, as well as the upper Mesoproterozoic unit composed of dominant micaceous schists to red arenaceous phyllites with minor interbedded quartzites and amphibolites.

Both units have been intruded by different generations of granites, starting in the Mesoproterozoic which are believed to be the source of the numerous tin occurrences.

The cartoon on the following page shows the intellectual perception of how this kind of deposit evolved. Some commentary suggests that the Bisie mine has its closest comparative in the San Rafael mine of Minsur in Peru.

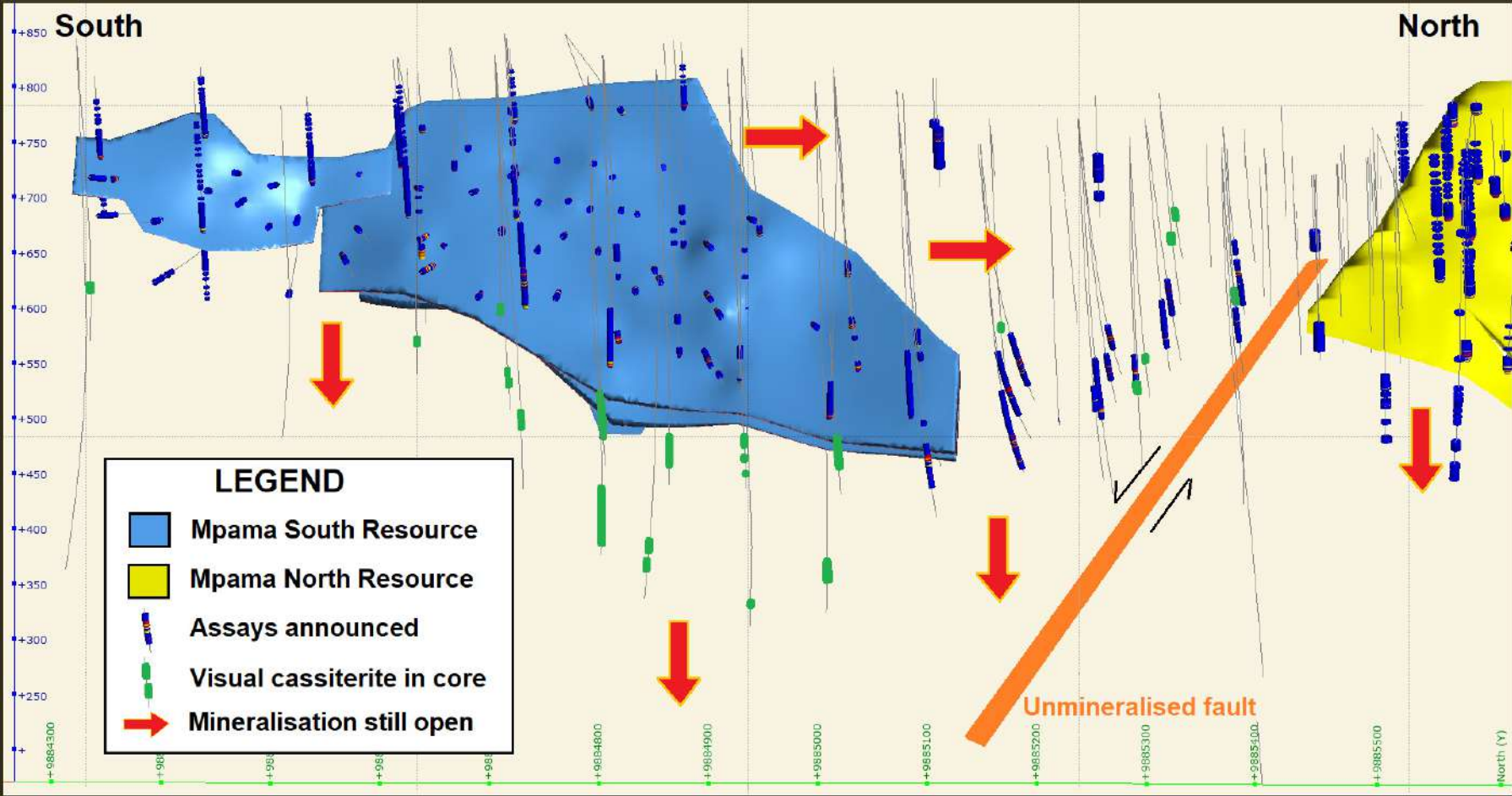


The mineralization at Mpama North and Mpama South is associated with a steeply dipping (~60-75° east) north-south striking zone of intense chloritisation and shearing contained within micaceous schists. The two deposits are believed to be a single deposit dissected by a cross-cutting northeast-southwest fault zone in the area known as the Wedge. Absolute lateral distance between them is ~40m.

The main tin-bearing chloritised zone is on average approximately 9m thick at Mpama North and 7m at Mpama South. Narrower subordinate zones occur several metres above and below the main zone in certain areas. The mineralization occurs in the form of irregular high-grade veins of botryoidal cassiterite several tens of centimetres thick and lesser amounts of cassiterite blebs and vein fragments irregularly disseminated in the chlorite schist. The strength differential between lithologies often results in boudinage cassiterite lenses.

