12th July 2021

Sector: Mining
Commodities & key projects:
Botswana:
Kalahari Copper Belt project
Zambia:
Kashitu zinc project
South Africa
Glenover phosphate project

Market data

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Source: IRESS

Description

A multi-commodity exploration company with a primary focus on exploration in the Kalahari Copper Belt.
www.galileoresources.com

Board

Chairman & CEO: Colin Bird
Technical Director: Ed Slowey
NED: Richard Wollenberg
NED: Christopher Molefe
Finance Director: Joel Silberstein

Analyst

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Galileo Resources PLC

Unearthing the secrets of the sands

Galileo is pushing ahead with an exciting exploration programme in the Kalahari Copper Belt (KCB) in Botswana. We view the KCB as one of the largest and most promising underexplored copper belts in the world, one which is starting to be unlocked by advances in geophysics. The KCB already hosts world-class copper-silver deposits and Galileo’s licences are strategically positioned in key parts of the belt along trend from major discoveries.

► New push in the KCB. Galileo has been building a land position in the Kalahari Copper Belt in Botswana. The KCB is a huge belt, extending over 1,000km from northern Botswana to the southwest into central Namibia. Multiple copper-silver (Cu-Ag) deposits have been identified and two major mine complexes have already been established by major operators; Sandfire Resources Ltd and Cupric Canyon Capital (Khoemacau Copper Mining).

► A proper discovery play. Despite its inherent geological prospectivity, the KCB has attracted only a fraction of the exploration dollars spent on the Central African Copper Belt in Zambia and the DRC. The reason being that the depth of Kalahari sand cover and lack of outcrop made exploration in the KCB challenging with cover sequences masking the geochemical signature of a potential deposit. However, the situation has changed and advances in geophysical technology mean that techniques such as airborne magnetics and electromagnetics (EM) are able to penetrate sand cover and provide key lithological or structural information about the underlying geology. A case in point, Sandfire’s A4 deposit was discovered through airborne EM interpretation. Recent discoveries in the KCB also provide further information on the structural controls on mineralisation which helps to refine targeting strategies. Thus, the challenge now becomes the opportunity, using modern technology to potentially identify world-class orebodies that historical explorers would simply not have had the technology to discover.

► KCB endowment. Key discoveries include Sandfire’s T3 (53.3Mt at 0.9% Cu) and A4 (6.5Mt at 1.5% Cu) deposits and Khoemacau’s Zone 5 (91Mt at 2.13% Cu), Full details in the note. We can only see the KCB gaining prominence as the go-to destination for copper exploration globally as other locations become more challenging. The DRC is beset with political and security risks, and Chile has growing impediments to development including social issues, access to water and infrastructure. Minex consulting (Shodde 2017) sees the average delay between discovery and development for a copper deposit at 16.8 years and that excludes the exploration phase. Thus, we see smaller, high-grade copper discoveries with potential to be fast-tracked as gaining importance.

► Sandfire deal. As testament to the prospectivity of Galileo’s landholding, Sandfire Resources Ltd (ASX: SFR, Mkt Cap: AS1.2bn) recently acquired 9 of Galileo’s licences for US$3m, a commitment to spend US$4m on exploration, and success-based payments. Sandfire is now a major shareholder in Galileo which we view as a solid endorsement.

► Botswana is increasingly coming into focus as an attractive exploration destination in Africa. Long regarded as one of the most politically stable and low-risk countries in Africa and with a democratically elected government. Botswana is a mining friendly jurisdiction, and the resource sector reputedly contributes c.80% of the country’s exports. The Fraser Institute ranked Botswana as #1 in Africa and #11 globally, in terms of “investment attractiveness”. On 7th July 2021, Sandfire was granted the Mining Licence for its T3-Motheo copper mine demonstrating the Government of Botswana’s willingness to permit projects into production.

► Galileo’s promising start. Galileo is initially focussing on three high priority licences in the KCB. A heliborne EM and magnetics survey was completed in May 2021. Interpretation of Galileo’s EM data (by the same consultancy that was instrumental in the A4 dome discovery for Sandfire) indicates a 22km long conductive feature on Galileo’s ground. There also appears to evidence of structural replication, thrust faulting and a regional scale dome structure. Given that faulting and anticlinal dome settings are emerging as key controls on mineralisation, Galileo could not have had a better start. Galileo has mobilised a rig to site to drill 10 priority holes totalling a minimum of 2,500m. Results are expected in Q3.

