1 December 2020

ASX Limited
ASX Announcements Office

Sandfire Resources Ltd (ASX: SFR; **Sandfire** or **the Company**) is pleased to attach the following items for immediate release to the market.

1. ASX announcement regarding the completion of the Definitive Feasibility Study for the T3 Copper-Silver Project and Final Investment Decision for the Project's commercial development (**Sandfire Approves Development of new Long-life Copper Mine in Botswana**).

2. ASX announcement regarding the Maiden Inferred Mineral Resource for the A4 Copper-Silver Deposit, located 8km from the T3 Project (**Maiden Mineral Resource for A4 Copper-Silver Deposit Highlights Growth Potential for Motheo**).

3. ASX announcement regarding significant new high-grade drilling results at A4 (**Outstanding High-Grade Copper-Silver Intersections in Latest Drilling at A4**).

4. A detailed Company Update, Strategy and Outlook Presentation, covering the Company's key assets, development and growth roadmap (**Investor Update and Outlook Presentation – A New Era**).

Sandfire invites all stakeholders to view the ASX announcements and presentation prior to the Company hosting a live, interactive Question & Answer Session for the investment community on **Wednesday 2nd December**, commencing at **8.00am (AWST) / 11.00am (AEDT)**.

Investors, brokers, analysts and media can register to join the teleconference or to view a live webcast of the presentation by clicking here.

The ASX announcements and presentation will be available via the ASX Company Announcements Platform (ASX Code: SFR) and at Sandfire's website at www.sandfire.com.au.

Yours sincerely,

Matthew Fitzgerald

Chief Financial Officer
and Company Secretary

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ASX Announcement **1 December 2020**

SANDFIRE APPROVES DEVELOPMENT OF NEW LONG-LIFE COPPER MINE IN BOTSWANA

Final Investment Decision (FID) for the US$259 million development of the T3 Motheo Copper-Silver Project follows completion of positive Definitive Feasibility Study (DFS) on a base case 3.2Mtpa operation with clear visibility to expand rapidly to 5.2Mtpa.

Strong project economics at 3.2Mtpa

- **Estimated life-of-mine (LOM) revenue of US$2.45 billion (A$3.5 billion) and EBITDA of US$987 million (A$1,410 million) using a forecast long-term copper price of US$3.16/lb.**
- **Pre-tax $NPV_{7\%}$ of US$316 million (A$451 million) and IRR of 25%.**
- **Post-tax $NPV_{7\%}$ of US$206 million (A$294 million) and IRR of 21%.**
- **Post-tax free cash-flow of US$440 million (A$628 million), inclusive of development capital.**
- **Payback of 3.8 years from production start.**
- **All-in sustaining costs of US$1.76/lb for the first 10 years of operations.**

Low capital intensity

- **Development capital of US$259 million (A$371 million) for mining pre-strip, process plant and infrastructure.**

Robust project parameters

- **Probable Ore Reserve of 39.9Mt at 0.9% Cu and 12.2g/t Ag for 360,000t of contained copper metal and 15.6Moz of contained silver.**
- **Initial 12.5-year mine life, targeting first production in Q3 FY2023 (Q1 CY2023).**
- **Average annual production of ~30ktpa Cu and 1.2Moz Ag.**
- **High-grade concentrate of ~30% Cu and 380g/t Ag (LOM averages), with strong interest received from global markets.**

Significant upside potential including clear pathway to 5.2Mtpa

- **Maiden Inferred Mineral Resource of 6.5Mt at 1.5% Cu and 24g/t Ag (100,000t of contained copper) completed for the A4 deposit, 8km west of T3 (*see separate ASX announcement lodged today*), demonstrating the significant exploration upside and growth potential of the Motheo Production Hub within the Kalahari Copper Belt.**
- **Sandfire envisages that A4 has the potential to underpin its near-term expansion opportunity to 5.2Mtpa, with further upside from other near-mine exploration targets.**
- **An additional US$20 million (A$28 million) for capital works has also been approved to support rapid future expansion of the T3 Motheo plant to 5.2Mtpa.**
- **In-fill drilling currently underway to upgrade the A4 Mineral Resource to Indicated status and underpin Pre-Feasibility and engineering studies.**
- **Multiple exploration targets identified within Sandfire's 100%-owned licence holdings in the Kalahari Copper Belt, covering a combined total area of 26,645km^2 in Botswana and Namibia.**

Sandfire to host an investor call as part of a detailed Company Update, Strategy and Outlook Presentation at 8.00am WST / 11.00am AEDT on Wednesday, 2nd December 2020. Investors, brokers, analysts and media can register for the teleconference or to view the live webcast at this link: http://redback.events/ir-515149.

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Sandfire Resources Ltd (**Sandfire** or **the Company**) is pleased to advise that its Board has approved the commercial development of the T3 Motheo Copper-Silver Project in the Kalahari Copper Belt in Botswana, marking a key step in its international growth and diversification strategy.

The Final Investment Decision (FID) is based on the positive results of a Definitive Feasibility Study (DFS) on an initial Base Case 3.2Mtpa processing capacity and open pit development of the T3 Deposit.

The DFS outlines a robust initial 12.5-year operation, underpinned by an updated Ore Reserve of 39.9Mt at 0.9% Cu and 12.2g/t Ag for 360,000t of contained copper and 15.6Moz of contained silver, producing on average ~30kt of contained copper and 1.2Moz of contained silver per annum over the first 10 years of operations, with relatively low capital intensity and robust operating margins.

Based on a forecast copper price of US$3.16/lb (reflecting current long-term consensus pricing) the Base Case 3.2Mtpa project is forecast to generate US$664 million ($A948 million) in pre-tax free cash-flow and US$987 million (A$1,410 million) in EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation), at a forecast all-in sustaining cost of US$1.76/lb over its first 10 years of operations.

The capital expenditure estimate of US$259 million (A$371 million) includes mining pre-strip, process plant construction, site infrastructure development, tailings storage, owner's costs and contingency.

Reflecting its confidence in the future long-term growth of the Motheo Project, Sandfire's Board has also approved an additional upfront investment of US$20 million (A$28 million) to be made as part of the 3.2Mtpa Base Case development. This will facilitate the installation of additional processing capacity and infrastructure (including larger front-end crushing capacity, additional flotation and thickening capacity and an expanded accommodation facility), providing a clear pathway to rapidly expand the processing facility to a planned 5.2Mtpa production rate for the Motheo Production Hub to accommodate other ore sources.

The immediate and most advanced expansion opportunity for the expanded 5.2Mtpa Motheo Production Hub is the A4 deposit, located 8km west from T3. Sandfire has announced a maiden Inferred Mineral Resource of 6.5Mt at 1.5% Cu for 100,000t of contained copper for this strategic deposit (refer separate ASX announcement today) with both in-fill and step-out drilling underway to upgrade the Inferred Mineral Resource to Indicated status and underpin the completion of Pre-Feasibility and Engineering Studies.

The 5.2Mtpa Expansion Case referred to in this and other associated releases, where it relates to A4 and other prospects, is based on preliminary Resource drilling, technical and economic assessments. Resource drilling and associated study work at A4 is currently insufficient to support estimation of Ore Reserves or to provide assurance of an economic Expansion Case for the Motheo Production Hub.

Management Comment

Sandfire Managing Director and CEO Karl Simich said the announcement of decision to proceed with a US$259 million investment in a new, long-life copper production hub in Botswana marked a pivotal moment in the Company's transformation into a global, diversified and sustainable mining company.

"This is an exciting step for our shareholders, employees and contractors, strategic partners and other key stakeholders and, of course, for the communities in the Ghanzi region where we operate and the nation of Botswana," he said.

"Today we have given the green light to the development of a new, long-life copper operation based on the T3 open pit, which we envisage will become the core of our Motheo Production Hub – a new copper production hub in the central portion of the world-class Kalahari Copper Belt, where we have a dominant 26,645km^2 ground-holding in Botswana and Namibia.

"While the Definitive Feasibility Study and board approval announced today encompass the Base Case 3.2Mtpa development of the T3 Project, the key message for our shareholders and investors is that this is the start of a much bigger long-term copper production and exploration story for Sandfire in Botswana," he continued."

"This is, in effect, the dawn of a new global copper province – as evidenced by the scale of the new underground mining operation currently being constructed immediately to the north-east of our project by Cupric Canyon Capital at their Khoemacau Project.

"The T3 Base Case at 3.2Mtpa is robust in itself, as demonstrated by the key metrics which include forecast production of 30ktpa of copper-in-concentrate over the first 10 years mine life, with all-in sustaining costs of US$1.76/lb for the first 10 years of operations, forecast free-cash flow before tax of A$948 million, EBITDA of A$1.4 billion, a pre-tax project $NPV_{7\%}$ of A$451 million and an Internal Rate of Return of 25%.

"But the bigger picture for us is the key growth steps that we are confident will be taken soon after we start production in early 2023. The recent A4 discovery, for which we have today announced a maiden Inferred Resource containing 100,000 tonnes of copper at an average grade of 1.5% Cu, is the most immediate and obvious opportunity within the ~1,000km^2 T3 Expansion Area.

"We will advance this maiden A4 Mineral Resource quickly, with drilling already underway to upgrade it to Indicated Status and work beginning on a Pre-Feasibility Study aimed at integrating it as a source of satellite ore feed for an expanded 5.2Mtpa Motheo Production Hub.

"We are making a significant upfront investment in several key infrastructure items, including the primary crusher and the flotation cells, which will allow us to up-scale the project quickly from 3.2Mtpa to 5.2Mtpa with relatively modest incremental capital investment.

"We anticipate being in a position to commit to that expansion during project construction, with the overall goal of ramping up to the higher production rate shortly after commissioning."

Key DFS Outcomes

Key Outcomes	
Life-of-Mine (Processing)	12.5 years
Ore Tonnes Mined	39.9Mt
Waste: Ore ratio (including pre-strip)	6.0
Copper Grade	0.9%
Silver Grade	12.2g/t
Processing Plant Capacity (Base Case)	3.2Mtpa
Metallurgical Recovery Cu – LOM (%)	92.15%
Metallurgical Recovery Ag – LOM (%)	87.38%
Copper-in-concentrate – LOM	331,727t
Copper-in-concentrate – LOM	731Mlb

Life-of-Mine Financial Economics	
Copper Price (US$/lb)	3.16
Revenue (US$M)	2,448
C1 Cash Costs[1] (US$/lb)	1.65
All-in Sustaining Costs[2] (US$/lb)	1.84
EBITDA (US$M)	987
Net Cash Flow (pre-tax) (US$M)	664
Undiscounted Cash Breakeven Copper Price (US$/lb)	2.19
Pre-tax NPV (7% real) (US$M)	316
IRR (pre-tax)	25%
Capital Payback Period - from first production (years)	3.8

[1] Includes operating cash costs comprising mining, processing, geology, OHSE, site G&A, concentrate transport, TC and RC costs, less by-product credits, divided by payable copper in concentrate produced.
[2] All-in sustaining cash costs are cash operating costs (C1 cash costs plus royalties, sustaining capital and closure costs).

Operating Costs (LOM)	US$/t milled	US$/lb
Mining	17.4	0.99
Processing	6.9	0.39
General and Administrative	2.4	0.14
Logistics	4.6	0.26
Treatment and Refining	3.6	0.20
By-Product Credit (Silver)	(5.7)	(0.32)
Operating Costs (C1 Cash Costs)	**29.2**	**1.65**
Sustaining Capital	0.84	0.05
Closure	0.75	0.04
Royalties	1.70	0.10
All-in Sustaining Costs	**32.5**	**1.84**

Capital Expenditure	US$M
Construction Overheads	17.2
Mining Pre-Strip	73.0
Process Plant	46.4
Site Infrastructure	35.3
Tailings Storage (including surface water management)	15.0
Engineering, Procurement and Construction Management (EPCM)	11.7
Owner's Project and Operating Costs	36.2
Contingency	24.5
Total Base Case – 3.2Mtpa	**259.3**

Funding and Next Steps

From a funding perspective, Sandfire had significant current cash holdings of $304 million at the end of the September 2020 Quarter and no corporate debt outside of lease liabilities. The Company is well placed to fund the development of T3 from its cash holdings and future cash-flow generation from its high-grade DeGrussa Operations in Western Australia.