Copper, lead and zinc occur as chalcopyrite, galena and sphalerite in locally significant concentrations, together with silver and occasionally arsenic in arsenopyrite.

As can be noted in the cross section on the following page, there is a 500-metre space between Mpama North and South however, as drilling has proceeded in this gap the unmineralised area (around the fault) has been whittled down to a mere 30-40 metres.



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Explorations – Actions & Goals

The exploration efforts at the current time are directed towards:

- Increase the Mpama North and Mpama South resource base and life of mine
- Discover the next tin deposit in close proximity to the Bisie mine
- Ongoing grassroots exploration in search of remote tin deposits

The drilling underway at Mpama North is based in an underground exploration drive at level 16, which is 250m below the first mining level and extending 200m beyond the northern extremity of the orebody. Development of this drive is nearing completion with drilling to commence early 4Q24. Exploration holes are planned in multiple directions on strike and at depth. Additional underground exploration drives are planned from level 20 beyond the southern end of the Mpama North orebody.

Surface drilling is underway during 4Q24 at Mpama South and between Mpama North and Mpama South targeting extensions at depth and on strike further south. The gap between the two deposits is shown in the cross-section on the preceding page.

Alphamin's strategy is to not only to increase life of mine, but also to yield valuable information towards discovering additional tin deposits in close proximity. In addition, an external review of all exploration data to date is expected to guide incremental drilling initiatives from 2025. That said though it was clear that despite the abundance of financial resources at the moment the company is not doing much in the way of drilling further afield than the current two deposits and the gap between them.

The Mpama South Resource

In early March of 2022, a maiden Mineral Resource on MPS completed by J.C. Witley of the MSA Group (an independent consulting company) was released. Following completion of the Phase 3 diamond drilling campaign in September 2021 and receipt of assays, a Mineral Resource Estimation for the Mpama South project commenced in December 2021. This MRE included results from 79 drill holes totaling 23,109m.

In late March of 2022, the company released an expanded resource including results from 102 drill holes.

In the company's estimation this made Mpama South the second highest-grade publicly disclosed

resource globally and one of the largest by contained Tin. The company was being rather coy there because it didn't mention that Mpama North is the deposit with the highest grade deposit in the world.

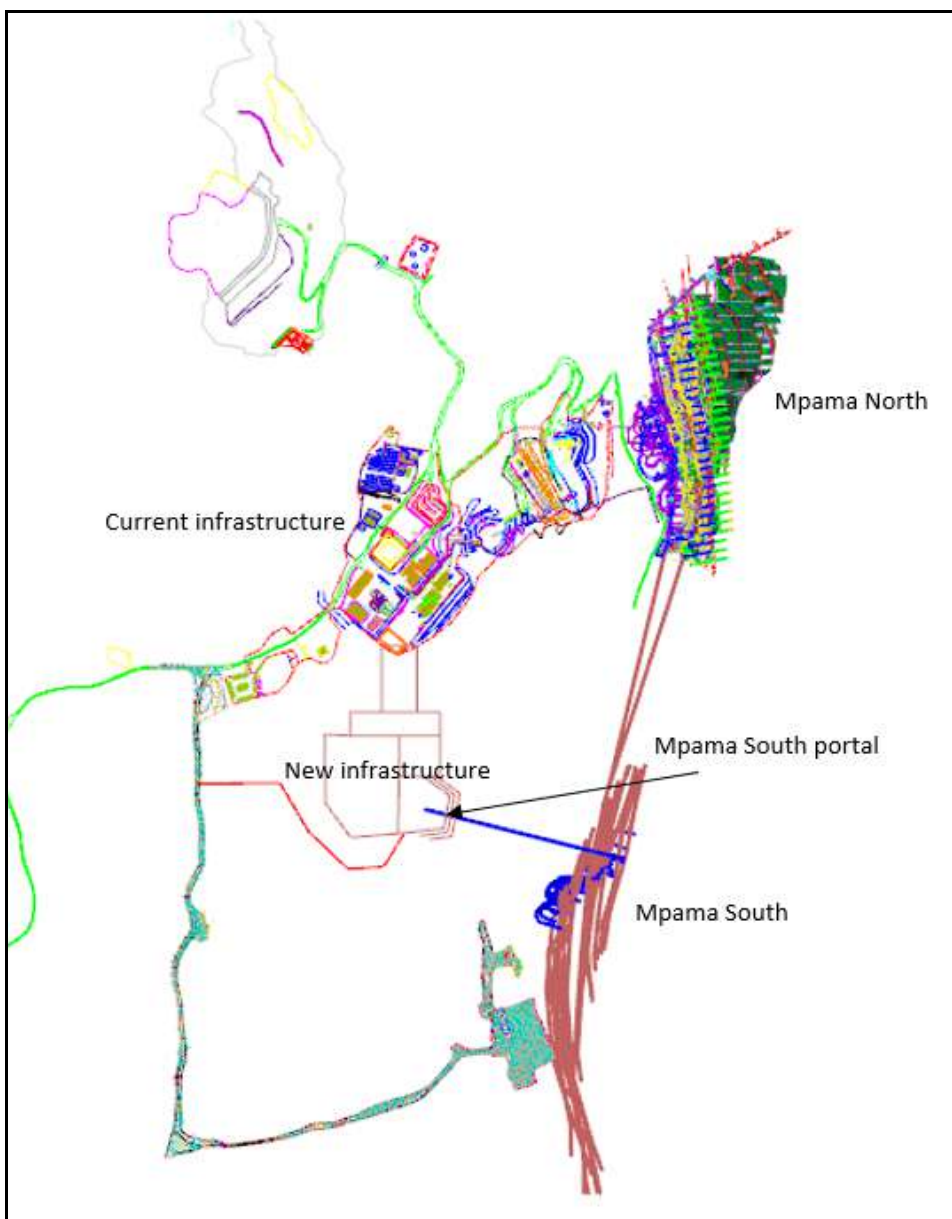
Category	Ore mn tonnes	Sn %	Contained Tin
Indicated	0.85	2.55	21,500
Inferred	3.42	2.45	83,700