The KCB is fast becoming a discovery hot spot. The most compelling aspect is that because of the sand cover and minimal outcrop, the potential to discover large, buried deposits remains wide open. Advances in exploration targeting and technology along with greater geological understanding gleaned from recent discoveries (e.g. Sandfire’s A4 deposit) provide a fresh prospective on a highly prospective copper belt in one of Africa’s most stable countries. Given the major structural deficit emerging in the sector, copper exploration has a renewed sense of urgency and Galileo is extremely well placed to press its advantage in Botswana. The current £13m market cap remains unchallenging.
Kalahari Copper Belt project

Overview

Galileo holds a number of prospecting licences in Kalahari Copper Belt (“KCB”) in Botswana, one of the most stable jurisdictions in Africa. The licences were acquired in separate transactions in May and October 2020. In January 2021, Galileo sold 9 licences to ASX-listed Sandfire Resources Limited (ASX: SFR) for a consideration of $3m and various success-based payments. Sandfire also retains right of first refusal on Galileo’s remaining 15 licences.

The licences are all proximal to multiple major copper-silver (Cu-Ag) deposits, specifically Sandfire’s T3 and A4 deposits and Khoemacau Copper’s Boseto processing plant and Zone 5 deposit. The KCB is shaping up to be a globally important copper province. Despite its inherent geological prospectivity, the KCB has received less attention historically than the Central African Copper Belt (DRC/Zambia). This is due to the Kalahari sand cover which presented exploration challenges before advances in geophysical and geochemical prospecting techniques.

Figure 1 - Location of key Galileo licences in the KCB, proximal to Sandfire and Khoemacau (Cupric)

Source: Galileo Resources, modified by Shard Capital

KCB mineralisation is widespread and favourable structures on the Cupric/Khoemacau licences are interpreted to continue for more than 150km to the southwest onto Sandfire and surrounding licences.
Target: Sediment hosted Cu-Ag in the KCB.

Galileo is targeting sedimentary-hosted copper-silver deposits in the KCB. The KCB is a NE-trending Meso to Neoproterozoic belt 1,000km long by up to 250km wide occurring discontinuously from western Namibia and stretching into northern Botswana along the north-western edge of the Paleoproterozoic Kalahari Craton.

In the KCB, mineralisation tends to be stratabound and structurally controlled. Copper and silver mineralisation typically occurs at the stratigraphic and/or structural boundary at the contact of the oxidised Ngwako Pan sandstone formation with the overlying reduced D’Kar formation, largely comprised of siltstones, mudstones and sandstones. This redox contact between the two formations is the focus of exploration, aided by the presence of overlying carbonaceous market unit which typically gives an Electromagnetic (EM) response.

Deposits tend to occur at the margins of basement structures, or in areas of structural complexity within the redox zone; e.g. fold limbs, thrust faults, anticline hinge zones and regional synclinal settings. Extensional basin faults are thought to provide the source of metal rich fluids which are then precipitated at the redox boundary, aided by permeability and structural traps. These styles of sediment hosted deposit in the KCB are attractive for several reasons:

High grades. Deposits in the KCB typically grade in the 1%-2% Cu range compared to the current global average mined copper grade of 0.62% Cu.

Scale. Sediment hosted copper deposits have the potential to be very large. The style of mineralisation tends to favour high-grade veins in combination with disseminated mineralisation leading to bulk tonnage potential and good grades in contrast to other deposit types such as VHMS (small, high-grade) and porphyry (large, low-grade).

Quality concentrates. Deposits in the KCB typically produce a high-grade and high-quality copper concentrate with minimal deleterious elements.

Botswana. One of the most stable and low-risk countries in Africa with a long-established mining industry and relatively good infrastructure.
Mineralisation style

Although mineralisation exhibits differences from deposit to deposit, similar sediment-hosted characteristics are shared. Mineralisation is typically in two forms; veins and veinlets, and disseminated style. This is significant because the combination of both styles combines to provide continuity over large distances and scale, important aspects in terms of resource estimation and economics. The veins are typically massive quartz-carbonate breccia style with chalcopyrite (CuFeS₂), bornite (Cu₅FeS₄) and chalcocite (Cu₂S) the main copper minerals.

According to Borg et al.¹ evidence favours a three-stage ore genesis model involving: 1) widespread diagenetic mineralization, 2) localized high-grade syntectonic mineralization, and 3) minor late tectonic remobilization. The inferred metal sources are the basin sediments and, in particular, basin basalts from which metal was derived during diagenetic basin dewatering and syntectonic metamorphic alteration. Literature suggests that disseminated mineralisation indicates a syngenetic² to diagenetic origin, with vein mineralisation pointing to a later epigenetic introduction of copper-bearing hydrothermal fluid.

1 Geological Association of Canada - Special Paper 36:525-540, Jan 1989
2 Syngenetic = mineralisation formed contemporaneously with the host rocks, Epigenetic = mineralisation formed later than the host rocks, Diagenetic = after deposition but prior to lithification
**Targeting rationale**

The main targeting tool in exploration in the KCB is geophysics. Most of the deposits in the KCB were identified by drilling targets generated by airborne electromagnetics (AEM). EM has proven an effective tool in generating structural targets as well as identifying conductive marker horizons. Galileo has recently completed an AEM survey - see page 7-8 for details.