Given Sandfire's strong financial position, the FID announced today is not subject to finalisation of project debt funding. However, with the finalisation of this DFS, Sandfire is progressing consideration of a project financing facility for around 50 per cent of the estimated development costs and working capital requirements, of around US$150 million (A$214 million), as part of its broader capital management strategy. Further details will be provided in due course.

The Company is well advanced in discussions for this project debt funding with a range of financing partners. An Independent Technical Expert (ITE) and Independent Environmental and Social Consultant (IESC) will be appointed in the December 2020 Quarter to complete a due diligence review of the DFS.

Next Steps

- Complete the land acquisition required for the mine and infrastructure.
- Submit the DFS to the Government of Botswana. The Government has a right to acquire up to a 15% fully contributing interest in the T3 Project, with that decision to be made on or before the date a Mining Licence is granted.
- Complete final permitting and secure the grant of the Mining Licence for the T3 Project.
- Progress project debt funding.
- Complete in-fill drilling at the A4 deposit as the basis for Pre-Feasibility and Engineering Studies.
- Advance exploration within the T3 Expansion Project targeting potential new deposits and further additional ore feed.

OPTIMISED FEASIBILITY STUDY DETAILS

Project Overview

The proposed T3 mine site is located in the Ghanzi District, approximately 80km north-east of Ghanzi in western Botswana (see Figure 1 below).

The Motheo Project (which hosts the T3 deposit) is located on freehold farm land 153-NL. The farm is situated on Prospecting Licence (PL) 190/2008.

Tshukudu Metals Botswana (Pty) Limited (Tshukudu Metals), a wholly-owned subsidiary of Sandfire, has a binding agreement with the farmer to acquire approximately 50% of Farm 153-NL, which will include the full ~25km^2 area on which the Motheo Project is located.

The land transfer process to Tshukudu Metals is in its final stages. PL 190/2008 also includes the A4 deposit and forms part of the regionally extensive Kalahari Copper Belt.

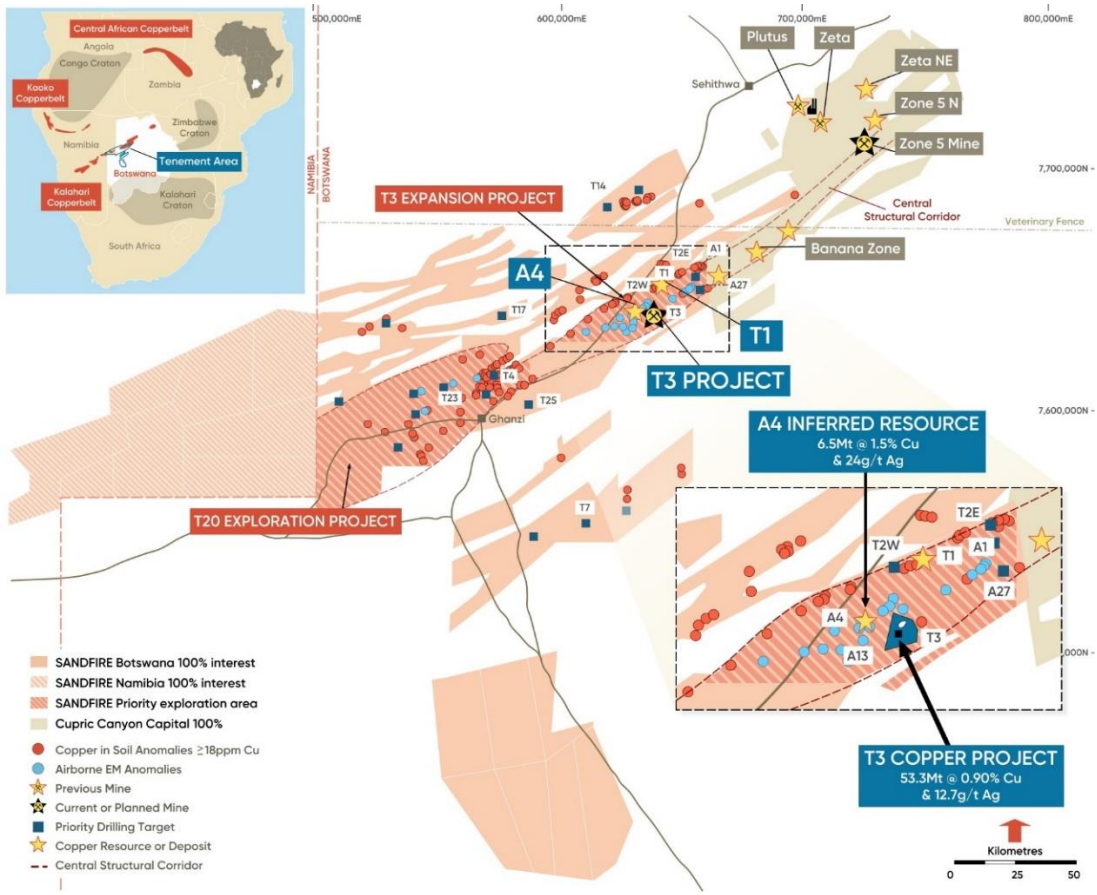

Figure 1: Sandfire's licence holding along the central part of the Kalahari Copper Belt.

FEASIBILITY STUDY OVERVIEW

Study Parameters

The DFS is based on the following key parameters:

- JORC Code (2012) compliant T3 Mineral Resource of 53.3Mt at 0.90% Cu and 12.7g/t Ag, containing 480kt Cu and 21.8Moz Ag (based on a cut-off grade of 0.3% Cu);
- Open pit earthmoving mining operations conducted by mining contractors;
- Process plant and infrastructure built under Engineering, Procurement and Construction Management (EPCM) contracts and Owner operated;
- Power supplied from the national power grid (currently being expanded from Maun to Ghanzi);
- Raw water available from pit-dewatering activities; and
- Management of project implementation by the Sandfire Resources Owner's Team.

Study Team

Major Consultant	Contribution
Sandfire Resources	Mineral Resource model and estimate
AQ2	Hydrology and Groundwater modelling
Orelogy	Mine development, planning and optimisation; Mine operating costs and Ore Reserve
WOOD	Mine geotechnical engineering
Lycopodium	Metallurgy, process plant, site infrastructure, project implementation, capital cost (process plant + site infrastructure) and operating cost (process plant + site infrastructure)
LOCI Environmental (Botswana)	Environmental, stakeholder engagement, baseline studies and Environmental and Social Impact Assessment ("ESIA") preparation
Knight Piésold	Tailings dam design, surface water management, access road design and site geotechnical studies

GEOLOGY, RESOURCES AND RESERVES

Geology

The T3 deposit occurs within the Ghanzi-Chobe belt in Western Botswana. The stratigraphy in this belt comprises the basal Kgwebe Formation volcanic lithofacies unconformably overlain by the Ghanzi Group sedimentary lithofacies.

The Ghanzi Group is a dominantly siliciclastic marine sedimentary group comprising (in successively higher stratigraphic order) the Kuke, N'gwako Pan, D'Kar and Mamuno Formation sedimentary lithofacies. The Ghanzi Group is an overall fining-upwards succession of sedimentary lithofacies, with sandstone and conglomerates of the Kuke Formation overlain by arkose, siltstone, shale and limestone of the N'Gwako Pan, D'Kar and Mamuno Formations.

The T3 deposit is focused on a NE-SW trending periclinal anticline with a core of N'Gwako Pan Formation that is overlain by a succession of D'Kar Formation sediments. The axial region of the anticline has been breached along a moderately northwest dipping brittle-ductile thrust zone such that moderately northwest dipping D'Kar Formation lithofacies in the hanging-wall of the thrust zone rest with angular contact upon sub-horizontal lithofacies in the footwall.

The T3 Mineral Resource has been defined along an approximate 2km long strike length and 720m down-dip and mineralisation remains open at depth. Mineralisation strikes and dips parallel to a 20-30 degree north-west dipping thrust zone, and is considered to be a structurally hosted, epigenetic deposit that formed synchronous with regional deformation.

Numerous, sub-parallel zones of mineralisation are developed within the thrust zone with high-grade mineralisation focused on master dislocation planes and associated foliated zones. Cumulative total true width of mineralisation within the thrust zone ranges from 10-80m, with primary sulphide Cu mineralisation hosted within quartz-carbonate veins and disseminations.

Primary sulphide copper mineralisation is hosted by one or more of chalcopyrite, bornite and chalcocite. Vein-hosted chalcopyrite and bornite are dominant, whilst disseminated chalcocite occurs in lesser amounts throughout the deposit.

Where oxidised, primary copper sulphides are altered to malachite, chrysocolla or covellite. Mineralisation starts at shallow depth below surface (~25m depth) and extends beyond the limit of the planned open pit at ~250m depth.

Host rocks include limestone, marl, shale, black shale, siltstone and sandstone within a 300m wide sequence of interbedded sediments within the lower part of the D'Kar Formation. The contact between D'Kar Formation and the Ngwako Pan Formation is approximately 150-200m below the base of the T3 deposit.

A schematic cross-section through the pit is presented in Figure 2 below which also shows the Thrust Zone.

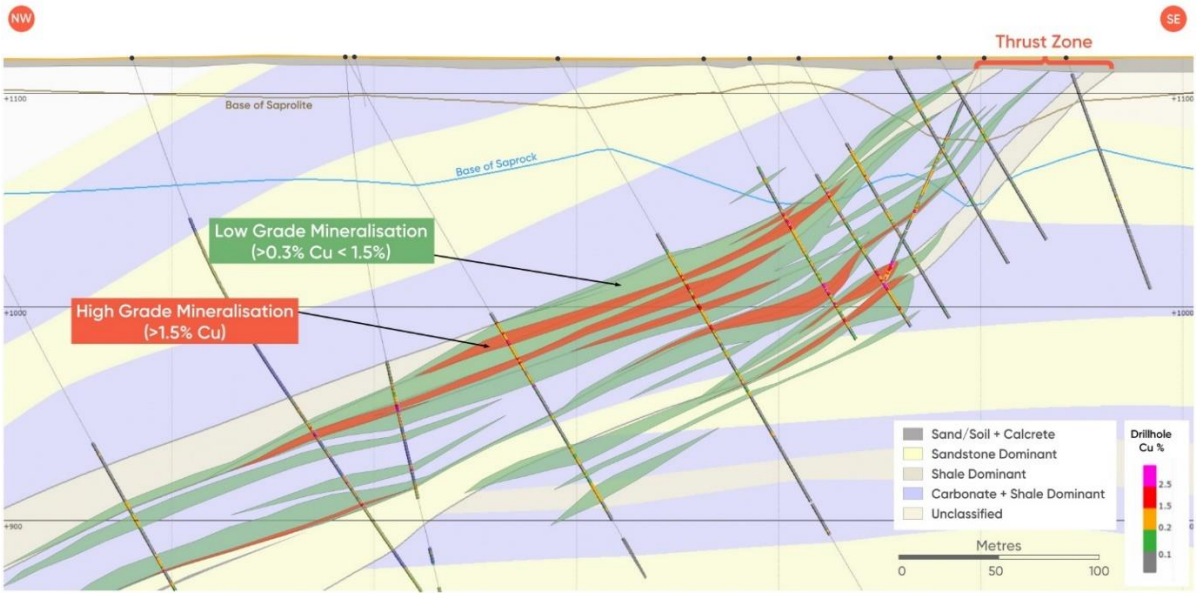

Figure 2: Schematic Cross-Section – weathering profile and resource wireframes.

Mineral Resources

Following Sandfire's acquisition of MOD Resources Ltd (MOD) in October 2019, a complete review of the T3 deposit was completed including the development of a 3D lithostratigraphic and structural model. The Mineral Resource Estimate (MRE) for T3 has been updated to reflect new mineralisation wireframes and additional in-fill drilling completed by MOD in 2019.

The Indicated and Inferred Mineral Resource estimate for T3, at a 0.3% Cu cut-off and constrained within a US$4.50/lb optimised pit shell, is 53.3Mt grading 0.9% Cu and 12.7g/t Ag for 480kt of contained copper and 21.8Moz of contained silver (Table 1). The Mineral Resource is reported on a block cut-off basis.