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This Maiden Mineral Resource formed the basis of a Preliminary Economic Assessment (PEA), the results of which were announced on 07 March 2022.

The Mpama South Mine

In 2022, it was resolved that the mine at MPS would be an entirely new replication of the Mpama North set-up, but several hundred metres to the south. The rationale for this was that, as it was not expected that there will be a reduction in throughput of Mpama North's production for at least ten years, therefore trying to build out a bigger central processing site would be disruptive of ongoing production and not necessarily a saving of money on CapEx.

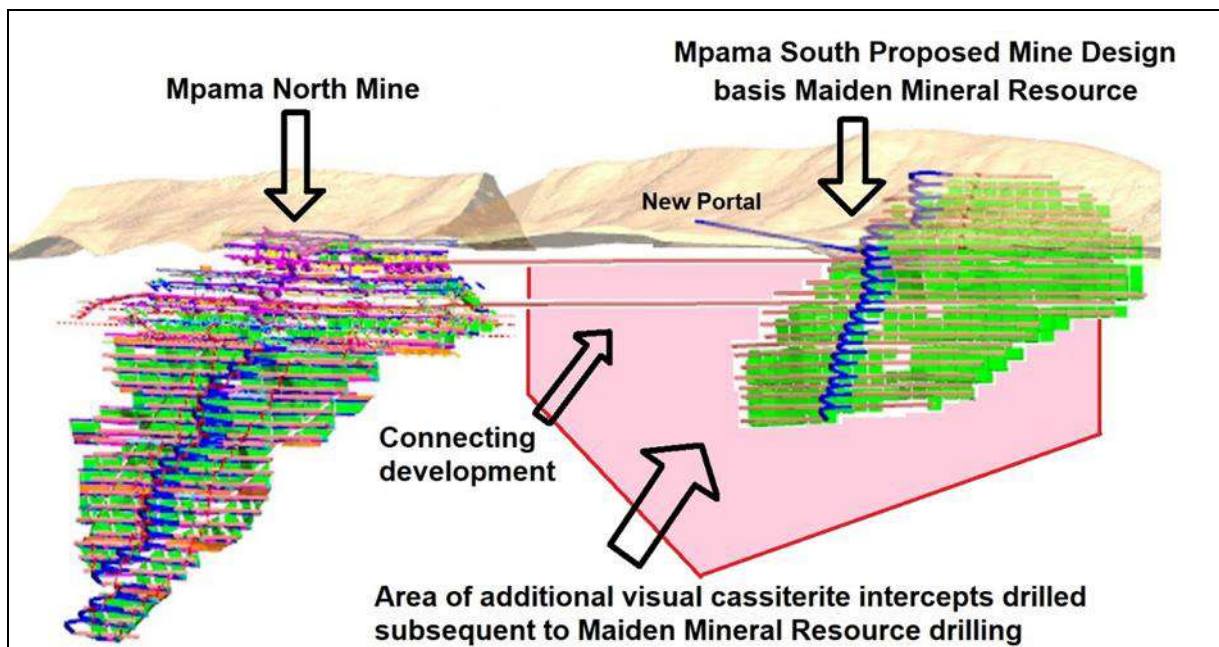


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The Mpama South complex was to have the same throughput as Mpama North, despite, the lower eventual annual output, because of the grade differential. The tailings storage facility is shared is the Fine Tin processing unit.

The PEA demonstrated the potential viability of expanding production by developing Mpama South by leveraging the adjacent Mpama North Mine services (power, water, site access, underground infrastructure and personnel) coupled with the construction of a dedicated second lookalike processing plant and mine portal.

The two mines are interconnected by drifts at the 8 and 9 Levels as the two mineralized areas are almost touching and thus drifting from one development to the other made sense to exploit the evolving resource in the “gap”.