An AEM survey led to the discovery of the A4 deposit (6.5Mt at 1.5% Cu & 24g/t Ag, 100kt Cu and 4.9Moz Ag contained) in 2018, a satellite deposit to Sandfire’s T3 deposit located 8km from the T3 Motheo mine infrastructure. According to Sandfire, “AEM data which is processed and interpreted to a high technical standard has proven to be a breakthrough in defining many drilling targets in the T3 Expansion Area and Sandfire is optimistic that the current survey will generate new targets”.

In particular, AEM is an extremely useful tool in locating favourable structures and host sequences, given the strong stratigraphic and structural control on KCB type mineralisation. Early exploration in the KCB focused on the redox boundary in fold limb settings. As the geological model has evolved, there is now a greater focus on structural control, anticlines, structural dome settings and fault repeats. Dome settings also offer the potential for a shallower setting for mineralisation. The A4 dome was discovered by AEM and found to be hosted in a similar structural setting to T3.

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**Figure 5 – Stacked airborne EM sections showing the conductive A4 Dome in proximity to the T3 Dome**

![Stacked airborne EM sections showing the conductive A4 Dome in proximity to the T3 Dome](image)

*Source: Sandfire Resources*
Galileo’s KCB transaction and project timeline

7th May 2020. Proposed Acquisition of Copper Exploration Assets in Botswana. Galileo enters into conditional Heads of Terms to acquire 100% of Botswana- incorporated Crocus-Serv (Pty) Ltd. Crocus assets include 21 exploration prospecting licences (PLs) totalling 14,875km²; 19 PLs in the in the Kalahari Copper Belt (KCB) and 2 PLs in the Limpopo Mobile Belt (LMB) in western and north-eastern Botswana respectively. Consideration payable: 38,814,246 ordinary Galileo shares and £10,082 in cash and 1.5% NSR granted to Crocus subject to performance milestones. These PLs were previously owned by ASX-listed Virgo Resources (ASX: VIR), a company since acquired by Bezant Resources (BZT.L).


15th September 2020. Additional acquisition in KCB extends Galileo ground. Conditional acquisition of 100% of Africibum Co Pty Ltd and its interests in the northeast Kalahari Copper Belt. Africibum had an interest in five prospecting licences PL366/2018, PL367/2018, PL368/2018, PL122/2020, PL123/2020 and two prospecting licence applications in Botswana. Ground position extended to include the Quirinus copper-silver prospect with historic shallow drill intercepts. A three-hole RC drilling programme by a previous explorer all intersected mineralisation along 600m soil anomaly, including 4m at 1.7% Cu, 13g/t Ag and 6m at 0.9% Cu, 14g/t Ag. Licences located c.15km from the Boseto processing plant. Consideration: 42,000,000 Galileo shares.

17th September 2020. EM survey commences. Heliborne EM survey starts over sections of PL40/2018 and PL39/2018, part of Galileo’s KCB project. The aim of survey was to define the most prospective structural setting for mineralisation as well as possibly directly detect any conductive mineralisation present.

16th October 2020. Completion of Africibum acquisition.


26th January 2021 – Sales of 9 licences to Sandfire for $3m. Galileo announced the sale of 9 licences (which it acquired in May and October 2020) to Sandfire Resources Limited (ASX: SFR). Galileo also granted Sandfire a first right of refusal in relation to the acquisition of the 15 Kalahari Copper Belt Licences being retained by Galileo.

Consideration:

► An aggregate consideration of US$3m, US$1.5m cash and US$1.5m by the issue of 370,477 Sandfire shares to Galileo.
► Exploration Commitment: Sandfire to spend US$4m on the included licences within two years of settlement and any shortfall will be paid to Galileo.
► A Success Payment: a one-off success payment to be paid to the Galileo for the first ore reserve reported under JORC Code 2012 which exceeds 200kt contained copper in the range of US$10m to US$80m depending on the amount of contained copper.

5th May 2021. Kalahari Project update: EM data processing complete, up to 10 drill holes planned for a minimum 2,500m drilling.
Galileo’s work programme in the KCB

3 target areas. Based on regional evaluation work, Galileo is focusing its initial exploration efforts on three licence areas; PL39, PL40 and PL253 of which PL40 has been identified as the highest priority. The licences lie approximately 25km from the Khoemacau Cu-Ag deposits and 140km along strike from Sandfire Resources’ T3 project area and Cupric’s Banana Zone and Eland Zone copper deposits. Based on regional aeromagnetic and EM data, Galileo believes that the geological setting beneath the Kalahari sand deposits for the area covered by PL40/2018 and PL39/2018 has strong similarities to the geological setting that hosts Khoemacau. The regional synclinal settings of Galileo’s PL40/2018 and PL39/2018 and Cupric’s Zone 5 and Zone SN deposits are separated by a large-scale horst/anticlinal zone.