Table 1: T3 Resource summary

Cut-off	Mineral Resource Category	Tonnes (Mt)	Grade Copper (%)	Contained Copper (kt)	Grade Silver (g/t)	Contained Silver (Moz)
0.3%	Indicated	48.8	0.92	446	12.5	19.6
0.3%	Inferred	4.5	0.74	34	14.7	2.1
0.3%	**Total**	**53.3**	**0.90**	**480**	**12.7**	**21.8**

Notes:

Calculations have been rounded to the nearest: 100kt; 0.01% Cu grade; and 1kt Cu metal and 0.1g/t Ag grade; and 100koz Ag metal. Differences may occur due to rounding.

Ore Reserves

The Ore Reserve for the DFS was defined in accordance with the JORC Code 2012, supported by Competent Persons taking responsibility for their areas of expertise. The Ore Reserves are presented in Table 2.

Table 2: Open Pit Reserve

Ore Reserve Category	Tonnes (Mt)	Grade Copper (%)	Contained Copper (kt)	Grade Silver (g/t)	Contained Silver (Moz)
Proven	-	-	-	-	-
Probable	39.9	0.90	360	12.2	15.6
Total	**39.9**	**0.90**	**360**	**12.2**	**15.6**

Notes:

1. The Probable Ore Reserve is based on the Indicated category of the Mineral Resource. No Inferred category has been included.
2. Ore was defined using NSR greater than zero. In a scheduling period, the lowest average grade of ore added to the process plant feed was 0.44% Cu.
3. Ore Reserves are calculated based on a copper price of $3.21/lb and a silver price of $17.92/oz.

Table 2 notes continued:

4. Ore loss and dilution were applied to the Mineral Resource model in a two-step process which resulted in an ore loss of approximately 23.4% at 0.57% Cu and a diluted tonnage addition of approximately 10.2% at 0.05% Cu. This equates to 2.4% dilution and 18% ore loss when back calculated for zero diluent grades.
5. Metallurgical test work recoveries were applied in accordance with the recovery algorithms developed from the variability test work program conducted during the feasibility study.
6. Appropriate modifying factors were applied.

MINING

Open pit mining

It is proposed that T3 will be mined by a mining contractor, utilising a conventional truck and shovel (excavator) method with Sandfire maintaining orebody definition, quality control and medium to long-term mine planning functions and management.

The proposed mining contractor model offers the following advantages:

- It minimises the upfront capital cost requirements for Sandfire, as the contractor will supply the mobile fleet and required supporting infrastructure; and
- The contractor brings specialised open pit mining knowledge, systems and experience, reducing operational risk.

In general terms, the mining method is:

- Clearing and stripping of suitable material from all disturbed areas into discrete stockpiles for later use in rehabilitation activities;
- Grade control drilling and systematic pit mapping to demarcate ore boundaries;
- Drilling and blasting of ore and waste on 10m benches using choked or semi-choked blasting methods to reduce dilution;
- Load and Haul utilising 250-tonne excavators and 140-tonne class haul trucks mining on ~2.5m high flitches in ore zones and ~3.5m high flitches in bulk waste zones;
- Direct dump of run-of-mine (RoM) ore delivered to the crusher or placed on stockpiles for future re-handle as required;
- Pit dewatering will be managed by a collection of internal and external dewatering and de-pressurising bores and in-pit sumps for use within the mining operation; and
- Reverse Circulation (RC) grade control drilling will be used on a predominantly 12.5m by 12.5m angled drill pattern and is campaigned during the mine life.

The selected open pit mining method, design and extraction sequence suit the orebody characteristics. The open pit design allows mining to be undertaken in a safe manner and minimises dilution and ore loss while meeting the planned process plant capacity and feed grades.

The open pit has been scheduled based on realistic mining productivity factors, consistent material movements and consideration of operational practicalities and safe access to stages.

Table 3: Pit Optimisation Parameters

Parameter	Unit	Value
Copper Price	US$ / lb	3.21
Silver Price	US$ / troy oz	17.92
Transport Cost	US$ / wt conc.	151.90
Copper Refining Cost	US$ / lb	0.09
Silver Refining Cost	US$ / troy oz	0.35
Treatment Charge	US$ / t conc.	90.00
Copper Payability	%	96.5
Silver Payability	%	90.0
Copper Royalties	%	3.0
Silver Royalties	%	5.0
Process Copper Recovery	%	Variable – coded in model (92.1% avg.)
Process Silver Recovery	%	Variable – coded in model (87.3% avg.)

Table 3: Pit Optimisation Parameters (continued)

Parameter	Unit	Value
Whittle™ input PCAF	US$ / t ore	14.50
Estimated Dilution at a 0.4% Cu cut-off	%	10.4% at 0.13% Cu avg. grade
Estimated Ore Loss at 0.4% Cu cut-off	%	21.4% at 0.57% Cu avg. grade
Mining Cost	US$ / t mined	Variable – coded in model
Mining Overhead Cost	US$ / t ore	3.85
Ore Mining Premium Cost	US$ / t ore	Variable – coded in model (-US$0.22/t avg.)
Overall Slope Angle		Varies by zones & elevation; Above RL 1,090m, 30°; Below RL 1,090m, 52-63° (Hanging wall) 40° (Foot Wall).

The open pit will be developed in four stages, each based on Whittle™ pit shell progression and practical mining width. A key driver in the staging logic was to minimise the capitalised pre-strip and variability in total material movement while maintaining process plant throughput and managing feed grades.

A minimum mining width (MMW) was applied to the stages when cutting back on high walls of 100m to ensure full production rates can be maintained safely. The stage designs were focused on reducing the impact of narrow mining areas between stages and, as a result of the practical considerations, the final design captured 0.6% less copper from 0.8% additional ore at a cost of 2.0% additional waste relative to the optimised shells.

The inventory and layouts of staged pit designs are illustrated in Table 4 and Figure 4 below.

Table 4: Mining Inventories for Each Stage

Pit Design	Ore (Mt)	Waste (Mt)	Total Movement (Mt)	Strip Ratio	Cu Grade (%)	Ag Grade (g/t)	S Grade (%)
Stage 1	4.6	30.7	35.3	6.7	1.01	10	0.96
Stage 2	4.0	23.4	27.5	5.8	0.87	10	0.70
Stage 3	13.8	65.9	79.7	4.8	1.02	13	0.73
Final Pit	17.5	120.0	137.5	6.9	0.79	12	0.50
Total	**39.9**	**240.1**	**280.0**	**6.0**	**0.90**	**12**	**0.65**

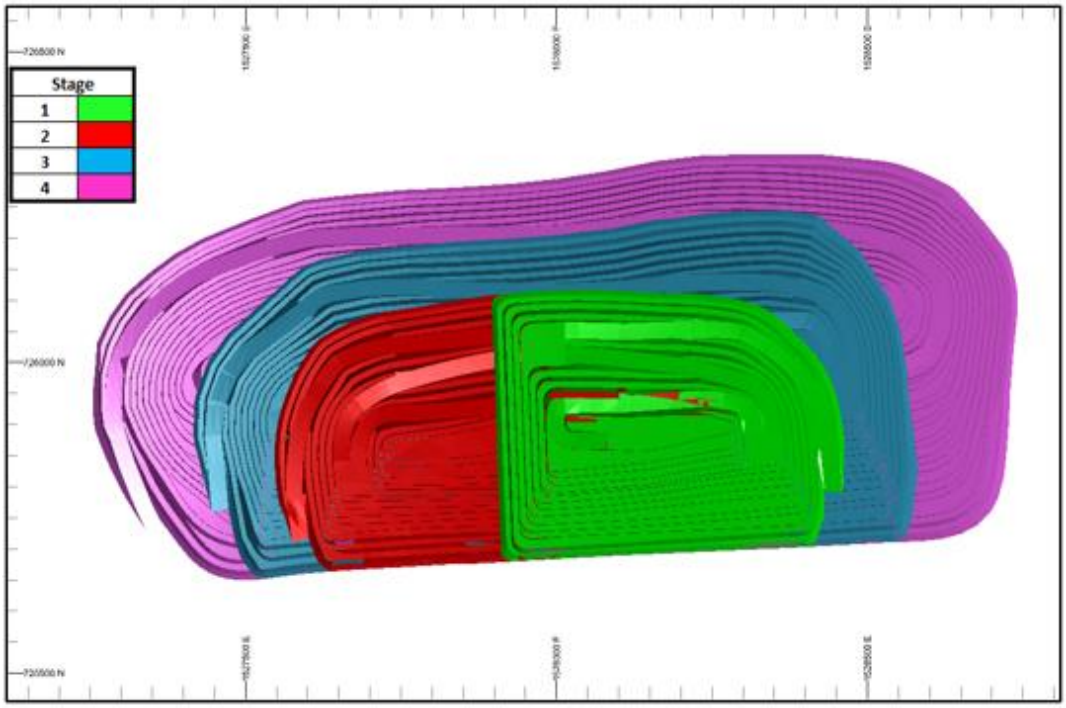

Figure 3: Staged Pit Design (in local grid).

Mining Schedule

The primary objective of the schedule was to keep the mill consistently fed with a secondary objective to produce ~30,000t of copper per year. The waste mined until the commencement of ore feed is classified as capitalised pre-strip.

The Total Material Movement (TMM) per annum was also targeted to be maintained at a consistent, as low as possible level, while also minimising capitalised pre-strip. The schedule is based on mining commencement on 1 January 2022, with processing and ramp-up starting on 1 January 2023. The annualised schedule summary is shown in Figure 4 below.

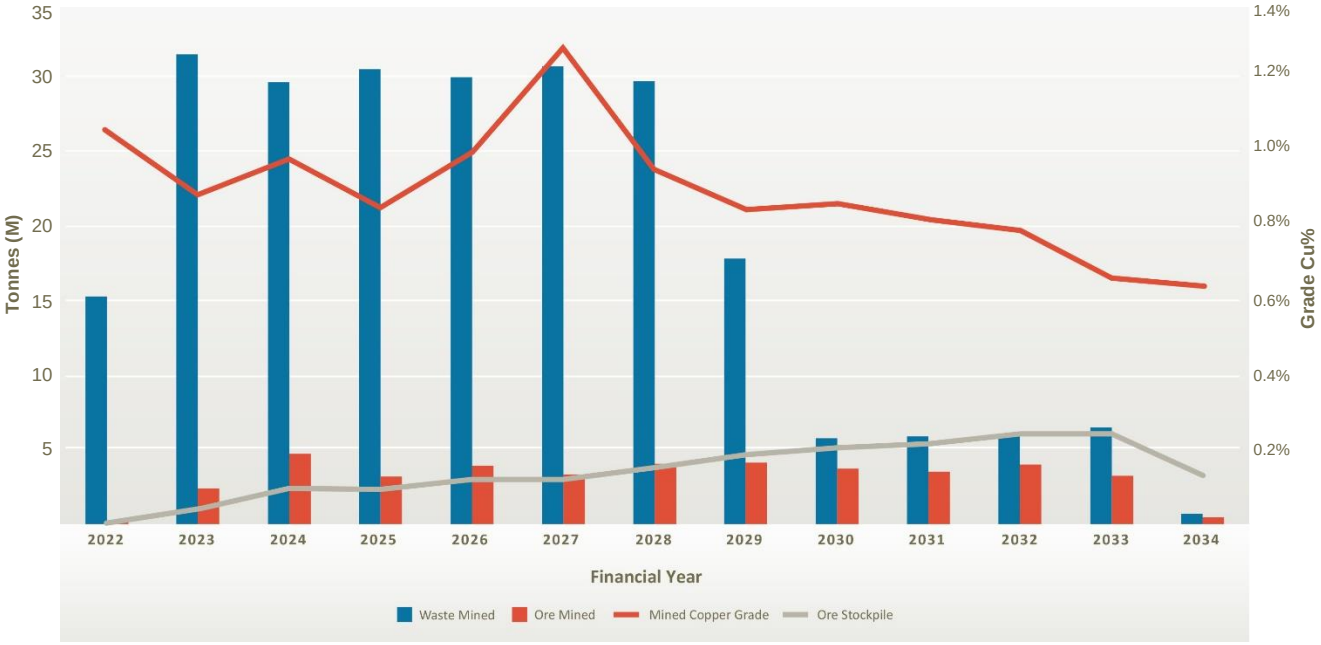

Figure 4: Mining Schedule

Mining Recovery and Dilution

A review of the dilution method used in MOD's March 2019 FS identified that the simple regularisation technique to produce a model with an SMU of 5 mE × 5 mN × 2.5 mZ did not adequately dilute the blocks on the edges of the ore zones.