The PEA’s stance was driven by risk mitigation through known implementation, with similar mining method, mining fleet and processing route as currently applied at the Mpama North mine. The Mpama South deposit mine could have been accessed via the existing mine but for the reasons of minimizing disruption, but also enhancing ventilation (via having two portals) the replication approach was taken.

Heading Underground

Our underground visit began at the Mpama North adit, shown in the photo that follows. The white sign near the adit entrance states that the blasting occurs at 6 a.m. and 6 p.m. that day but these are the usual times that it takes place at Bisie. We were kitted out with PPE and headed down the spiral in an extended SUV.

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We went down to the 19th level but with several stops along the way to inspect where development drilling was being undertaken to identify the next blocks to be taken out. This is mainly fan-drilling. Note the Epiroc product placement!



The mining method is long-hole open stoping (LHOS). As practiced here, the method involves holes being drilled from the level above into the void already opened below and then it is blasted collapsing the ceiling into the void where it is scooped up and transferred to surface.

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And lower down, with a white board showing the metrics of the block identified to be taken out:



At one point it was somewhat like a rush-hour underground with a mass of vehicles going up and down with passing involving some intricate manoeuvring into side drifts (some especially built for purpose).

We then ascended to the 8th level where a drift connects to Mpama South. There is also a drift across at Level 9 but that was being resurfaced at the time. We travelled across to the Mpama South portal and emerged back into daylight.



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The portal to Mpama South's orebody can be seen above and the new processing plant (geared to around 7,000-7,500 tpa of contained Tin production) was around 150 metres from the portal.

Processing

After exiting the MPS portal we offloaded the PPE and went over to the extensive circuit for processing the ore from MPS. The complex stretches over maybe 200 metres and consists of a number of different structures connected by conveyors and slurry lines.

Firstly, we visited the primary crushers for MPS ore. This is shown below:

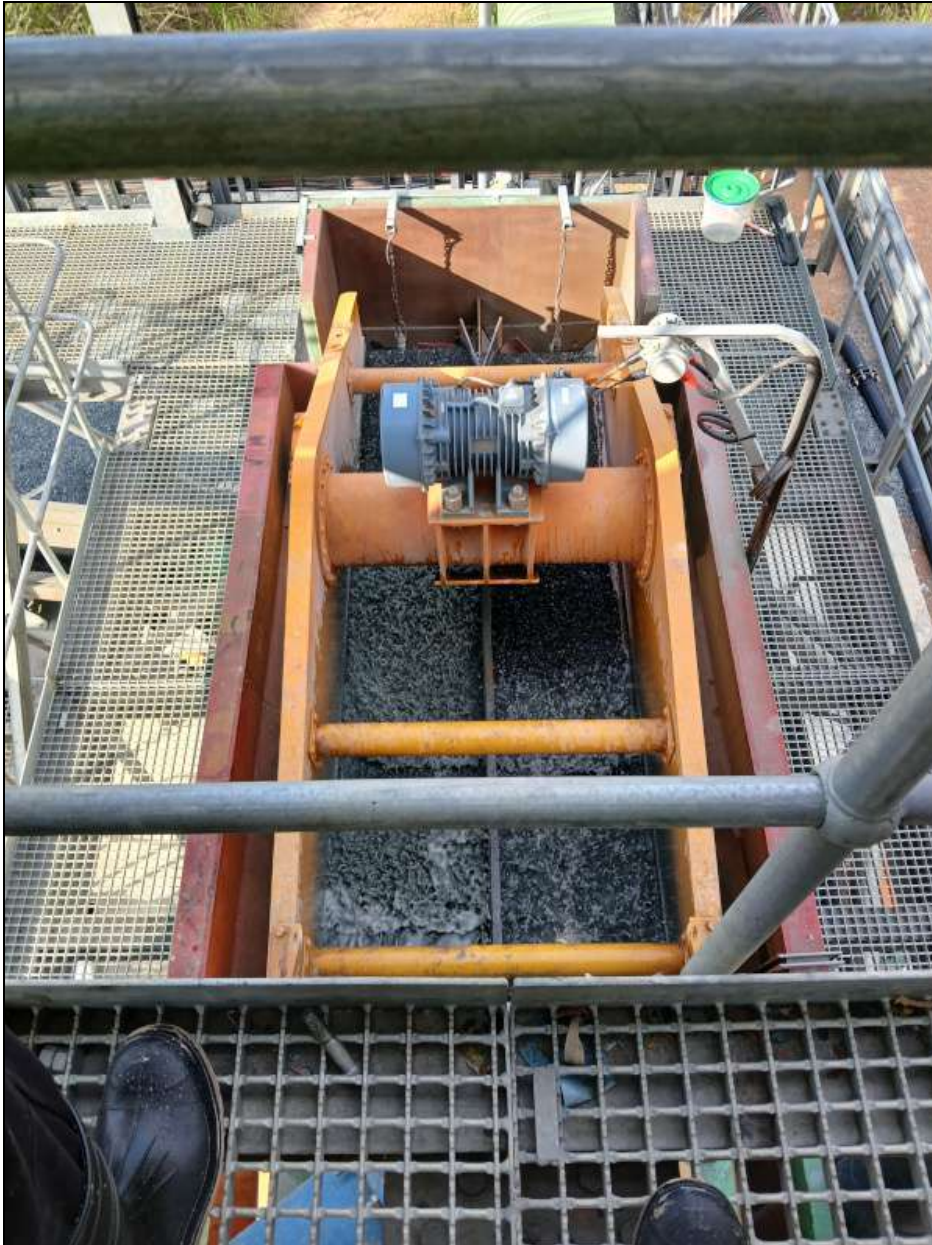


From there we visited the structure housing the jigs. This was probably the most revelatory part of the trip, at least for ourselves, as we spent quite a bit of time speaking to the manager of the processing complex.