PL40 a priority. Galileo has observed that “the southern half of PL40/2018 is in a direct line from the Zone 5, Zone 5 Nth, NE Zeta, Zeta and Plutus copper-silver deposits. The observation that these deposits are all in a WNW-ESE trending line perpendicular to the strike of the stratigraphic units in this area is interpreted to suggest that there may be an original extensional transfer/transform fault (vertical fault oriented sub-parallel to the direction of extension, separating individual segments of Graben and Horst extensional zones) connecting these ore deposits that was the key conduit for the metal-enriched hydrothermal fluids that resulted in the precipitation of the syn-extensional mineralisation (sedimentary copper style).

Helicopter-borne Electromagnetic and Magnetic Survey. In September 2020, Galileo commenced a Helicopter-borne High Resolution Electromagnetic and Magnetic Survey over sections of four licences PL40/2018, PL39/2018, PL250/2018 and PL251/2018. The objective of the survey was to define the most prospective structural setting for mineralisation. The juxtaposition of an isolated conductive anomaly and a dome feature in the EM data would represent a high priority target for drill testing. The survey comprised 3,269 line kilometres at a 200-250m flight line spacing.

EM Survey results. In May 2021, Galileo reported results from EM data interpretation. The data was processed and interpreted by Spectral Geophysics, a consultancy highly experienced in processing geophysical data from the Kalahari region. The data indicated a delineates a 22km long, linear, NNE/SSW trending conductive unit along the full survey extent of licence PL40. This conductive unit is interpreted to represent a carbonaceous marker horizon dipping moderately to the east-south-east. In places, there appears to be a structural repetition, possibly related to thrust faulting or a stratigraphic repetition of the marker horizon.

Significance. E.g. Khoemacau’s Zone 5 deposit just 25km due west has two stratigraphic marker horizons in a very similar synclinal geological setting and at Sandfire’s A4 and T3 deposits, thrust faults play an integral role in the distribution of mineralisation.

Figure 6 – Galileo’s heliborne EM survey

Source: Galileo Resources plc
Drill targets. Galileo’s initial drill planning based on results from the airborne EM survey over the PL40/2018 licence will focus on the margins of a regional scale dome feature. The plan is to target the prospective D’kar Fm/Ngwako Pan Fm contact below the interpreted carbonaceous marker horizon close to the erosional surface as well as the marker horizon itself, which has been found to be mineralised at T3/A4 due to syn-basin inversion faulting controlling remobilisation of mineralisation.

10-hole programme. Up to 10 Priority holes are planned, totalling a minimum of 2,500m of drilling. Galileo has signed a contract with an experienced local drilling operator and the rig mobilised in May 2021. The company expects each hole to average c.250m and there could be potential to expand the programme and bring a second rig on site. Galileo expects to finish the drill programme in late August or further in to Q3 2021 if expanded.
Figure 8 - Location Galileo’s drill target area on the PL40 licence and relationship to Khoemacau’s deposits in the KCB

Source: Galileo Resources plc
**KCB – the next major copper province?**

We regard the KCB as one of the largest and most promising underexplored copper belts in the world. The KCB is prospective for sediment-hosted copper mineralisation. Work over the last decade or so has suggested that the KCB could be analogue to the highly prolific Central African Copperbelt in the DRC and Zambia. First Quantum Minerals is one of the operators that holds this view, having drilled in northwest Botswana in 2014, the results of which suggested similarities in the stratigraphy, structure and alteration with similar-age sequences in Zambia and the DRC.

There are several reasons why the KCB has not been subject to the same exploration attention as other provinces. First and foremost, the depth of Kalahari sand cover, calcrite and underlying sedimentary rocks in Botswana and Namibia has historically inhibited exploration. The depth of Kalahari sand cover is highly variable, but averages around 60m in northern Botswana and considerably deeper towards the southwest towards Namibia, where sand cover can be in excess of 100m. The effectiveness of geochemical sampling, one of the primary tools in mineral exploration, is greatly reduced in areas of deep sand cover. The challenge is two-fold; the absolute depth of cover masking underlying geochemical signatures from bedrock, plus the significant presence of transported cover making the tracing of anomalous geochemical vectors difficult.

Secondly, over the last few decades in Africa, a disproportionate amount of overall exploration expenditure has been directed to the Central African Copperbelt. This was driven by the opportunity for world-leading copper grades and the good potential for shallow or near-surface deposits.

The KCB is a huge belt, extending over 1,000km from northern Botswana to the southwest into central Namibia. Multiple deposits have been identified and major companies are now active. As such, we see the KCB as having the potential to host a world-class copper province.

**A surge of interest in KCB. Why now?**

- **Modern exploration techniques** have come on leaps and bounds, supported by technological advances and specialised equipment in conjunction with greater understanding of how to target mineral deposits undercover. In particular, geophysical and geochemical techniques and equipment are available to modern explorers that were simply not available to earlier companies working on the belt. Although there have been advances in geochemical vectoring with partial leach, biogeochemistry and hydrogeological sampling, geophysics remains vital. Airborne geophysics surveys have become a primary targeting tool with airborne magnetics and electromagnetics (EM) able to provide key lithological or structural information about the underlying geology. EM is particularly useful in identifying the presence of conductive horizons and marker units with a spatial relationship to potential copper mineralisation. Some geophysical techniques can provide information hundreds of metres below surface which vastly improves the targeting of expensive drill holes.