Analysis of the DFS model revealed that more than 40% of the edge blocks remained undiluted. In order to address this, two methods were tested: Edge Dilution and Blockswap.

Whittle™ analysis indicated that the Blockswap method ensured dilution was applied to all edge blocks using the same 1.0m skin logic while maintaining viability of diluent grades for the contaminants and minimising the impact on overall project value. As a result of applying dilution and ore loss using Blockswap method, the model reported dilution of 10.2% at 0.05% Cu and ore loss of 23.4% at 0.57% Cu. This equates to 2.4% dilution and 18% ore loss when back calculated for zero diluent grades.

PROCESSING

The start-up nameplate plant capacity is based on 3.2Mtpa (dry) of ore at plant availability of 92%. Some of the plant equipment has been sized with a capacity large enough to sustain a future plant throughput expansion, namely: the primary crusher, the concentrate trash screen, the flotation cells, the concentrate thickener and the concentrate filter.

Other areas of the plant will require additional equipment to meet the expanded (future) capacity. Space allowance in the layout has been provided for that future additional equipment (e.g. ball mill, etc.).

Metallurgy

A comprehensive metallurgical testwork program was undertaken by MOD as part of the March 2019 FS, with additional work undertaken by Sandfire to underpin the DFS.

The following conclusions can be drawn from the current and previous testwork programs:

- The T3 orebody predominantly consists of the copper sulphide minerals chalcopyrite, bornite and chalcocite in varying blends;
- Other sulphides present include galena, sphalerite, molybdenite and bismuthinite;
- Gangue minerals are silicates, i.e. quartz, muscovite, biotite, albite, potassium feldspar and chlorite, or oxides, i.e. calcite, apatite and titanite;
- The ore is of moderate hardness with A x b values ranging from 28.8 to 70.3 with an average of 43.2;
- The Bond ball mill work indices varied from 7.6 kWh/t to 18.8 kWh/t and averaged 13.7 kWh/t;
- Grind optimisation testwork found that the optimum primary grind was very coarse at a P80 of 212µm;
- The optimum regrind size was also coarse at a P80 of 90µm;
- Optimum flotation circuit was found to be a simple rougher, with two stages of cleaning;
- A final concentrate grade of LOM 30% Cu and 380g/t Ag;
- Copper recovery varied from 81.5% to 96.6%, with a LOM average of 92.2%;
- Silver recovery ranged from 81.2% to 90.7%, with a LOM average of 87.4%; and
- Some blending of ores and or final concentrates may be required to minimise the effects of bismuth, lead and zinc penalty payments.

Process Flowsheet

The process plant for the T3 (Motheo) Project is based on a simple and robust metallurgical flowsheet designed for optimum recovery with minimum operating costs. The flowsheet has been constructed from unit operations that are well proven in the industry. The key criteria for equipment selection were the suitability for duty and the projected mine life of the operation without unnecessarily compromising reliability and ease of maintenance. The plant layout provides easy access to all equipment for operating and maintenance requirements whilst providing a compact footprint to minimise costs.

Testwork data, which formed the basis of plant design, was scoped and managed by MOD and was mostly completed during the development of the March 2019 FS. Additional testwork was completed for the current DFS, with samples being collected from in-fill drilling, and subjected to the same testing regime.

The metallurgical testwork conducted at IMO Metallurgy in Perth has provided the basis for the plant design wherever possible. Other sources of data included concentrate thickener and filter parameters by Pocock, tails thickener parameters by Outotec, and vendors' inputs and comminution modelling by Orway Mineral Consultants (OMC).

The key process design criteria for the plant are:

- Nominal throughput rate of 3.2Mtpa with a primary grind size of 80% passing 212µm;
- Primary crushing area availability of 70%;
- Process plant availability of 92% supported by the selection of standby equipment in critical areas and reputable vendor equipment;
- Filtration area availability of 80%;
- Regrind of rougher concentrate to a product size of 80% passing 90µm; and
- Moderate level of automation to provide control of the key process parameters.

The process plant will consist of the following principal process areas:

- Primary crushing;
- Coarse ore storage and reclaim;
- Grinding and classification;
- Flotation (rougher and cleaner flotation and regrind);
- Concentrate thickening and filtration;
- Concentrate storage and load-out;
- Tails thickening and disposal;
- Raw water storage and distribution;
- Process water storage and distribution;
- Reagents make-up and distribution; and
- Compressed air services.

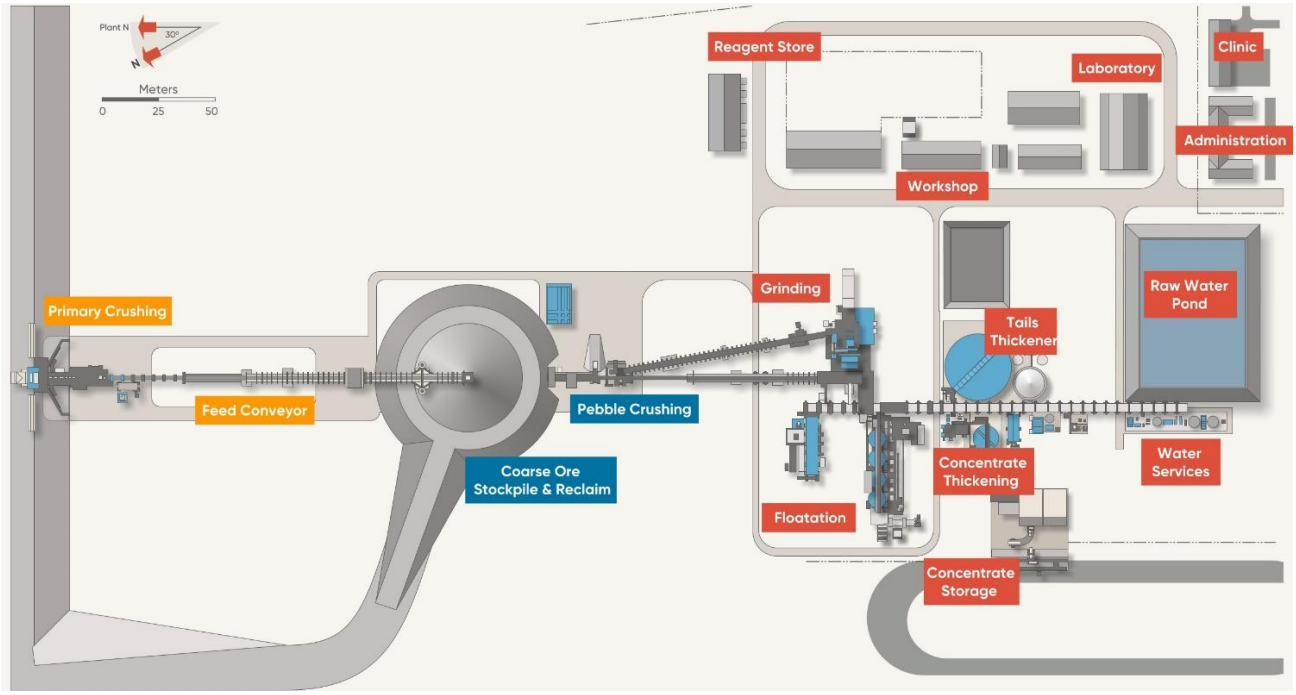

Figure 5: Proposed 3.2Mtpa Process Plant layout.

INFRASTRUCTURE AND SERVICES

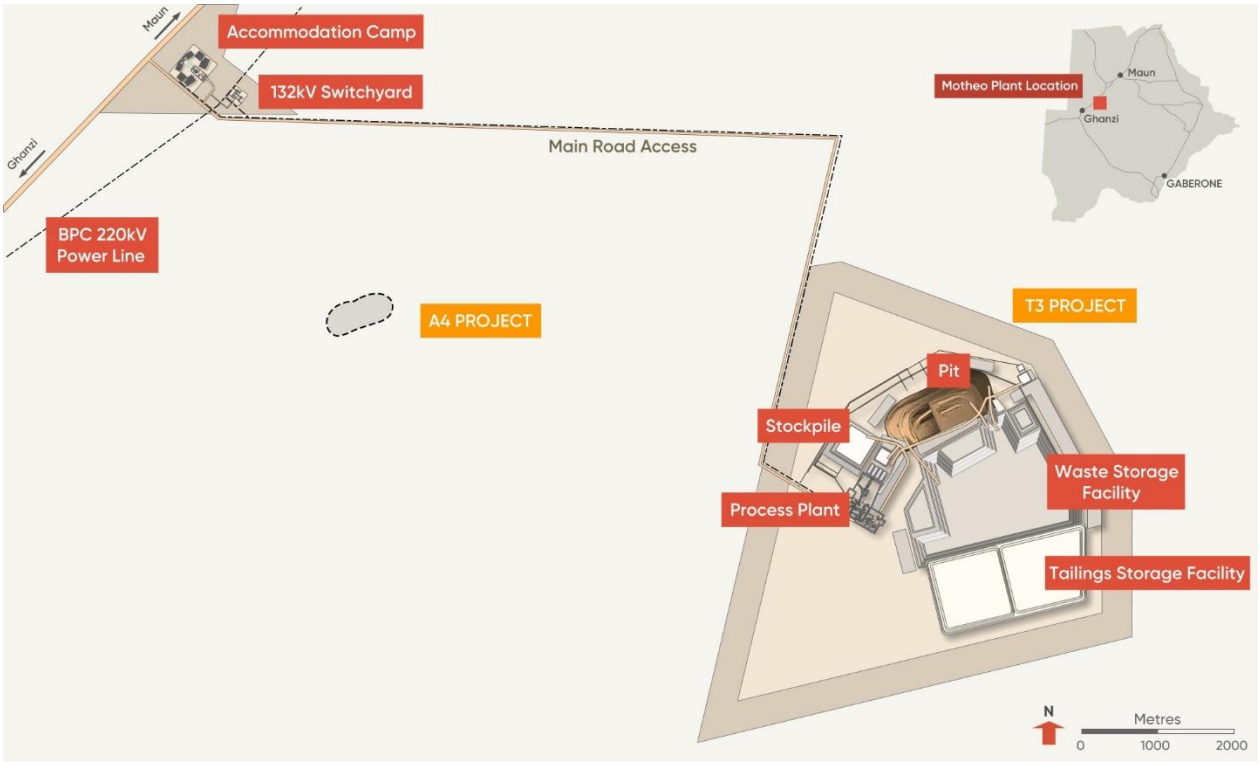

Figure 6: Proposed site layout.

Infrastructure

The proposed mine plan includes a single pit with haul roads connected to a single waste rock dump, mineralised waste dump, low grade stockpile and a ROM pad. There are surface water diversion channels, dewatering bores, light and heavy vehicle workshop facilities, explosives storage, processing facilities, supply facilities, technical services facilities, and administration facilities.

The mining contractor will construct the mining infrastructure required to maintain mining operations, which will include offices, maintenance workshops, training facilities, heavy vehicle and washdown pad. Sandfire will supply services such as power, water and fuel.

Road access and accommodation

The access road route from the A3 Highway was selected to limit disturbance to farm owners. The 14km access road will be a two-way, 10m wide carriageway, of gravel construction utilising locally won calcrete for pavement. The calcrete will be sourced during the pre-strip phase of the mine development. The road will be fenced on both sides with gates installed at locations to allow farmer access for movement of livestock.

Sandfire currently owns and operates a self-contained unit accommodation camp in Ghanzi with provision to accommodate 40 people, expandable to 100 people, plus a separate office block, kitchen / dining room, and laundry. Each accommodation unit is inclusive of an air conditioner, shower and toilet. The Ghanzi accommodation camp is located approximately 6km east of Ghanzi, along the A3 Highway and approximately 70km from the turn-off to the T3 Project site.

The Motheo permanent operations camp will be built close to the T3 Project and the A3 Highway and will house up to 750 personnel. Each accommodation unit will be inclusive of an air conditioner, shower and toilet. A temporary construction camp to house up to 200 personnel will be constructed adjacent to the process plant and on the Mining Licence. This facility will be removed at the end of the construction phase.