This complex is interesting because it is here that the next potential uptick in production might be achieved. The problem at Bisie is that essentially the whole complex runs on diesel because the mine is so far off-grid. However, to do sufficient regrinding to extract maximum returns from the flow of ore through the process would require a more economical power source, on a much larger scale.

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Below can be seen the two streams of material out of the jig complex, with that on the right heading to flotation & spirals complex and that on the left heading to tailings, because it is oversized. To our inexperienced eye, it looked like four times as much material was going to tailings than to the further processing. However, this tailings flow is still tin-rich, but it requires regrinding to liberate the cassiterite from the other material.



The plan is to circle back, at a future date, to rework the tailings dams to extract this material.

Thinking back to our days looking at Tungsten (and other) operations in Peru we noted that there many

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mines constructed their own small hydroelectric facilities in the high Andes to generate their own electricity, essentially for free. In light of the perpetual rainfall at Bisie, it would seem like rather a no-brainer that Alphamin constructs such a facility at Bisie to not only provide power to facilitate regrinding but also to replace some of the current diesel consumption. Very much a double-bonus for a capex that might not be excessive. The processing manager has been considering this, but it requires a certain prising open of the capex purse by group management to make the requisite investment.

And after this, we visited the very large structure housing the shaking tables, flotation tanks and spirals.



After this phase the tin concentrate goes to a further large shed where it is dried and bagged.

The Money Shot

In reality, here is what it is all about. The photo on the following page shows some of the production, thus far that day, from the Mpama South mine and circuit. Each sack represented ~US\$25,000 in contained Tin at the prevailing LME price on the day. There were over 20 of them at around 3.30pm.



Recent Performance

Recently, the company reported Tin production of 4,917 tonnes in 3Q24 (up 22% from 2Q24). This was in line with the company's planned annual production of 20,000 tonnes. Below can be seen some projections published by the International Tin Association (ITA).



Source: International Tin Association

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The ore processed from the Bisie mine increased 37% to 229,107 tonnes, however the average grade declined from 3.2% Sn to 2.9% Sn. This is in line with the company's plans to process 900,000 tonnes of ore at an average grade of 3% Sn annually. Plant recovery saw a minor drop 3% to 73.4%.

Tin sales also increased by 71%, clearing a 600 tonnes sales backlog from the previous quarter.

The All-In Sustaining Costs (AISC) remained approximately flat at US\$15,700 per tonne of Tin sold, while EBITDA increased 69% to US\$91.5mn, despite a 2% fall in average Tin price achieved, due to higher production and sales volumes.

The company informed markets that it expected off-mine costs to decline from 3Q24. This was due to a 60% reduction in marketing fees negotiated as a part of the extension of the offtake agreement with trader Gerald Metals.

Tailings Storage Facilities

There are currently two TSFs at Bisie. One is reaching the end of its useful life and the other is new and seeing some very limited deposition of tailings, mainly for structural purposes. We visited both facilities late in the day. The photo that follows shows a view of the new facility as seen from the TSF retaining wall.



