Sandfire

ASX:SFR

25 July 2024

SANDFIRE AMERICA REPORTS ADDITIONAL HIGH-GRADE COPPER INTERCEPTS AT THE BLACK BUTTE COPPER PROJECT IN MONTANA, USA

HIGHLIGHTS

- Continued exploration success at the Johnny Lee Copper deposit at the Black Butte Copper Project in Montana, USA.
- Sandfire America has completed seventeen drill holes in the current drill program. This update includes results from eight holes with significant new results from the Johnny Lee Lower Copper Zone including:
    - Drillhole SC24-285 **1.8m at 15.3% Cu** from 363.7m
    - Drillhole SC24-286 **8.5m at 6.6% Cu** from 438.3m
    - Drillhole SC24-288 **13.2m at 12.8% Cu** from 396.2m
    - Drillhole SC24-290 **4.7m at 4.5% Cu** from 476.7m
    - Drillhole SC24-292 **2.8m at 4.1% Cu** from 369.0m
- The ongoing drilling program aims to upgrade and expand the Johnny Lee Lower Copper Zone resource of 1.2Mt at 6.8% Cu (Measured and Indicated) and 0.5Mt at 5.9% Cu (Inferred).

Sandfire Resources Ltd (ASX: SFR; **Sandfire** or **the Company**) is pleased to provide an update on its development project in Montana, the Black Butte Copper Project, undertaken by its 87%-owned subsidiary, Sandfire Resources America Inc. (Sandfire America).

Please refer to Sandfire America's website at www.sandfireamerica.com for additional information.

Sandfire Chief Executive Officer and Managing Director, Brendan Harris, said:

"The drilling at Johnny Lee continues to deliver high-grade results from the Lower Copper Zone. The Sandfire America team is approximately halfway through the planned 20,000m program which is designed to test the extensions of the existing resource with the hope of improving the economics of the project ahead of a final investment decision."

- ENDS -

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This announcement is authorised for release by Sandfire's Chief Executive Officer and Managing Director, Brendan Harris.

BLACK BUTTE COPPER PROJECT, MONTANA, USA

The Black Butte Copper Project in Montana, USA is in the Belt-Purcell Basin (Figure 1), which also hosts the world-class Sullivan SEDEX lead-zinc deposit. The planned underground mine will use advanced technology to minimise surface impact and environmental effects.

Sandfire's interest in the project is held via an 87% equity stake in Canadian listed company Sandfire Resources America Inc. (TSX-V: SFR) (Sandfire America), which owns 100% of the Black Butte Copper Project.

Situated on private ranch land in Meagher County, the project is near road, power and rail infrastructure. It has the potential to provide jobs and broader economic benefit to the local community while protecting the watershed.