- **Greater understanding.** Over the last decade there has been a plethora of academic studies and papers on the KCB in both Namibia and Botswana. This has aided understanding of the lithological and structural framework of the province and in particular, better understanding of copper mineral deposit models and the controls on mineralisation. In addition, continued work by various companies has vastly expanded the available geological, geochemical and geophysical data. Along with data available from new mining operations and development projects, this has further refined geological understanding and the targeting of mineralisation.

- **The situation in other regions.** A lot of the “low hanging fruit” in terms of shallow or outcropping copper deposits have probably already been found in the Central African Copperbelt. This naturally provides impetus for companies to move into more underexplored regions. In addition, political instability (particularly in the DRC) and social complications in other regions starts to provide barriers to operating.
Sandfire’s big move into Botswana

Sandfire’s move into Botswana was precipitated by the A$167m acquisition of London listed MOD Resources Ltd in October 2019. MOD’s key asset was the T3 Motheo Cu-Ag deposit (60.2Mt at 1% Cu and 14g/t Ag), along with the smaller T1 deposit (2.7Mt at 2% Cu) and a significant regional exploration land package. We view Sandfire’s move in the KCB as a strong endorsement of the potential of the KCB as the acquisition met Sandfire’s strict investment criteria in terms of returns, cost profile, scale, potential mine life and upside exploration potential. Since the acquisition, Sandfire has made a sustained investment in the Botswana assets, completing a DFS (definitive feasibility study) on the T3 Motheo project in December 2020. Debt funding proposals have been received and Sandfire anticipates first production in early-2023. A feasibility study is also underway for the A4 satellite deposit. See page 14 for more information on T3 DFS metrics.

Sandfire has built a dominant position in the KCB with a 26,650km² land position. Testament to the prospectivity of the KCB, Sandfire is not developing a single deposit. Instead, a central plant (Motheo) will be built to process ore from the T3 deposit, along with other deposits (A4) and target (T1), all located within a 30km radius of the Motheo plant. As such, it is clear that Sandfire sees good potential to expand the mine life of the hub through further discovery and resource drilling. The T3 DFS envisages an initial 3.2Mtpa processing rate but the construction includes a $20m upfront investment to expand the plant to 5.2Mtpa.

Figure 9 - Sandfire’s Tshukudu projects, T3, T1 and A4, in the KCB, Botswana

Source: Sandfire Resources
Khoemacau Copper Mining.

Khoemacau is a private company wholly owned by Cuprus Capital Ltd which is in turn 87.9% owned by Cupric Canyon Capital LP ("Cupric"), a company majority owned by funds managed by Global Natural Resources Investments (GNRI) and 11.9% by Resource Capital Fund VII LP. In 2015, Cupric bought Discovery Copper Botswana out of receivership and thereby acquired the underlying Boseto mine assets which were on care and maintenance at the time.

Similar to Sandfire, Khoemacau has built a dominant land position in the KCB with over 4,040km² of prospecting and mining licences. The company has a total resource base of 503Mt at 1.4% Cu and 17g/t Ag with the main focus on the Zone 5 starter operation.

In February 2019, Cupric secured a US$565m funding package for project construction comprised of a $275m senior debt facility from Red Kite Mine Finance, a US$212m-$265m silver stream from RGLD Gold AG and a US$25m subordinated debt facility from RG AG. Subsequently, in July 2020, an US$85m equity component was added. The funding is being applied towards the flagship Zone 5 asset and the 10,000tpd underground Starter Project which is slated to produce 60ktpa Cu and 2Moz pa Ag. Construction is largely complete and Khoemacau anticipates ramp up from mid-2021.

As part of the development strategy, the Boseto process facility has been upgraded from 3Mtpa to 3.6Mtpa. Khoemacau has delineated a number of satellite deposits and has a medium term plan to increase production to 125ktpa Cu and longer term to 150+ktpa Cu. This will be achieved by constructing a new concentrator at the Zone 5 project to increase processing capacity to 8Mtpa. Ore will be sourced from an Expansion of Zone 5 along with development of other deposits including Mango and Zeta.

**Figure 10 - Aerial view of box cuts for Zone 5 underground mine**

Source: Khoemacau Copper Mining
Kavango Resources plc. Kavango (KAV.L) is listed on the LSE (Standard List) and is focused on early stage exploration in Botswana. Kavango has 7,554km² of licences prospective for Cu-Ni-PGE projects in the Kalahari Suture Zone and 2,385km² (4 licences) prospective for Cu-Ag in the KCB. Kavango is earning up to 90% in two of the licences, with the remaining two subject to a 50-50 JV with LSE-listed Power Metal Resources (POW.L). Airborne EM surveys covering 2,289km² have recently been flown over the licences and the company reported in June 2021 that a series of conductors had been identified, coincident with soil geochemical anomalies.