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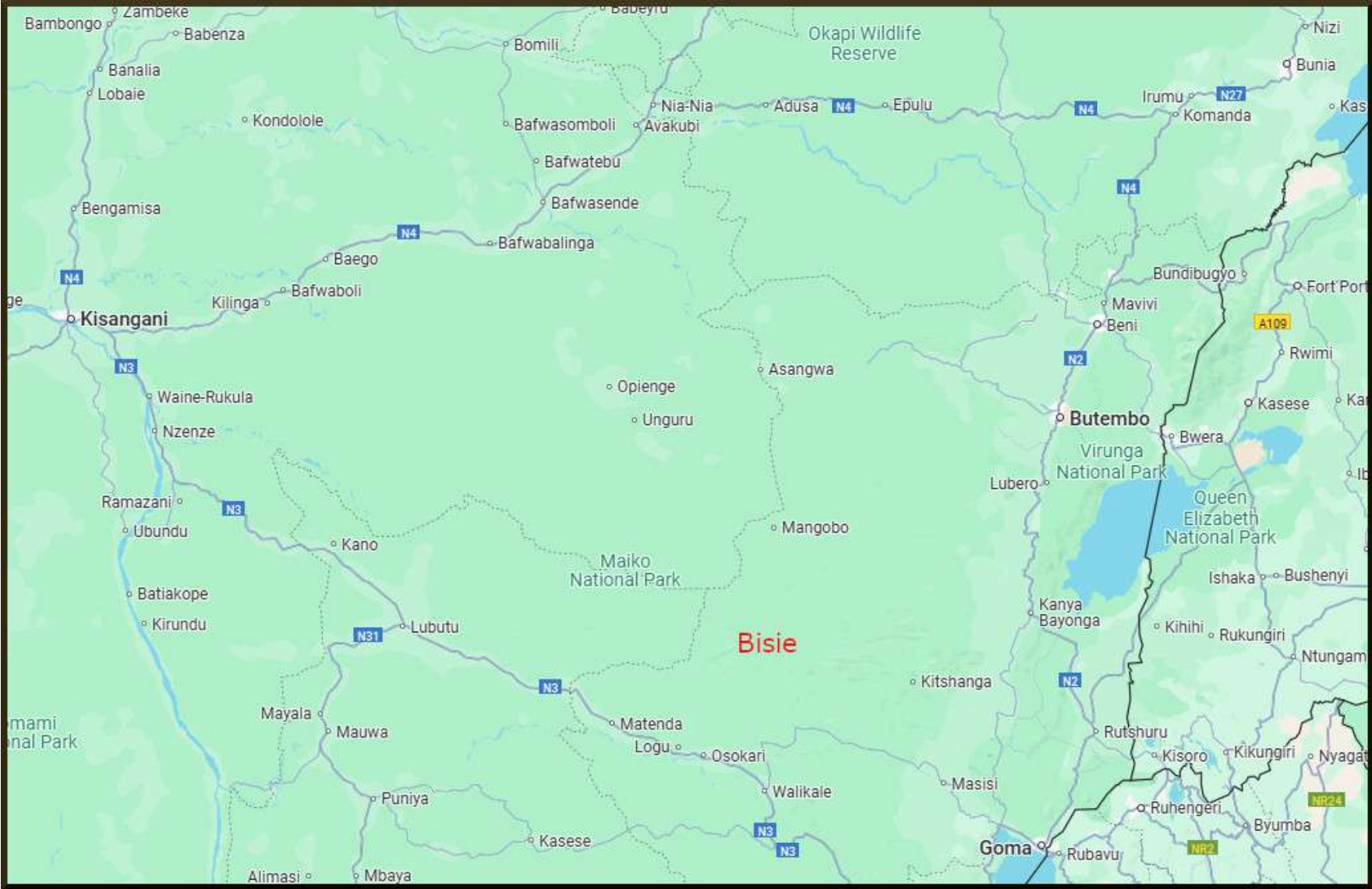
ESG

In a sop to this factor, we can only note that Bisie is a massive contribution to the communities around about, even if they aren't employed directly by the mine. Bisie could best be described as the middle of nowhere, but now it is somewhere. Below can be seen the before and after for the school at Walikale.



Access

The only perennial issue for Alphamin is access. For long term followers of Alphamin, the access issue has been a far more critical issue than rebels. The map on the following page shows the roads which the trucks of the company's contractors must traverse to reach the Ugandan border, where the shipments are handed off to the Gerald's people. From Bisie the product must go south to Logu, then west along the N3, nearly as far as Kisangani, where the trucks then turn back eastwards along the N4.



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Historically, the months of December, January and February are relatively dry from a rainfall perspective, but this was not the case last December.

While the entirety of the route out of the country is problematic (excepting for the part that Alphamin actively maintains from Bisie to Logu), the section between Kisangani and the Ugandan border is the most heavily trafficked and thus the most prone to massive truck back-ups should a section of the route become a quagmire and trucks (not necessarily those from Bisie) get bogged down. Sometimes as many as 200 trucks can be backed up by an incident.

Further problems are created by containers (and their trucks) not being able to return to be reloaded as scheduled, which thus compounds the problem.

Interestingly management said that the task is made more complex because the parts where problems might arise at a given time are not necessarily where one might have identified a potential problem. The incessant rainfall of the region makes flooding a constant factor, but where the problems will arise next remains the great unknown.

Day Two

On the second day we started off with a trip to the core sheds, which covered a fairly vast area. To the right can be seen a view of some core:

The group then headed to the airstrip for the return trip to Goma. The flight was delayed by mists as the pilots need a clear line of sight of some small mountains off the end of the airstrip to be able to get over them. Interestingly it was the only time we have ever been weighed (with our luggage). More heavyweight analysts might have found themselves left behind.

Upon arrival we headed back to the hotel for a farewell lunch. After the lunch, the skies then opened and, in the drive back to the airport for the flight to Addis Ababa, we got a glimpse of the other Goma with the vast heaving markets emptied of people and prolific amounts of water pouring through the streets



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down the side streets into the shanty towns that hide behind the commercial strip.

The group then flew back to the Ethiopian hub and dispersed in our different directions.