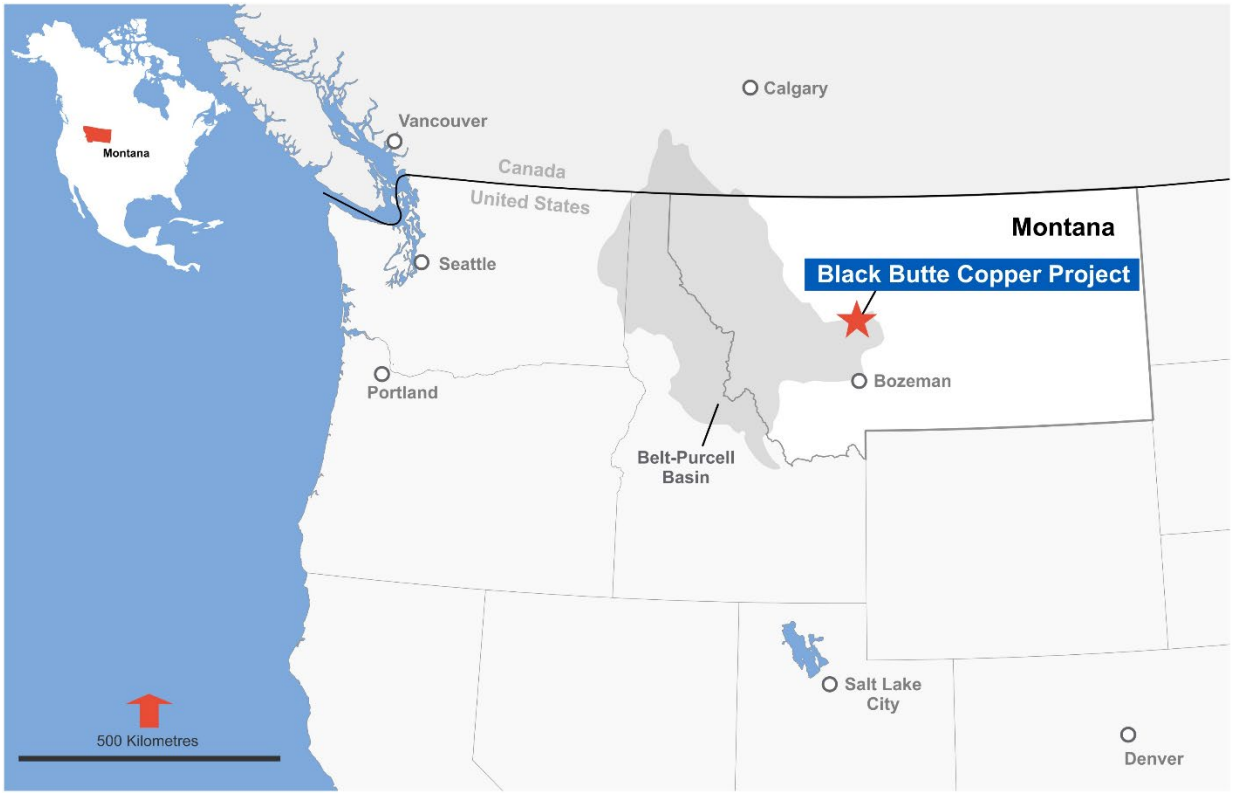

Figure 1: Black Butte Copper Project Location

Johnny Lee Drilling Update

The CY24 drill program focuses on expanding and increasing the confidence in the resource estimates of the Johnny Lee Lower Copper Zone resource which at last estimate consists of a measured and indicated resource of 1.2 million tonnes at 6.8% Cu and an inferred resource of 0.5 million tonnes at 5.9% Cu (1.0% Cu cut-off grade) shown in Table 1 (refer to ASX release 'Updated Mineral Resource Completed for the Johnny Lee Deposit, Black Butte Copper Project, USA, 30 October 2019).

Resource Domain	Mineral Resource Category	Tonnes (Mt)	Grade Cu (%)	Contained Cu (kt)
Upper Copper Zone (UCZ)	Measured	1.4	2.6	36.2
	Indicated	8.3	2.3	191.3
	Measured and Indicated	9.7	2.4	227.5
	Inferred	2.2	2.2	49.5
Lower Copper Zone (LCZ)	Measured	0.6	5.7	32.9
	Indicated	0.6	7.9	50.5
	Measured and Indicated	1.2	6.8	83.4
	Inferred	0.5	5.9	30.3
Combined UCZ + LCZ	Measured	2	3.5	69.1
	Indicated	8.9	2.7	241.8
	Measured and Indicated	10.9	2.9	310.9
	Inferred	2.7	3.0	79.7

Table 1: Mineral Resource Estimate for the Johnny Lee Deposit

Since December 2023, the Company has drilled approximately 8,000 metres of a planned 20,000-metre drill program.

Figure 2 shows a schematic plan section of the Johnny Lee Deposit and resource domains, with the location of current and previous drilling illustrated as pierce points.