Power

The T3 Motheo Project has an initial maximum power demand of approximately 13MW. Power for the project will be via a grid connection with the Botswana Power Corporation (BPC). A new switching station will be constructed at the intersection of the A3 Highway and site access road for the connection to the BPC grid. From here, a 14km-long 132kV overhead transmission line will run to the substation adjacent to the process plant. The sub-station will be equipped with two 132/11kV stepdown transformers each of 25MVA capacity and associated switchgear to supply 11kV power to the project.

Sandfire will execute a LOM Power Supply Agreement (PSA) with BPC with the tariffs applicable to the project being gazetted by the Botswana Government.

The Company is continuing to evaluate the economics and approvals required for the installation of a 12-15 MWp solar PV in combination with a 2-4 MW Li-ion battery energy storage system. This system does not form part of this study but is being considered for delivery using an Independent Power Producer (IPP) or BOOT (Build, Own, Operate, Transfer) style contract in parallel with the project development. A separate business case for the renewable energy system being incorporated into the project is currently being prepared.

Water supply

Raw water for the plant will be sourced from pit dewatering bores. The water will be pumped to the dewatering transfer pond located adjacent to the open pit and from there to the raw water pond located in the process plant.

The bores supplying the raw water will form part of the open pit dewatering network of bores located around the pit. Dewatering bores in the early years will produce more water than the process plant requires with excess clean water being recharged to the aquifer via a number of Managed Aquifer Recharge (MAR) facilities or distributed to the local farming community as replacement clean water supplies.

Tailings Storage

The Tailings Storage Facility (TSF) has been designed to accommodate the Expansion Case and will comprise a paddock facility consisting of a zoned, downstream constructed embankment designed to store a total of approximately 50Mt of tailings at a rate of up to 5.2Mtpa.

The facility will be constructed initially as a two-cell arrangement, Cell 1 (Stage 1) and Cell 2 (Stage 2). The initial storage capacity for Stage 1 will be approximately 4.8Mt of tailings (18 months' production). Cell 1 will be constructed during the pre-production period and Cell 2 in the first year of production. Stage 3 will then be constructed by raising the outer perimeter embankments of both cells and these will continue to be raised approximately annually to the final stage, at which time the embankment height will be about 23m above the natural ground surface.

The total footprint area (including the basin area) will be approximately 105ha for the Stage 1 TSF, increasing to approximately 270ha for the final TSF. The TSF will be constructed as an integrated waste landform (IWL) to the south of the waste dump and open pit with the waste dump as a buttress on the northern walls.

The main embankment will be a downstream multi-zoned embankment, constructed from selected open pit mine waste. The TSF will be lined with a double-lined impermeable High-Density Polyethylene (HDPE) geomembrane. The TSF design incorporates an underdrainage system to reduce the pressure head acting on the liner to reduce seepage, increase water recovery, increase tailings densities, and improve the geotechnical stability of the embankments. The tailings will discharge to the TSF at 60% w/w solids.

Geochemical testing of the tailings sample recorded a moderate number of element enrichments, with the level of enrichment tending to be significant. Bismuth was recorded as highly enriched, whilst silver, boron, copper, molybdenum, and antimony were recorded as significantly enriched. Arsenic was also recorded as slightly enriched.

Comparison of the multi-element results to soil quality screening guidelines indicated that the tailings sample met the guidelines for human health, but exceeded the ecological thresholds for antimony, cadmium, chromium, copper and zinc and the site contamination guidelines for copper.

The supernatant was found to have no metals detected above Botswana or international release for livestock use guidelines. However, molybdenum was found to exceed both the short- and long-term Australian trigger values for irrigation, together with fluoride and phosphorous exceeding the long-term trigger values for potable water. All the supernatant water from the TSF will be returned to the process water circuit for use in the process plant.

FINANCIAL OVERVIEW

Capital Cost

The capital cost estimate for the T3 Motheo Copper Project has been compiled by Lycopodium Minerals Pty Ltd with input from Knight Piésold on the mine access road, sediment control dams and tailings storage facility, and Sandfire on project specific portions of Infrastructure, Mining pre-strip costs and Owner's costs.

Table 5: Capital Expenditure

Capital Expenditure	US$M
Construction Overheads	17.2
Mining Pre-Strip	73.0
Process Plant	46.4
Infrastructure	35.3
Tailings Water and Water Management	15.0
EPCM	11.7
Owner's Project and Operating Costs	36.2
Contingency	24.5
Total Base Case - 3.2Mtpa	**259.3**

The estimate is expressed in US dollars based on prices and market conditions current during the June Quarter of FY2020.

Table 6: Foreign Currency Exposure

Currency	Exchange Rates	Percentage of Capital Estimate
USD	-	33%
AUD	1AUD = 0.68 USD	14%
ZAR	1USD = 17.00 ZAR	17%
EUR	1USD = 0.90 EUR	4%
BWP	1USD = 11.50 BWP	32%

The estimated capital cost accuracy is as follows.

- +15/-5% Plant Capital Costs.
- +15/-5% Infrastructure Capital Costs.
- +5/-5% Mining Pre-strip Costs (tendered contract).

Operating Cost

Mining Cost Estimate

The mining cost estimate was based on a tender for mining services. The tender documentation was issued to seven contractors that met Sandfire's pre-selection criteria. Six of the seven contractors submitted tenders.

The mining cost estimate has been developed using unit rates from the tender submissions for load and haul, drill and blast, and ore re-handle activities over the life-of-mine. Owner's overheads were derived using internal salary information. All-inclusive mining costs (including pre-strip costs) over the life-of-mine average $2.76/t mined or $19.36/t ore. Operating costs for the mine are summarised in Table 7.

Table 7: Mining Unit Cost US$/t mined

Cost Area	US$/t mined
Owner's Costs	0.15
Contractor Costs	2.21
Fuel	0.40
Total	**2.76**

Processing and G&A Estimate

Process operating costs have been developed based on the selected overall process flowsheet and the mechanical equipment list and the key parameters specified in the process design criteria. The operating costs for the processing plant and General and Administrative (G&A) costs are summarised in Table 8.

Table 8: Operating Cost Summary

Cost Centre	Cost (US$/t)
Power	$2.74
Labour	$1.17
Operating Consumables	$1.62
Maintenance and Repairs	$1.13
Laboratory	$0.21
Subtotal Processing	**$6.87**
Administration Labour	$0.97
G&A	$1.01
Subtotal G&A	**$1.99**
Camp	$0.46
Total	**$9.31**

Sensitivity Analysis

Table 9 is based on the pre-tax NPV impact of a 10% movement in the items listed below compared with the DFS.

Table 9: Sensitivity Analysis

Item	Impact on pre-tax NPV (US$M)
Copper Prices	134
Opex + all Capex	119
Copper grade	114
Mining cost	52
Silver prices	13
Power prices	7

PERMITTING

Project Approvals

The completed DFS will now be submitted to the Government of Botswana, with the Government as part of the Mining Licence approval process having a right to acquire up to a 15% fully contributing interest in the T3 Project.

The Government of Botswana's ownership decision will then pave the way for a Mining Licence for the T3 Project to be granted.

The grant of a Mining Licence represents the last major permitting milestone required for development of the T3 Project to commence.

Environment

Tshukudu Metals prepared an Environmental Impact Assessment (EIA) and submitted this to the Department of Environmental Affairs (DEA) (Competent Authority), Ghanzi District in December 2018. The EIA was approved by DEA on 25 June 2020.

Community and Stakeholder Engagement

Tshukudu Metals is the in-country operating company which has appointed in-country management and staff to commence preliminary works for the T3 development. Since its establishment, Tshukudu Metals has been guided by its Community Relations Policy in which it has publicly committed to the following principles:

- Respect the human rights of all stakeholders with whom we interact.
- Support local business in Ghanzi District including small retail outlets where possible.
- Work proactively with communities to identify and manage social risk, impacts and obligations.
- Collaborate with host communities, government agencies, workforce, and contractors to promote social development.
- Address grievances in a fair, timely and consistent manner.
- Consider the values, needs and concerns of local peoples and vulnerable groups.
- Promote open and transparent cultural liaison and consultation.

A dedicated community relations office, established in the centre of Ghanzi town, manages Human Resources and Community Relations in the Ghanzi District. The community relations team has a strong presence in the local community and is well positioned to engage with its stakeholders and work collaboratively with local government to manage social development and investment activities. Government relations are well established at both local district and national levels.

KEY RISKS

Several key project risk areas have been identified by the study team during the DFS and mitigation actions developed for both the construction and operational phases of the project. The key project risk areas are listed below.

Several risks are partially mitigated due to the present DeGrussa operation, including the fact that mining and mineral processing has been running for eight years and Sandfire has extensive and detailed operating management procedures and experience. These operating procedures will be integral in the establishment of the Motheo operation in Botswana.

Health, safety and security, including COVID-19

Currently the incidence of COVID-19 in Botswana is very low by international standards, however it is increasing. The pandemic could pose a serious risk to both construction and operations, given the remoteness of the mine site and the relatively high number of personnel movements on and off site that will nevertheless occur with FIFO staff travel and deliveries of equipment and supplies.
The Company has developed appropriate procedures to manage these risks in line with the latest local and international medical advice available.

The Botswana Government has recently announced the re-opening of international borders that had been closed due to COVID-19, allowing the resumption of international flights into and out of Botswana.

The T3 mine area is in a low malaria risk area and there are no reported cases from the Company's team in Botswana to date.

Health and safety management and procedures will be a focus during project implementation, and appropriate training will be provided to enable staff to perform safely and effectively in their role.

Security risks in Botswana are deemed to be minimal. Risk treatment tools include the implementation of onsite access control systems and emergency response protocols.

Environmental and Social Risks

The environmental risk is perceived to be low, given the receiving environment and Sandfire's commitment to developing the mine in accordance with both Botswana Standards and International principles and standards. Key environmental impacts are associated with land clearing and the use of groundwater.

The project is in a sparsely populated area with the nearest populations of any size approximately 40km from the project. The social aspects of the risk review identified two key areas, being local farmers and community expectations, impacting the Company's social licence to operate. Communication with these groups will be ongoing throughout the life of the operation.

Sovereign and Regulatory

Sandfire has positive relationships with regional and national government representatives. Regulatory requirements are clearly understood and have been identified by the Company; hence this risk is deemed to be low if the current approach of regular communication and conformance with statutory/regulatory requirements is maintained.

Political stability has provided a level of social and financial stability in Botswana for many decades. Foreign investment is welcomed and the Government is actively promoting investment in the economy. A detailed compliance register will be developed and maintained throughout the life of the project to ensure the project meets all regulatory obligations.

Technical Risks

Tailings dam, geochemical, geotechnical and site water management risks have been identified and mitigation plans have been prepared. The Company has employed several leading consultants in this field for the design and implementation stages, including Knight Piésold (tailings storage facility), Wood (Mining Geotechnical) and AQ2 (Hydrology).

Construction Specific Risks

A construction project presents numerous varied risks, however the perceived risk for this specific construction project is considered low. The process plant design is being undertaken in Perth to international standards by Lycopodium, a leading EPCM Consultant, and all the key process plant equipment will be procured from Tier-1 international equipment suppliers. A conservative implementation schedule has been adopted with input from experienced Botswana and South African construction contractors.

PROJECT EXECUTION AND TIMELINE

The project will be developed over a two-year period commencing in Q3 FY2021 following grant of the Mining Licence, with commissioning and ramp-up scheduled for the second half of FY2023. The schedule has been developed using an EPCM approach for the process plant and a combination of lump sum and schedule-of-rates contracts for the project infrastructure.

An internationally experienced Owner's team will be assembled to manage project execution. Figure 7 below provides an outline of the key project activities and related timeline.