Power Metal Resources (POW.L). As well as the JV with Kavango, Power Metal has 53% interest in the Molopo Farms Complex in Botswana targeting Ni-Cu-PGM mineralisation.

Kopore Metals Limited. Kopore is an ASX-listed (ASX: KMT) exploration company with active Cu projects in Western Australia and Cu-Ag projects in the KCB in Botswana. Kopore has several licences on regional structures along strike from Sandfire’s T3 deposit. In March 2021, in order to increase exploration spend in Botswana, Kopore entered into an agreement with London listed ARC Minerals Limited (ARCM.L) in relation to Kopore’s Virgo project. ARCM is buying a 75% interest in the project for £1.2m in ARCM shares.

Cobre Limited. Cobre, an ASX-listed company (ASX: CBE) holds licences in close proximity to Sandfire and Khoemacau’s ground. Cobre recently commenced drilling at the Kitlanya East project which is held by Kalahari Metals Ltd and is subject to a JV with Metal Tiger plc (AIM: MTR).

Kalahari Copper. A private company with licences in Botswana and Namibia. Kalahari Copper holds 3,228km² of licences in Botswana, seven of which are located within Khoemacau Copper’s Zone 5 area. In December 2020, the company sold 3 licences to Sandfire Resources. The company’s main focus is on the 450km² Kaoko licence areas previously held by Teck Namibia. Previous drilling by Teck returned intersections of 20m at 1.2% Cu, 24g/t Ag and 19m at 2.03% Cu, 119g/t Ag.
Further details for T3 and Khoemacau

Figure 12 - Key production and economic parameters for T3 and Zone 5

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Mineral reserves
39.9Mt at 0.9% Cu, 12.2g/t Ag for 360kt contained Cu, 15.6 Moz Ag
30.4 Mt at 2.03% Cu, 19.5g/t Ag for 617t contained Cu, 19Moz contained Ag

Mineral resources
53.3Mt at 0.9% Cu, 12.7g/t Ag for 480kt contained Cu, 21.8 Moz Ag
91Mt at 2.13% Cu, 21.9g/t Ag for 1,948 kt contained Cu, 64.6 Moz contained Ag

Source: Khoemacau Copper Mining (Presentation April 2021), Sandfire Resources (Final Investment Decision, 1st Dec 2020)

Further resource details for Khoemacau deposits:

Figure 13 - Khoemacau Copper Mining, map and resources

Source: Khoemacau Copper Mining
Botswana is an attractive jurisdiction for mining

Botswana is increasingly coming into focus as an attractive exploration destination in Africa. Long regarded as one of the most politically stable and low-risk countries in Africa, with a democratically elected government.

Botswana gained independence in 1966 and the government has been highly supportive of the mining industry and foreign investment into the mining sector. The resource sector reputedly contributes c.80% of the country’s exports and contributes approximately 30% of its GDP, with diamond mining being the most important contributor. The economy is one of the fastest growing in the world, averaging 5% p.a. over the last decade.

The country has relatively well-developed infrastructure which looks set to continue improving. The World Bank has two major projects in Botswana, a $385m Integrated Transport project and a $1.6bn electricity generation and transmission project.

According to Transparency International and it’s 2020 Corruption Perceptions Index, Botswana is the least corrupt country in Africa. The Fraser Institute in its 2020 Survey ranked Botswana as #1 within Africa, in terms of “investment attractiveness”. This metric is a combination of the Best Practices Mineral Potential index, which rates regions based on their geologic attractiveness, and the Policy Perception Index, a composite index that measures the effects of government policy on attitudes toward exploration investment. In essence it is a measure that attempts to capture how various issues such as permitting, taxation and ease of doing business affect the ability to develop mining projects.

Interestingly, the Fraser Institute ranks Botswana higher than well-known mining destinations worldwide such as British Colombia, Chile and Colorado. See figure next page.

Botswana has clear fiscal and mining legislation in place, with the unchanged Mines and Minerals Act in place since 1999. Mining licences once granted, are valid for a period up to 25 years. The Botswana government has the option to acquire up to a 15% contributing interest in the project at cost at the time the Mining Licence is granted.

Figure 14 – Botswana, top mining investment destination in Africa

Source: Fraser Institute Annual Survey of Mining Companies 2020
Figure 15 - Botswana; currently ranked #11 out of 77 jurisdictions for Investment Attractiveness by the Fraser Institute 2020 Survey of Mining Companies

Source: Light blue = other African countries

Source: Fraser Institute Annual Survey of Mining Companies 2020
Kashitu Zinc

- **Zinc silicate deposit.** Galileo’s Kashitu Zinc Project is located in Zambia within the 6990-HQ-LML licence and was acquired from BMR Group plc. The licence contains the Kashitu prospect which hosts shallow zinc willemite (Zn$_2$SiO$_4$, a zinc silicate mineral).