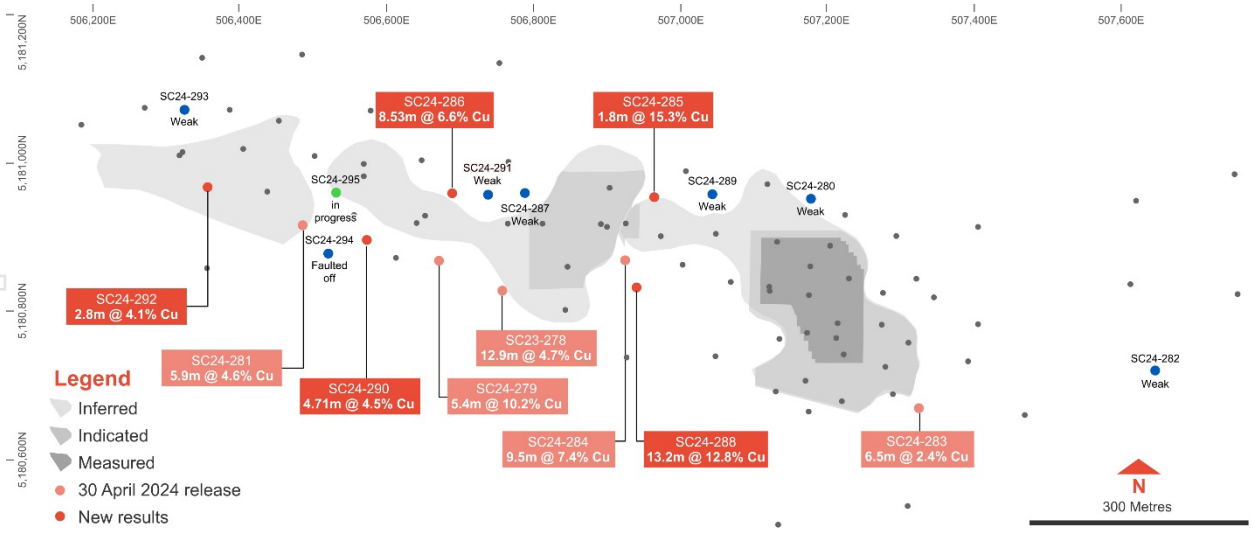

Figure 2: Plan section of the Johnny Lee Lower Copper Zone at the Black Butte Copper Project as of July 2024, showing current and past drill pierce points and resource domains (see legend)

Figure 3 shows a cross-section along recent holes SC24-284, SC24-285 and SC24-288, the interpreted lithostratigraphy and mineralised domains.