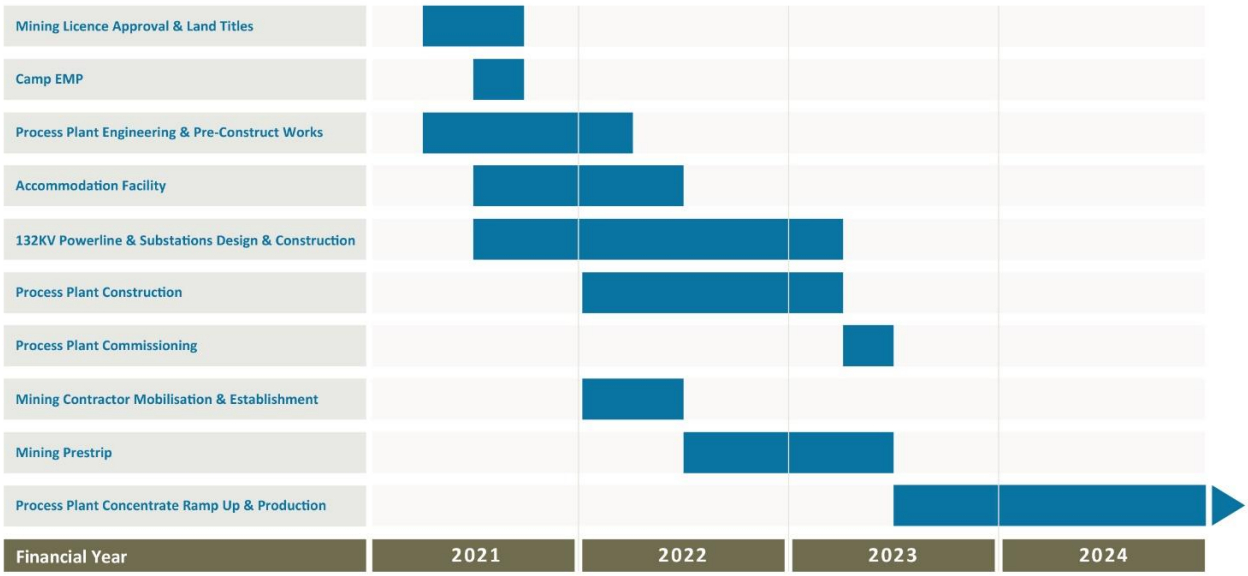

Figure 7: T3 Project development timeline.

INVESTOR CALL

With the completion of the T3 DFS, the announcement of a Final Investment Decision for the T3 Motheo Project and the release of a Maiden Inferred Mineral Resource for the A4 Copper-Silver Deposit, Sandfire has separately released a detailed Company Update, Strategy and Outlook presentation.

Sandfire invites all stakeholders to view the presentation prior to the Company hosting a live, interactive Question & Answer Session for the investment community on **Wednesday 2nd December**, commencing at **8.00am (AWST) / 11.00am (AEDT)**.

Investors, brokers, analysts and media can register to join the teleconference or to view a live webcast of the presentation by clicking here.

The ASX announcements and presentation are available via the ASX Company Announcements Platform (ASX Code: SFR) and at Sandfire's website at www.sandfire.com.au.

ENDS

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This announcement is authorised for release by Sandfire's Managing Director and CEO.

Competent Person's Statement – Mineral Resources

The information in this report that relates to Mineral Resources is based on information compiled by Mr Callum Browne who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Browne is a permanent employee of Sandfire Resources and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Browne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Competent Person Statement – Ore Reserves

The information in this report that relates to Open Pit Ore Reserves, is based on information compiled by Mr Jake Fitzsimons who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Fitzsimons is employed by Orelogy Consulting Pty Ltd and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Fitzsimons consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-Looking Statements

Certain statements made during or in connection with this announcement contain or comprise certain forward-looking statements regarding Sandfire's Mineral Resources and Reserves, exploration and project development operations, production rates, life of mine, projected cash flow, capital expenditure, operating costs and other economic performance and financial condition as well as general market outlook. Although Sandfire believes that the expectations reflected in such forward-looking statements are reasonable, such expectations are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements and no assurance can be given that such expectations will prove to have been correct. There is continuing uncertainty as to the full impact of COVID-19 on Sandfire's business, the Australian economy, share markets and the economies in which Sandfire conducts business. Given the high degree of uncertainty surrounding the extent and duration of the COVID-19 pandemic, it is not currently possible to assess the full impact of COVID-19 on Sandfire's business or the price of Sandfire securities.

Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, delays or changes in project development, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in metals prices and exchange rates and business and operational risk management.

Except for statutory liability which cannot be excluded, each of Sandfire, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in these forward-looking statements and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in forward-looking statements or any error or omission. Sandfire undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly, you should not place undue reliance on any forward-looking statement.

APPENDIX 1: JORC 2012 Code

JORC 2012 MINERAL RESOURCE PARAMETERS

T3 Copper Silver Deposit

Section 1: Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	Sampling boundaries are geologically defined and commonly one metre in length unless a significant geological feature warrants a change from this standard unit.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is sawn along a cut line as defined by the logging geologist, which is marked to intersect the core orthogonal to the dominant foliation orientation. Core is then routinely sampled along the same side of the line as cut to ensure sampling consistency.
	Aspects of the determination of mineralisation that are Material to the Public Report.	The determination of mineralisation is based on observed amount of sulphides and lithological differences.
	In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	Diamond drill core sample is pulverised via LM2 to nominal 85% passing -75µm. Pulp charges of 0.25g are prepared using a four-acid digest and an ICP-AAS finish. Non-sulphide Cu is analysed via method AA05, utilising a sulphuric acid leach with an ICP-AAS finish.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Surface diamond drillholes used HQ3 (63.5mm) and NQ (47.6mm) core size (standard tubes). Geotech holes were orientated using Devicore Core orientation tools.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Diamond drillhole recoveries were quantitatively recorded using length measurements of core recoveries per-run. Core recoveries routinely exceeded 95%.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Core was cut along a cut-line marked by the supervising geologist, which was marked orthogonal to the dominant foliation. Core was consistently sampled along the same side of this cut line for all holes.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No sample recovery issues have impacted on potential sample bias.

Criteria	JORC Code Explanation	Commentary
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	Geological logging captured an appropriate level of detail including data minimum (but not always limited to): • Major lithological unit • Oxidation (weathering) state • Alteration – style, intensity and mineralogical assemblage • Mineralisation – mineralogy, intensity, style (disseminated etc) • Veining • RQD parameters • Breaks per-metre • Notable structures – foliation, folding, schistosity, brecciation etc.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is both qualitative and quantitative depending on the field being logged. All cores are photographed.
	The total length and percentage of the relevant intersections logged.	All drill holes are fully logged.
	If core, whether cut or sawn and whether quarter, half or all core taken.	Longitudinally cut half core samples are produced using a core saw.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	No non-core used in Mineral Resource Estimate.
Sub-sampling techniques and sample preparation	*For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	Prior to March 2017, samples were submitted to Set Point Laboratories in Johannesburg for analysis. Entire samples submitted to Set Point Laboratories were prepared using an initial crush to <15 mm via jaw crusher, with a further coarse crush stage to 80% <2 mm. Samples were then split using a Jones riffle splitter, with the analytical split milled using a tungsten bowl mill to 90% <106 µm. From March 2017 onwards, samples were submitted to ALS Laboratories for sample preparation. Samples were evenly submitted to both the Johannesburg preparation facility, and the on-site preparation facility at the yard in Ghanzi. Samples are first crushed in their entirety to 70% <2 mm using a jaw crusher. The entire samples are then milled to >85% pass <75 µm. Both procedures are considered to represent industry standard practices and are considered appropriate for the style of mineralisation.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	For sample preparation, every 20th sample prepared at both the coarse crush, and milling stages is screened for consistency. Any failure triggers the re-crush/mill of the previous three samples. If any one of those samples should also fail, then the entire submitted batch is re-crushed/milled. Between each batch the coarse crushing equipment is cleaned using blank quartz material. LM2 ring mills are cleaned with acetone and compressed air between each sample.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Duplicate analysis has been completed and identified no issues with sampling representatively with assays showing a high level of correlation.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample size is considered appropriate for the mineralisation style.

Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Samples analysed by Set Point Laboratories were assayed for total and non-sulphide Cu and Ag, Mo, Pb, S and Zn. Total Cu and other elements were assayed by ICP-OES from a 1g pulp sample prepared with three-acid digest and diluted to 100 ml. Analyses are reported to a 10 ppm detection limit. Non-sulphide Cu is analysed from a 1g pulp sample digesting with a combination of sulphuric acid and sodium sulphite, then assayed via ICP-OES. Results are reported to a 10 ppm detection limit. Samples analysed by ALS Laboratories were also assayed for total and non-sulphide Cu, Ag, As, Bi, Mo, Pb, S and Zn. Prepared and analysed using ALS method ME-ICP61 for total Cu other elements, with an over-range trigger to ME-OG62 for high-grade Cu samples. Pulp charges of 0.25g are prepared using a four-acid digest and an ICP-AAS finish. Non-sulphide Cu is analysed via method AA05, utilising a sulphuric acid leach with an ICP-AAS finish. Both non-sulphide methods are considered partial and are conducted for the purposes of determining the acid-soluble Cu component of the sample. Other methods used are considered to be effectively total in their reporting of elemental concentrations.
	For geophysical tools, spectrometers, handheld XRF instruments etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to analyse the drilling products.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Precision and accuracy were monitored throughout their sample chain of custody through the use of coarse and pulp duplicates, and the insertion of certified reference materials (CRMs) and blanks into the sample stream. CRMs are sourced from Ore Research Laboratories in Australia, and with the exception of the blank, span a range of Cu grades appropriate to the Motheo project mineralisation. Control samples are inserted alternately at a rate of 1 in 10. Analysis of duplicate samples shows acceptable repeatability and no significant bias
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Significant intersections have been verified by alternative company personnel.
	The use of twinned holes.	Twinned holes have been drilled into the T3 deposit, and visual validation of the results indicates suitably coincident downhole metal distributions and observable intersections.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Logging data (including geotechnical parameters) are first recorded on paper, then scanned to preserve a digital image. Original documents are filed in hardcopy. Data logged to paper is also entered into a Microsoft Excel spreadsheet template which has been specifically designed for the capture of T3 deposit logging data. The data is then stored within a Micromine™ database. The MOD Resources Micromine™ drillhole database was imported into Sandfire Resources SQL database following the acquisition in October 2019. This involved a validation against original sources were possible with only minor non-material discrepancies found. The data is considered fit for purpose.
	Discuss any adjustment to assay data.	The primary data is always kept and is never replaced by adjusted or interpreted data.

Criteria	JORC Code Explanation	Commentary
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Drillholes are initially set-out prior to drilling using a handheld global positioning system (GPS). Subsequent to completion, holes are capped and marked with a marker peg. Periodically, collar locations are surveyed by Afrogeodata Surveys Pty Ltd, a commercial contract land surveyor using Leica VIVA GNSS GPS system instrumentation, which provides sub-decimetre accuracy. Downhole surveying is completed on all diamond drillholes via north-seeking gyroscopic survey.
	Specification of the grid system used.	Collars are marked out and picked up in the Botswanan National Grid in UTM format. Subsequent Mineral Resource modelling has been conducted in a local Mine grid, which is rotated 20° to the east to align the strike of the T3 deposit along local east-west.
	Quality and adequacy of topographic control.	Topographic control is provided by the GPS survey system used for collar pickup. The topography of the T3 deposit area is very flat, and significant variations in topography within the project are not apparent. The topographic control is considered fit for purpose.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	No Exploration Results are included in this release.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Drillhole spacing's are approximately 50mE x 50mN extending out 100m spacing at the peripheries of the project. Infill drilling within the central part of the project is approximately 25mE x 25mN spacing. The spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for the classifications applied.
	Whether sample compositing has been applied.	No sample compositing is applied during the sampling process.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Drillholes have been oriented to intersect T3 mineralisation approximately orthogonal to the known dip of the deposit. No bias is considered to have been introduced to the sample dataset as a result of drilling orientation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No significant sampling bias occurs in the data due to the orientation of drilling with regards to mineralisation.
Sample security	*The measures taken to ensure sample security.*	Samples are collected at the end of each shift by Tshukudu staff and driven directly from the rig to the storage and logging yard in Ghanzi, which is a secure compound. Samples are either prepared to pulp stage on-site at the core logging and storage facility, within a purpose built commercially operated facility (ALS Laboratories) or couriered to a commercial laboratory (also ALS Laboratories) in Johannesburg by Tshukudu staff. Sample security is not considered to be a significant risk to the T3 project.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	The sampling techniques and data collection processes are of industry standard and have been subjected to internal reviews by Sandfire personal.