- **Galileo’s primary zinc project.** Kashitu is now Galileo’s key zinc project following the sale of the Star Zinc project in March 2021 for US$750,000 (RNS 4-3-2021) to allow operational responsibilities to be assumed by a Zambian mining company, with Galileo retaining upside through a royalty interest (variable royalty on zinc production - minimum royalty rate is 3% and increasing by 1% for each US$250 increase in the zinc price above US$2,500 per tonne up to a maximum of 10%). Given that Star Zinc is ready to commence production, this could start providing important cash flow to Galileo.

![Figure 16 - Location of Galileo’s Kashitu Zinc Project in relation to Jubilee Metals’ Sable Cu-Zn-Pb-V refinery](source: Galileo Resources, modified by Shard Capital)

- **Kashitu mineralisation.** Mineralisation hosted in dolomite as widespread disseminations with localised higher-grade lenses and pods associated with structure containing steeply dipping high-grade willemite veins.

- **Historical background.** Limited historical mining exploited a discordant N-S lenticular willemite body roughly 30m x 3m and grading up to 30-50% Zn. A prior soil survey outlined a NW verging area 1.2km long by 0.3km wide with up to 15,000ppm Zn. The licence has seen multiple phases of RAB (rotary air blast), RC (reverse circulation) and diamond drilling by BMR and major operators including BHP and ZCCM. However, the main focus of this exploration was the discovery of deep-seated massive-sulphide Kabwe-style orebodies and not necessarily on the shallow, high-grade surficial and supergene mineralisation. Billiton terminated the project due to the closure of the Zambian office in 1999.

- **Historical resource.** BMR commissioned Wardell Armstrong to calculate a ‘back of the envelope’ resource estimate (i.e. non-JORC compliant) which amounted to 17.2Mt at 2.5% Zn at surface.
Galileo’s target. Galileo believes that potential remains for a large (+50Mt) low grade (2-5% Zn) open pit-able Zn silicate resource, with further potential for a relatively small (0-5Mt) high-very high grade (>25% Zn + Pb) pods and lenses of Kabwe style mineralisation in the area.

Near-term revenue prospect. Kashitu has a number of attractive aspects including the fact that Galileo believes that there could be potential for a larger deposit than at Star Zinc. Galileo believes that Kashitu mineralisation has the potential to be processed at Jubilee Metals Group Plc’s (AIM: JLP) integrated Sable Zinc refinery situated a mere 6km away. This potentially offers potential to fast track Kashitu into production. Previous work suggests that high grade zinc mineralisation occurs at a shallow depth which could translate to simple, low-cost open pit mining. Ore could then be trucked the short distance directly to the Sable refinery on the back of a commercial agreement with Jubilee. This would be a low capex start-up option for Galileo, with minimal on-site infrastructure needed and the construction of a costly processing plant not required. This development plan could provide meaningful near-term cashflow to subsidise further exploration at Kashitu or be applied to Galileo’s KCB project. The current LME zinc price is US$2945/t. This represents an increase of 45% from $2,035/t 12 months ago (July 2020).

The Sable refinery. Jubilee has been refurbishing and expanding the Sable refinery since acquiring it from Glencore in a transaction concluded in August 2019. The refinery is now fully operational and is producing copper cathode via the processing of copper concentrates. Ultimately, Jubilee expects the facility to have the capability to produce cobalt, zinc, lead and vanadium in addition to copper. Jubilee states that the Sable refinery will have the capacity to produce up to 8,000tpa zinc.

Jubilee has announced a target to “to complete the zinc refining circuit to produce a zinc concentrate by Q4 2021. The zinc circuit will target the processing of both third-party zinc ore supplies within the region and the Kabwe tails located adjacent to the Sable Refinery”.

Galileo’s exploration and development plan. Galileo is planning an exploration programme for H2-2021, including a new drill programme to test the grade and continuity of Kashitu mineralisation.
Galileo’s other projects

Galileo has a number of other projects covering different commodities and jurisdictions but with the new focus on the highly prospectivity KCB project in Botswana we provide only a brief overview in this note.

**Glenover Phosphate / REE project**

Galileo has an overall 33.99% interest in the Glenover project, situated in the Limpopo Province of the Republic of South Africa. The Project deposit is a complex circular carbonatite/pyroxenite plug intruded into sedimentary shale and arenite rocks of the Waterberg Group and is prominently visible as a major circular feature on satellite images of the area. The majority of the mineral assets are located on the farm Glenover 371 LQ. This includes a large open pit mine and various stockpiles of high, medium, and low-grade phosphate-bearing material. Glenover has 3Mt of stockpiles available for processing +7Mt of easily mineable open pit phosphate.