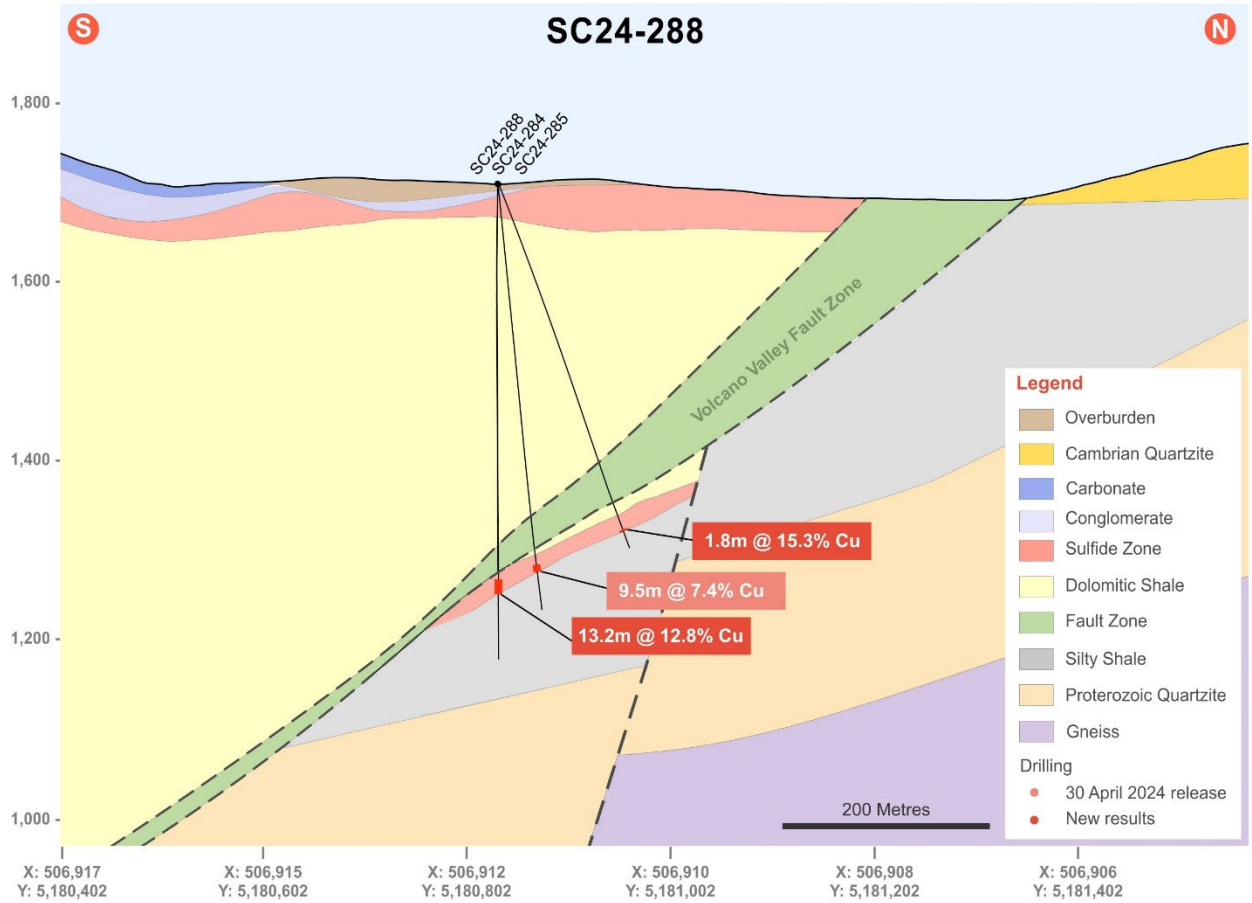

Figure 3 - Cross section along recent holes SC24-284, SC24-285 and SC24-288, the interpreted lithostratigraphy, fault zone and mineralised domains.

Significant assay results and drill collar locations from the current drill program are shown in Table 2 and Table 3, respectively below:

Drill hole ID	From (m)	To (m)	Width (m)	Cu %	Resource Domain
SC24-285	363.7	365.5	1.8	15.3	Lower Copper Zone
SC24-286	77.2	80.8	3.5	4.7	Upper Copper Zone
"	438.3	446.8	8.5	6.6	Lower Copper Zone
SC24-288	396.2	409.3	13.2	12.8	Lower Copper Zone
SC24-290	476.7	481.4	4.7	4.5	Lower Copper Zone
SC24-291A	67.3	70.4	3.1	3.7	Upper Copper Zone
"	80.9	82.9	2.0	5.4	Upper Copper Zone
SC24-292	120.2	125.9	5.7	2.3	Upper Copper Zone
"	369.0	371.8	2.8	4.1	Lower Copper Zone

Table 2: Summary of significant assay results (1.0 % Cu cut-off, a minimal interval width of 2m or a minimum linear grade of 2.0 m % for shorter intervals, and 3m maximum consecutive internal dilution)

Drill hole ID	Depth	Dip	Azimuth	Easting	Northing	RL	Resource domain
SC24-285	392.0	-67.6	28.9	506,900	5,180,832	1,721	Johnny Lee Lower
SC24-286	495.7	-73.9	45.4	506,609	5,180,868	1,779	JL Upper & Lower
SC24-287	431.9	-71.5	336.0	506,850	5,180,852	1,731	Johnny Lee Lower
SC24-288	460.3	-78.8	110.0	506,850	5,180,852	1,731	Johnny Lee Lower
SC24-289	444.1	-63.0	51.0	506,900	5,180,832	1,721	Johnny Lee Lower
SC24-290	513.3	-71.0	82.0	506,425	5,180,870	1,767	Johnny Lee Lower
SC24-291A	507.0	-68.5	58.0	506,622	5,180,877	1,741	JL Upper & Lower
SC24-292	453.5	-84.5	0.0	506,362	5,180,939	1,771	JL Upper & Lower
SC24-293	362.1	-76.5	346.0	506,354	5,180,981	1,773	JL Upper & Lower
SC24-294	511.5	-80.0	64.0	506,442	5,180,834	1,768	JL Upper & Lower
SC24-295	in progress	-68.0	38.0	506,442	5,180,834	1,768	JL Upper & Lower

Table 3: Collar locations of the current drilling program (NAD83 12N Grid)

Holes SC24-287, SC24-289 and SC24-291A only intercepted weak mineralisation in the Johnny Lee Lower Copper Zone. Assay results for holes SC24-293 and SC24-294 are pending while hole SC24-295 is in progress.