Section 2: Reporting of Exploration Results

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	Sandfire, through their 100% ownership of Botswanan company Tshukudu Metals Botswana (Pty) Ltd, hold prospecting license PL190/2008 as part of a larger tenement package. This licence, on which T3 occurs, was renewed on 1st October 2020 and is valid till 30th September 2022. UK-listed company Metal Tiger Plc. holds a US$2.0 million capped Net Smelter Royalty over the Company's T3 Copper Project in Botswana. Metal Tiger Plc also holds an uncapped 2% Net Smelter Royalty over 8,000km^2 of the Company's Botswana exploration license holding in the Kalahari Copper Belt. This uncapped royalty covers the area subject to the historical Tshukudu joint venture with MOD Resources Ltd and includesPL190/2008, which hosts the A4 resource area.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	There are no known impediments to obtaining a license to operate in the area.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Very limited exploration was conducted by Discovery Metals in the early 2000s in the form of regional (widely spaced) soil sampling, and two diamond drillholes.
Geology	*Deposit type, geological setting and style of mineralisation.*	The T3 deposit occurs within the Ghanzi-Chobe belt in Western Botswana. The stratigraphy in this belt comprises the basal Kgwebe Formation volcanic lithofacies unconformably overlain by the Ghanzi Group sedimentary lithofacies. The Ghanzi Group is a dominantly siliciclastic marine sedimentary group comprising (in successively higher stratigraphic order), the Kuke, N'Gwako Pan, D'Kar and Mamuno Formation sedimentary lithofacies. The Ghanzi Group is an overall fining-upwards succession of sedimentary lithofacies, with sandstone and conglomerates of the Kuke Formation overlain by arkose, siltstone, shale and limestone of the N'Gwako Pan, D'Kar and Mamuno Formations. The T3 deposit is focussed on a NE-SW trending periclinal anticline with a core of N'Gwako Pan Formation that is overlain by a succession of D'Kar Formation sediments. The axial region of the anticline has been breached along a moderately northwest dipping brittle-ductile thrust zone such that moderately northwest dipping D'Kar Formation lithofacies in the hanging-wall of the thrust zone rest with angular contact upon sub-horizontal lithofacies in the footwall. Cu-Ag mineralisation that forms the focus of the T3 deposit extends from approximately 25m – 300m below surface. The mineralisation strikes and dips parallel to the thrust zone and is considered to be a structurally hosted, epigenetic deposit that formed synchronous with deformation during Damara orogenesis.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *Easting and northing of the drillhole collar* • *Elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* • *Dip and azimuth of the hole* • *Downhole length and interception depth* • *Hole length.*	Not applicable. Exploration Results are not being reported.

Criteria	JORC Code Explanation	Commentary
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Not applicable. Exploration Results are not being reported.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	Not applicable. Exploration Results are not being reported.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Not applicable. Exploration Results are not being reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable. Exploration Results are not being reported.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	Not applicable. Exploration Results are not being reported.
	If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.	Not applicable. Exploration Results are not being reported.
	If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	Not applicable. Exploration Results are not being reported.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	Relevant maps and diagrams are included in the body of the report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Not applicable. Exploration Results are not being reported.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Not applicable. Exploration Results are not being reported.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Not applicable. Exploration Results are not being reported.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not applicable. Exploration Results are not being reported.

Section 3: Estimation and Reporting of Mineral Resources

Criteria	JORC Code Explanation	Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	Sandfire uses SQL as the central data storage system. User access to the database is regulated by specific user permissions. Only the Database Management team can overwrite data. Existing protocols maximise data functionality and quality whilst minimising the likelihood of error introduction at primary data collection points and subsequent database upload, storage and retrieval points. An IT contracting company is responsible for the daily Server backups of both the source file data on the file server and the SQL Server databases. The selected SQL databases are backed up each day to allow for a full recovery.
	Data validation procedures used.	The SQL server database is configured for optimal validation through constraints, library tables, triggers and stored procedures. Data that fails these rules on import is rejected or quarantined until it is corrected. Database is centrally managed by a Database Manager who is responsible for all aspects of data entry, validation, development, quality control and specialist queries. There is a standard suite of vigorous validation checks for all data.
Site Visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Site visits have been undertaken by Sandfire personal. No material concerns were identified during those site visits.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has not been able to undertake a site visit due to travel restrictions imposed from COVID-19.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	A detailed 3-D lithostratigraphic and structural model forms the basis for high confidence in the geological interpretation and continuity of mineralisation.
	Nature of the data used and of any assumptions made.	All available geological logging data from diamond core are used for the interpretations. Interpreted master displacement planes have been used to constrain and guide wireframes.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	The geological interpretation of mineralised boundaries are considered robust and alternative interpretations do not have the potential to impact significantly on the Mineral Resources.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpreted mineralisation boundaries are used as hard boundaries during the Mineral Resource estimation.
	The factors affecting continuity both of grade and geology.	The Mineralisation is considered to be a structurally hosted, epigenetic deposit. The continuity of mineralisation is structurally controlled.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	Cu-Ag mineralisation that forms the focus of the T3 study extends from approximately 25m – 300m below surface. Mineralisation extends for 1940m along strike and the cumulative total true width of mineralisation within the thrust zone ranges from 10m – 80m.

Criteria	JORC Code Explanation	Commentary
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Grade estimation technique applied for resource estimation is ordinary kriging (OK). Analysis suggests that a stationarity assumption is reasonable for the style of deposit and linear estimation of grades. All relevant variables; Cu, Ag, Pb, Zn, As, S, Bi, Density and acid soluble Cu were estimated. Top cuts were applied to isolated high-grade composites prior to estimation where applicable based on review of histograms, disintegration analysis and statistical analysis of composites. High grade domains are defined by predominantly continuous >1.5% Cu, typically coincident with foliation-parallel, quartz-carbonate veining developed along master displacement planes. These high grade domains are surrounded by broader low grade zones of 0.2% - 1.5% Cu mineralisation. The Pb-Zn mineralisation was modelled separately from the Cu mineralisation on the basis of a (Pb+Zn)/2 nominal 0.1% lower cut-off. The search ellipsoid corresponds to the range of the variogram structures and is constrained by the optimum number of samples and restriction of 4 samples per drill hole to ensure data used to estimate blocks is within the constraints of the variogram. Blocks that were not estimated within the first search (<5%) were estimated in a second pass where search ranges were tripled. Mineral Resource estimation is completed within Datamine™ StudioRM version 1.6.87.0 software. Three dimensional mineralisation wireframes are completed within Seequent™ Leapfrog software and these are then imported into StudioRM™.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	A maiden resource estimate was produced for the T3 deposit in September 2016, and then subsequently updated in August 2017 and then in July 2018. The geometry of mineralisation modelled in previous estimates is comparable to that of the current estimate, and tonnages are also comparable, after taking into consideration the additional drilling available for the most recent update. Mining is yet to take place at T3, and so production records are not available for comparison.
	The assumptions made regarding recovery of by-products.	Silver has been estimated as a by-product within the T3 deposit. It is assumed that silver will be recovered only where copper is being mined.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Estimates includes deleterious or penalty elements As, Bi, Pb and Zn. Estimates also include the ratio of acid soluble Cu to total Cu.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Data spacing was the primary consideration taken into account when selecting an appropriate estimation block size. The T3 deposit is drilled on an approximate 50mE x 50mN support with a smaller area of infill drilling to 25mE x 25mN. The parent cell sizes of 24mE x 24mN x 2mRL and 12mE x 12mN x 2mRL were based on approximately half of the average drill spacing of each support.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	Correlation analysis was completed for all variables with Cu, Ag and Bi showing moderate to strong correlation, Cu, S and density showing weak to moderate correlation and Pb and Zn showing moderate to weak correlation. However all variables are treated in the univariate sense for estimation.

Criteria	JORC Code Explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	The block model is assigned unique domain codes that corresponds with the domain codes as defined by mineralisation wireframes. Wireframes are then used as hard boundaries during interpolation where blocks are estimated only with composites having the corresponding domain code.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to isolated composites prior to estimation where applicable based on review of histograms and statistical analysis.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The process of validation includes standard model validation using visual and numerical methods: • The block model estimates are checked against the input composite/drillhole data; • Swath plots of the estimated block grades and composite mean grades are generated by eastings, northings and elevations and reviewed to ensure acceptable correlation; and • Block Kriging Efficiency (KE) and Slope of Regression (ZZ) are used to quantitatively check the estimation quality. No reconciliation data is available as no mining has taken place.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource has been reported above a cut-off of 0.3% Cu within an optimised open pit shell run at a US$4.50 /lb Cu price. It is the opinion of the Competent Person that the cut-off grade represents a suitable assessment of a potential lower economic cut-off, when likely mining methods for the current T3 Mineral Resource are considered.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	Mining studies for the T3 deposit have shown that the currently defined Mineral Resource could potentially be economically mined using open-cut methods at the currently reported average Cu grade.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	The T3 copper recovery model was based on 49 variability tests carried out during the feasibility study to evaluate metallurgy performance. The samples were selected taking into consideration variations to copper mineralisation, deleterious elements, copper head grades, and spatial distribution. From the variability test results, recovery and grade algorithms were developed for copper, silver, and sulphur, as well as the penalty elements lead, zinc, molybdenum, arsenic and bismuth. The LOM Cu metallurgical recovery is 92.1%. The LOM Ag metallurgical recovery is 87.3%.

Criteria	JORC Code Explanation	Commentary
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	It has been assumed that the waste material produced as a result of open-cut mining will be stored in dry stacked waste dumps on site, adjacent to the mining operation. The sulphide content of the mineralisation poses the risk for potentially acid generating waste to be produced. It has been assumed that the treatment and appropriate storage of this waste will not pose any significant impediment to the sustainable mining of the deposit and would be correctly managed in accordance with regulatory conditions imposed by the Botswanan government.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	Sample mass was determined by weighing the core in air and sample volume was determined by the Archimedes principle. Of the 48,195 raw samples available within the current Motheo database, 31,759 (>65%) were measured for density. Density is estimated using ordinary kriging within the Cu and PbZn domains. Density is assigned to waste blocks outside of the Cu and PbZn domains based on weathering profile averages.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	The procedure used is suitable for non-porous or very low porosity samples, which can be quickly weighed in water before saturation occurs.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	No assumptions for bulk density made.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The Mineral Resource is classified as a function of drillhole spacing and geological continuity. Areas where drilling has been completed on a nominal 50m x 50m pattern and where geological continuity is high are classified as indicated. Elsewhere where drill density is sparse the resource is classified as Inferred. The MRE was also spatially constrained within a Whittle optimized open pit shell generated using optimistic input parameters based on a Cu price of USD $4.50/lb.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The Mineral Resource classification has appropriately taken into account data spacing, distribution, reliability, quality and quantity of input data as well as the confidence in predicting grade and geological continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimation appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	Wood completed an external independent technical review of the DFS including the T3 MRE. Wood found the MRE work to be of industry standard and fit for purpose.

Criteria	JORC Code Explanation	Commentary
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The Mineral Resources has been reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and reflects the relative accuracy of the Mineral Resources estimates.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The T3 Mineral Resource Estimate is a global estimate.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The deposit has not been and is not currently being mined.

Section 4: Estimation and Reporting of Ore Reserves

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*	The Mineral Resource Estimate used as a basis for the conversion to the Ore Reserve was provided on the 15th September 2020 with Callum Browne, of Sandfire Resources Ltd, as the Competent Person. The total Mineral Resource, within a $4.50 shell, of 53.3 Mt at 0.9 % Cu and 12.7 g/t Ag included: • Indicated at 48.8 Mt at 0.92 % Cu & 12.5 g/t Ag; and • Inferred at 4.5 Mt at 0.74 % Cu & 14.7 g/t Ag. The estimation and reporting of Mineral Resources is outlined in Section 3 of this Table.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Mineral Resources are reported inclusive of Ore Reserves.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Mr Jake Fitzsimons, the Competent Person for this Ore Reserve statement is a full-time employee of Orelogy Consulting Pty Ltd (Orelogy). A site visit was untaken by Mr Ryan Locke of Orelogy on behalf of the Competent Person on the 9 Nov 2019. Key observations were: • Site access is close to sealed public highway and in good condition; and • Site is located in a bio-security zone which requires that equipment brought in needs to be thoroughly cleaned.
	If no site visits have been undertaken indicate why this is the case.	A site visit was undertaken as described above.