Capital Markets - Position, Position, Position

In this case we are not talking about where to buy a property but rather one's positioning in capital markets terms. We have perceived right from the start (for us, in 2020) that Alphamin was in the wrong market with Toronto not only being ignorant of Tin and its virtues, that there was little appreciation of earnings, a scorn for dividends and a grasp of Africa that did not extend anywhere east of Burkina Faso. Moreover, francophone Africa was understood by Quebec based companies and investors, but the rest of the Canadian investment community regarded it with suspicion if not outright fear. These factors were a rather deadly combination for a serious company planning to do serious things.

Ergo, the company suffers from a double price discount factor, which holds back its stock price. Frankly without these it would be trading at over \$2.50 per share. The first discount, and the obvious (and unavoidable) one, is the DRC factor but this should have lessened over the years as the DRC is gradually worming itself back into investors' portfolios, if not affections. The second discount is that Bay Street doesn't know Tin and doesn't care to know the metal. This combined with the paucity of serious Canadian investing institutions in mining (compared to, say, London) means the company undershoots its potential in truly becoming the Godzilla of Tin in global equity markets.

London understands Tin, Africa & dividends, New York understands earnings & dividends, Jakarta understands Tin, Toronto understands..... none of the above.

Denham Capital

Denham Capital, founded in 2004, is an investment firm, with over 40 professionals across five global offices. It has raised over US\$12bn of capital since inception. It styles itself as specializing in global sustainable infrastructure and mining.

In July of 2018, it was announced that Denham had closed its first stand-alone mining fund, the Denham Mining Fund, at \$558mn to expand its' portfolio in Australia, Canada, South America and Africa. Whether it was this fund that holds the Alphamin stake is unclear but at the time, it was noted that in Africa, the firm's mining portfolio included Pangea Limited, a Johannesburg-based African mining platform targeting and developing projects in several African countries.

We had heard that the Alphamin stake was in a fund in wind-up mode. The problem for Denham though (and a good problem to have) is that the stake is not really disposable in the market as it is now worth, on a market-to-market basis, something close to CAD\$700mn, if we are not mistaken. In which case, the stake would have to be placed with a strategic buyer, or as part of a takeover offer, rather than drip-fed into the markets.

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M&A – Names to Conjure With

Once upon a time it was widely believed that Alphamin was saving itself for an eventual Chinese buyer. Then along came the freeze, in more recent years, between Ottawa and Peking that led to various financings involving the taking of minority stakes being either blocked or reversed. This in turn put a dampener on the dreams of a Chinese payday for some C-Suites that did not have intentions of developing. This has prompted some to consider listings elsewhere (e.g. SRG, the graphite developer in Dubai). But, moreover, it has led Chinese companies to “not even go there” with approaches to Canadian listed stocks to avoid embarrassment or tactical retreats.

One of the names we have heard tossed around with regard to Alphamin is Ivanhoe Mines, in some of its many guises. The Friedland interests in the DRC at this time consist of Kamoakakula copper mine and the Kipushi zinc mine. Both are held through Ivanhoe Mines (TSX: IVN) and are massive by any measure. Friedland declared in 2023 at the Mining Indaba in Cape Town that “the Congo is the best place in the world to go mining”.

For Ivanhoe, with a CAD\$26.5bn market cap, Alphamin would be a bargain buy that would scarcely make a dent in the market valuation but would send a tidal wave of cash in Robert Friedland’s direction.

Other names one might conjure with are Glencore or Trafigura, wanting to secure a foothold in the Tin trading space where they are currently also-rans. Ergo, a deal brings both strong cash-flow for their mining divisions and enhanced market position on their trading desks.

There is also a certain logic for Manara, the new mining PE entity sponsored by the Saudis, to make a move as they could then construct a Tin smelter on the Red Sea coast, which would be consistent with the KSA’s processing hub ambitions. It’s worth noting here the closeness between Friedland and the Saudis.

Finally, there is Rio Tinto, which has shown a propensity in recent times to go for non-mainstream metals (Scandium, Lithium, Borates) in a way that BHP has not. Over and beyond that we would note that the famous bar chart showing Tin as THE technology metal, was actually put together and publicized over the last ten years by the company, despite RIO not being involved in the metal in a meaningful way...

Rome Resources – The “Other” Bisie

It was somewhat inevitable that Rome Resources, the abutting neighbour to the north should come up in conversation. Not much was said except that Rome was currently drilling and doing this via helicopter drilling. Despite the proximity to Bisie (around 6kms) there is no road access. The map on the following page, from a Rome corporate presentation, shows the relative positions.

We have had the AIM-listed Rome Resources as a LONG in the Model Resources Portfolio since last year when we first met them at an event in London. At that time, they were TSX-v listed, but clearly heard the siren song of London, to which Alphamin has largely turned a deaf ear.



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They have been engaged in exploring what Rome's management terms the northern extension of the Bisie deposit. However, the move to London, somewhat derailed exploration efforts and the (project) news flow went dark for a good eight months.

During October, in a not wholly unexpected move, Rome appointed Klaus Eckhof as Non-Executive Chairman. He was an instrumental member of the team that discovered the Bisie North Tin Project.

He is a geologist with more than 20 years of experience, both exploring and developing deposits across the globe, with a particular focus on Africa and was instrumental in the early stages of exploration and development of the Bisie Tin Project.