Historical exploitation of the phosphate content in the Glenover deposit resulted in the formation of a series of stockpiles, which contain high levels of phosphate and varying amounts of rare earth elements (“REEs”). Glenover Phosphate Pty Ltd continues to progress DMR approval of its application for a Mining Right which has required some modifications to the design of the proposed Tailings Storage Facility. Glenover has compiled marketing documentation and initiated preliminary enquiries with potential strategic investors with a view to sale or as funding partners.

**Ferber gold and copper project**

Galileo’s Ferber project comprises 343 unpatented and 19 patented claims covering 7,100 acres in Nevada, USA. The properties are prospective for gold skarn and Carlin-type gold. Historic drilling has returned intersections including 10.7m at 0.59g/t Au, 4.6m at 2.37g/t Au and 12.2m at 0.83% Cu along with rock chip results up to 10.8g/t. Galileo is currently undergoing discussions with 3rd parties in relation to JV/farm-out partners or a sale of the project.
Appendix

Board of Directors

Colin Bird – CEO & Chairman

Colin Bird has a Diploma in Mining Engineering, is a Fellow of the Institute of Materials, Minerals and Mining and is a certified mine manager both in the UK and in the United States of America. The formative part of his career was spent with the National Coal Board in the UK and thereafter he moved to the Zambia Consolidated Copper Mines and then to South Africa to work in a management position with Anglo American Coal. On his return to the UK he was Technical and Operations Director of Costain Mining Limited, which involved responsibility for gold mining operations in Argentina, Venezuela and Spain.

In addition to his coal mining activities he has been involved in the management of mining nickel, copper, gold and other diverse mineral operations. He has founded and floated several public companies in the resource sector and served on resource company boards in the UK, Canada and South Africa. Notably he was on the board of Kiwara Plc which was successfully sold to First Quantum Plc in February 2010. In addition, he currently serves as Chairman of Jubilee Metals Group, an AIM listed platinum exploration company with operations in South Africa.

Ed Slowey – Technical Director

Ed holds a BSc degree in Geology from the National University of Ireland and is a founder member of The Institute of Geology of Ireland. He has more than 40 years’ experience in mineral exploration, mining and project management. He worked as a mine geologist at Europe’s largest zinc mine in Navan, Ireland and was exploration manager for Rio Tinto in Ireland for more than a decade, which led to the discovery of the Cavanacaw gold deposit.

He has also operated as an exploration geologist and consultant in many parts of the world, including Africa, Europe, America and the FSU. As a professional consultant, work has included completion of CPR’s and 43-101 technical reports for international stock exchange listings and fundraising, while also undertaking assignments for the World Bank and European Union bodies. In addition, Ed served as director of several private and public companies, including the role of CEO and Technical Director at AIM-listed Orogen Gold Plc which discovered the Mutsk gold deposit in Armenia.

J Richard Wollenberg - Non-Executive Director

Richard Wollenberg, was, between 1981 and 1996, an investment consultant with Brown Shipley Stockbroking Limited and has over the past 25 years, been actively involved in a number of corporate acquisitions, mergers and capital re-organisations of public and private companies. Mr Wollenberg is currently Chairman and Chief Executive Officer of The Cardiff Property Public Limited Company, a quoted property investment and development company. He was also a Non-Executive Director of Kiwara Plc alongside Colin Bird.

Christopher (Chris) Molefe - Non-Executive Director

Mr. Molefe was formerly the Chief Executive of Royal Bafokeng Resources (Pty) Limited and is presently the Non-Executive Chairman of Merafe Resources Limited a publicly listed company on the JSE Securities Exchange, and a non-executive Director of Capital Oil (Pty) Ltd and Jubilee Platinum. Mr. Molefe has held several positions in corporate banking and industry for the previous 20 years. He commenced his career as Group Human Resource Manger at Union Carbide Africa Corporation. His subsequent positions include being the Manager of Corporate Affairs at Mobil Oil Southern Africa (Pty) Limited; an Executive Director at Black Management Forum; a Financial Analyst at Chase Manhattan Bank; the Marketing Manager at African Bank Limited; an Executive Manager at Transnet (Propnet) (Pty) Limited; and an Executive Director at Dipapatso Media (Pty).
Joel Silberstein - Finance Director

Joel holds an Honours Bachelor of Accounting Science degree from the University of South Africa. He qualified as a chartered accountant with Mazars, Cape Town in 2002, and subsequently joined Toronto-quoted European Goldfields Limited. There he held the position of Group Financial Controller and Vice President Finance, supporting the executive team in growing the company through its exploration and development phases, until it was bought by Eldorado Gold in a C$2.5bn deal.

He joined AIM-traded Xtract Resources plc in mid 2013 and was appointed finance director in February 2014. He has subsequently assisted in several corporate transactions, including those surrounding the Manica gold mining operations, and he has experience of working in multiple jurisdictions around the world. He is a member of the Institute of Chartered Accountants of South Africa as well as a Fellow of the Institute of Chartered Accountants in England and Wales.
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