Criteria	JORC Code Explanation	Commentary
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	The Ore Reserve estimate is based on an Definitive Feasibility Study (DFS) of the T3 Copper Project. The study was undertaken following Sandfire's acquisition of MOD Resources Ltd and its wholly owned subsidiary, Tshukudu Metals (Botswana) Pty Ltd which holds the T3 Copper Project. MOD had competed a FS in March 2019. The objective of this FS update was to revisit all of the assumptions in the FS and reduce the risks to the Project. The 2020 FS update was compiled by Lycopodium on behalf of Tshukudu Metals with input from: • Sandfire (Geology) • Wood PLC (Geotechnical) • Orelogy Consulting (Mine Planning) • Lycopodium (metallurgical test work, process design and non-process infrastructure) • Knight Piesold (tailings storage) • AQ2 (hydrology and hydrogeology) • Sandfire (marketing and financial analysis)
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	The copper cut-off grade is variable, based on silver credits, contaminant penalties and variable metal recovery dependent on head grades for copper, silver, sulphur, arsenic, lead, zinc and the ratio of copper to acid soluble copper. A net smelter return (NSR) value was used to define the economic material for the Ore Reserve Estimate. An elevated copper cut-off grade of 0.45% was used for the majority of the life of mine (LOM). Material between the NSR marginal cut-off and the elevated cut-off was used to maintain plant feed and manage total material movement rates.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	The Open Pit Ore Reserve Estimate is underpinned by mine plans that deliver ore for processing on site to produce a concentrate for export. The mine planning activities included open pit optimisation, pit design, mine scheduling and cost estimation. Orelogy revisited most of the assumptions used for the FS update. The dilution modelling was revised and additional factors applied to the ore zones to account for edge effect. Updated mining costs were sourced via a detailed Tender process with established International and Southern African mining contractors.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Conventional open pit mining method using backhoe excavators and rigid dump trucks was confirmed as the preferred mining method. The bench heights and equipment selection were reviewed in parallel with the dilution modelling and confirmed the 2.5 m flitch height for ore mining with blasting on 10 m benches. Interim stages were reduced in number to four stages to provide adequate working areas and improve flexibility and access.

Criteria	JORC Code Explanation	Commentary
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.	A detailed geotechnical review of the slope design was undertaken by Wood and the fault zone on the footwall was re-interpreted by Sandfire. The final slope design was based on excavation behind the footwall fault zone to minimise the risk of failure. Overall slope angles in the optimisation included allowance for ramps on the hanging wall and mining out the fault zone on the footwall. Grade control drilling is proposed from 20 m vertical intervals in advance of mining with angled holes perpendicular to the orebody using RC drilling methods to minimise contamination.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	The Mineral Resource model created to estimate the Mineral Resources as at the 15th September 2020 was used as the basis for pit optimisation and scheduling. To establish mineable quantities, a number of open pit optimisations were completed on the diluted Mineral Resource model. The base case optimisations considered Indicated materials only, and applied pricing, recoveries and other modifying factors. The shell selection was based on the business objectives of maximising the discounted cash flow whilst providing sufficient mine life for the Project. A conservative open pit optimisation shell, at a revenue factor of 0.90 times the copper and silver prices, was selected as the basis for design.
	The mining dilution factors used.	Dilution was applied to the Mineral Resource model using a two-step process that included regularisation to a SMU size and a dilution skin to the edges of the mineralisation. As a result of applying dilution using this method, the model reported dilution of 10.2% at 0.05% Cu and ore loss of 23.4 % at 0.57 % Cu. This equates to 2.4% dilution and 18 % ore loss when back calculated for zero diluent grades.
	The mining recovery factors used.	No additional recovery factors were applied.
	Any minimum mining widths used.	The mine design used minimum mining width of 20 m and 100 m respectively for pit floor and cutbacks.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Only Indicated material was used for the reporting of the Ore Reserve estimate. Inferred Mineral Resource was treated as waste.
	The infrastructure requirements of the selected mining methods.	Typical site facilities such as camp accommodation and facilities, sewerage plant, processing plant, maintenance facilities, and tailings storage will be required. Infrastructure requirements for the open pit operation include dewatering bores, water storage dams, power/water reticulation, a ROM pad, haul roads, areas for Contractor built/supplied workshops and other Contractor facilities.

Criteria	JORC Code Explanation	Commentary
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* *Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	Conventional crushing, grinding and sulphide flotation processing is proposed which will yield a saleable, silver bearing copper concentrate with a LOM grade of 30% Cu. The process is well tested, widely used in the mining industry and there are no novel steps in the flowsheet. The proposed treatment route has been applied to similar style orebodies around the world. Variability samples that represent differing mineralisation types, lithologies and spatial distributions were tested. Deleterious elements such as, Bi, Pb and Zn were assayed for and tracked through the testwork program. Hg was assayed for in selected feed and final concentrate. Bulk samples were prepared that represented the overall orebody, production schedules from the PFS stages 1 to 4. A total of 49 variability tests were carried out to evaluate metallurgy performance with variations to copper mineralisation, deleterious elements, copper head grades, and spatial distribution. From the variability tests recovery and grade algorithms were developed for copper, silver, and sulphur, as well as the penalty elements lead, zinc, molybdenum, arsenic and bismuth. A mass yield algorithm was developed for the final concentrate recovery. Following on from the variability testwork program, and additional 19 samples were selected from the new Stage 1 and Stage 2 pit designs. These samples were used to provide additional confidence with the Cu recovery model on early plant feed. Where penalty ranges of deleterious elements are modelled to be reached with the mine plan, allowances have been made in the financial model to capture the impact on revenue. Composite samples representing the first 4 pit stages from the PFS were subjected to locked cycle testwork. These tests verified the impact of recycled products. The Cu and Ag recoveries for the Ore Reserve estimate were based on the March 2019 FS metallurgical test work. The LOM Cu metallurgical recovery is 92.1% and 87.3% for Ag.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Key environmental baseline studies have been completed on the T3 Project including flora, fauna and biodiversity assessments. In addition, waste rock characterisation, groundwater modelling and water management studies were completed for the March 2019 FS. Updated groundwater modelling has been completed by AQ2. Geochemical test work has been conducted on tailings, waste rock and mineralised waste. Test work indicated that the majority of waste rock characterised will be non-acid forming and not prone to leaching. Further column test work to assess leachability of heavy metals is being undertaken on mineralised waste (containing elevated levels of lead and zinc mineralisation). Any materials ultimately identified as prone to metal leaching will be managed through detailed engineering design of the waste storage facility if required. Waste rock and tailings storage locations have been selected based on suitable geographical characteristics and proximity to the pit and plant site. A conceptual mine closure plan was developed by Rescology Environmental Consultants for the FS and updated by Sandfire for the DFS with the principal objective being to create safe, stable and non-polluting land forms.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td>Infrastructure</td><td>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.</td><td>The T3 Project area is well serviced with infrastructure. The A3 major bitumen highway is within 15 km of the project site, as will be the HV power supply.
Raw and process water will be sourced from the open-pit and water bores located around the pit.
Unskilled and skilled labour will be sourced principally from within Botswana.
Ownership of the land and easements required for access and development are well advanced with agreements with landholders in place.
An upgrade to the existing site access road from the National A3 Highway of approximately 15 km length is required and has been costed in the FS update.
A 750 person accommodation camp located approximately 14 km west of the plant site has been costed in the FS update.</td></tr>
<tr><td>Costs</td><td>The derivation of, or assumptions made, regarding projected capital costs in the study.
The methodology used to estimate operating costs.
Allowances made for the content of deleterious elements.
The source of exchange rates used in the study.
Derivation of transportation charges.
The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.
The allowances made for royalties payable, both Government and private.</td><td>The Project cost has been derived for the FS update.
The mining costs in 2020 USD prices are supported by contractor submissions in response to a request for Tender.
The capital cost estimate in 2020 USD prices has been based on a mechanical equipment list with budget pricing for major equipment for bulks such as concrete and steel for the process plant and other non-process infrastructure. including a tailings storage facility, access road, accommodation camp, power line extension and bore field. Electrical and earthworks were estimated separately.
Operating costs in 2020 USD prices for the processing plant, mining and site administration for a production rate of 3.2 Mtpa of ore have been estimated by appropriately experienced industry consultants.
Mine closure and rehabilitation liability costs have been included in the financial model based on areas of disturbance. These commitments are in line with the closure plan.
Operating and capital costs were estimated using the following exchange rate assumptions, based on banking long term forecast rates in Q2 2020.
<table>
<tr><td>AUD : USD</td><td>0.70</td></tr>
<tr><td>EUR : USD</td><td>1.10</td></tr>
<tr><td>ZAR : USD</td><td>15.0</td></tr>
<tr><td>BWP : USD</td><td>11.5</td></tr>
</table>
Concentrate transport charges have been applied on road transport to Walvis Bay then sea freight to China.
Treatment and refining charges (TC/RC) have been applied for both Cu and Ag.
Penalties for deleterious elements including Pb, Zn, As, Bi, Cl, Sb, Fl and Hg have been applied in the financial model.
Government royalties have been applied at the rates of 3% for Copper and 5% for silver.
A royalty is payable to Metal Tiger which is capped at US$2M.</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Price forecasts supplied by Consensus Economics Inc. for copper and silver pricing were applied in the pit optimisation, development of then mine schedule and financial model. Metal prices used to estimate the Ore Reserve were: • US$3.21/lb for copper • US$17.92/oz for silver Selling cost used to estimate the Ore Reserve were: • Concentrate transport of US$151.90/t wet • Treatment charge of US$90.00/t concentrate • Refining cost of US$0.09/lb Cu and $0.35/oz Ag • Copper payability of 96.5% • Silver payability of 90% above 30 g/t
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	Sandfire is a low cost copper concentrate producer selling into global market for custom concentrates. Pricing is fundamentally on value of contained metals the main metal being copper with silver credits. The price of copper being set based on the LME which is a mature, well established and publically traded exchange. Sandfire relies upon independent expert publications (CRU, Wood Mac, Metal Bulletin) and other sources (bank reports, trader reports, conferences, other trade publications) in forming a view about future demand and supply and the likely effects of this on both metal prices and concentrate prices.
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	A discount rate of 7% (using industry standard assumptions in calculating WACC) has been utilised to determine NPV for the T3 Copper Project. Orelogy was provided with confidential financial information demonstrating the economic viability of the project based on this Ore Reserve Estimate. A range of sensitivities was produced for the pit optimisation which showed that the project was robust to changes in the significant inputs and assumptions being most sensitive to commodity prices. The Ore Reserve Estimate is based on an FS level of accuracy with inputs from open pit mining, processing, sustaining capital and contingencies scheduled and costed to generate the Ore Reserve cost estimate and cashflows. The Ore Reserve returns a positive NPV based on the FS and associated modifying factors.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	The Environmental and Social Impact Assessment (ESIA) submitted to the Botswana Department of Environmental Affairs (DEA) in late 2018 was approved in June 2020. The ESIA documented the various stakeholder consultation processes that had been undertaken.

Criteria	JORC Code Explanation	Commentary
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves.* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	The relevant prospecting license PL 190/2008 is in good standing and expires on 30 September 2022. The licence is in good standing both in the expenditure and work completed. The FS update forms part of the application process to convert a part of PL 190/2008 to a Mining License. The Mining Licence application process will commence in late 2020 and is anticipated to be granted in Q1 2021. Legal agreements are in place with all relevant landholders and land acquisition processes are well advanced. An Environmental Management Plan for the accommodation facility, which sits off the Mining Licence is to be submitted in late 2020 with approval anticipated in Q1 2021.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Open Pit Ore Reserves have been derived from a mine plan that is based on extracting the 15 September 2020 Mineral Resources. Probable Ore Reserves were determined from Indicated material after applying appropriate modifying factors as per the guidelines. These results reflect the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	The Ore Reserve Estimate has been reviewed internally by Orelogy Consulting Pty Ltd.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The Mineral Resource Estimate and hence the Ore Reserve Estimate relate to global estimates. The Ore Reserve Estimate is an outcome of the 2020 Mining Feasibility Study Update with geological, mining, metallurgical, processing, engineering, marketing and financial considerations to allow for the cost of finance and tax. Engineering and cost estimations have been completed to a -5%/+15% level of accuracy, consistent with a study of this nature. There has been an appropriate level of consideration given to all modifying factors to support the declaration and classification of the Ore Reserves. No production or reconciliation date is yet available for comparison.