He started his career working for Mount Edon Gold Mines (Australia) Limited, prior to its acquisition by Teck Resources Limited, and in 2003 founded Moto Goldmines Limited in the DRC, which was subsequently acquired by Randgold Resources Limited in 2013. He was also founder and Executive Chairman of AVZ Minerals Ltd. (ASX: AVZ) which is developing the Manono Project in the DRC, reportedly one of the world's largest undeveloped lithium deposits.



Above can be seen one of the drill pads for Rome's current campaign.

Some envision that, ultimately, Rome will become a snack for Alphamin to dine on. Time will tell.

Risks

There are a number of potential risks that should be taken into consideration:

- ✘ Tin price goes into reverse
- ✘ Rebel activity resurges in the area
- ✘ Natural disasters in the province creating access problems
- ✘ Transfer of Denham Capital stake to less friendly hands

Tin is subject to the forces of supply and demand as are most metals. The price rise has been driven by long-term under-supply/under-investment, and on the other hand there is the fact that new production is almost non-existent. However, Tin is inextricably linked with industrial activity and the West (at least) is in an economic swoon of indefinite duration due to inflation, rising interest rates and the backwash from the war in Ukraine. It cannot be discounted that industrial demand might decline and eventually trim back some of the stunning gains of recent years in the short (or even medium-term). The ITA did report some shrinkage on the demand side over the last 12 months. However, the shrinkage of supply has been greater.

Unrest in the region has become minimal in recent times. Rebel activity has moved well to the north of Goma, but it has not entirely disappeared. In some ways, such activity is attracted by and attracts artisanal mining of highly portable, high-value minerals. That gold and coltan are not apparent in Bisie's neck of the woods is helpful. Moreover, the evolution away from artisanal mining in the zone around Bisie through development, and the mine providing alternative, more remunerative employment provides infertile ground for rebel incursions. Alphamin itself, in collaboration with the DRC's army, has an impressive security apparatus and the resources to maintain and reinforce it, should need be. The mine now is of national importance from the economic point of view and thus protection is afforded by the army as well.

The bridge issue in late 2019 and the road problems (due to excessive rain) in late 2023 show the vulnerability of Bisie with its limited options in accessing ports. This problem will only go away with the construction of better infrastructure in-country. The company would prefer not to take on such general benefit projects but, to guarantee future surety of egress and ingress, it will continue to help maintaining roads and bridges that it needs to traverse to markets. As noted, Alphamin has become important maintainers (even if not upgraders) of the road to Kisangani, as well as from there to the Ugandan border.

The future of the Denham stake is an imponderable, as we noted earlier in this review. It is too large to be placed, particularly while the company remains with its principal listing on the do-nothing, know-nothing Toronto Venture Exchange. It is almost as if the company does not want serious institutional interest. If the stake is sold to a strategic investor, it would trigger a change of control (over 19.9%) and thus a compulsory offer to minorities. The Chinese are blocked for the moment by the reigning attitude in Ottawa.

Conclusion

It may be simplistic to claim that seeing is believing but in the case of Alphamin, with Bisie operating for four years, it seems that we were the first group of analysts/managers to make the trek to the mine. Our own original trip in March 2020 had been derailed by the pandemic, but in retrospect there is so much more to see now than there would have been back then. Over and beyond that, we have the litmus test that everything that was promised then (and more) has been delivered since that time.

Mpama South was scarcely even a twinkle in management's eye then and yet now it running as virtually a Siamese twin to the original Mpama North. Even 18mths ago one might have imagined Mpama South being a doubling up of the first mine, but in reality, they look destined to be synergistic, with 1+1 equaling two and half.

If the company decides to grasp the nettle of energy supply (to permit intensive regrinding) then the tailings become an obvious next leg up in production.

Long experience has taught Tin watchers that Tin spikes & then dumps, and very rarely goes into long placid phases of relative stability. This has conditioned the watchers (resemblance to Pavlov's dogs is not amiss) to expect, inevitably, that the price will go down if the price has gone up...

So, as they are always second guessing the Tin price, they are doubly second-guessing the Alphamin price, so AFM price represents investors' Tin perceptions on steroids. In our [May 2024 Monthly Review](#) we published a revised earnings model in light of the excellent 1Q24 numbers, the addition of Mpama South (at full bore from May onwards) and a conservative take on the Tin price.

With critical mass and efficiencies of scale growing by the day Alphamin produces Tin within the lower quarter of the global cost curve and indeed as production costs soar in Indonesia, Bisie should extend its lead over alluvial producers there. EBITDA margins are 60%-70% at current Tin prices (over \$30k per tonne) and upticks in the Tin price have a snowball effect on earnings and, in theory, the valuation afforded by the markets. Further discussion of the earnings outlook must await an update of coverage.

The impressive operation at Bisie makes clear that Alphamin have indeed established the model mine for Tin, comparing at the international level, in terms of efficiency, costs, margins, production and grade, therefore we reiterate our **LONG** rating on Alphamin and have upped our 12-month target price to CAD\$2.00.



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