Johnny Lee Deposit Resource and Mine Operating Permit

The Johnny Lee Deposit has a Measured and Indicated Mineral Resource of 10.9 million tonnes (Mt) at an average copper grade of 2.9% for 311 thousand tonnes (kt) of contained copper (Cu) at a 1.0% Cu cut-off grade, and an Inferred Mineral Resource of 2.7 Mt at an average copper grade of 3.0% for 80 kt of contained Cu at a 1.0% Cu cut-off grade) (refer to ASX release 'Updated Mineral Resource Completed for the Johnny Lee Deposit, Black Butte Copper Project, USA', 30 October 2019).

The Company received a Mine Operating Permit from the Montana Department of Environmental Quality for mine development and has completed most of Phase I construction on surface facilities.

Johnny Lee Deposit Geology and Mineralisation

The Black Butte Copper Project includes the Johnny Lee and Lowry Deposits, about 2km apart and associated with large faults (Figure 4). The deposits blend features of SEDEX and sediment-hosted strata-bound copper types. The Johnny Lee Deposit has two lenses: the Upper Copper Zone (UCZ) and the Lower Copper Zone (LCZ), extending at least 1km along strike and up to 300m down dip. Current drilling is testing potential lateral extensions.

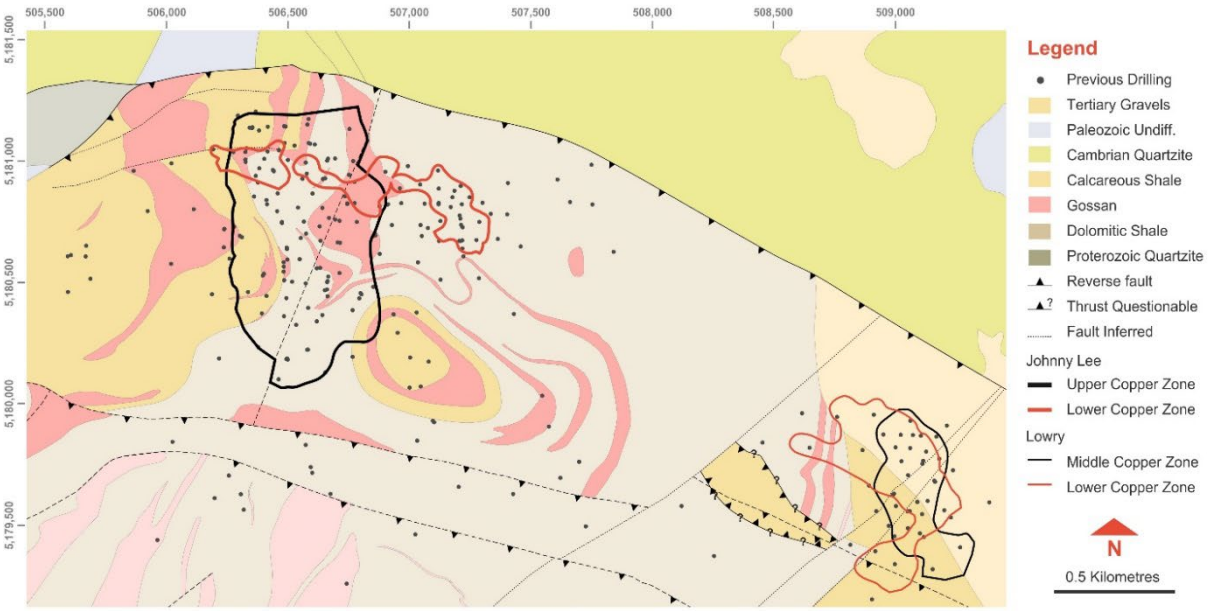

Figure 4: Map of the Johnny Lee and Lowry Deposits between the Volcano Valley and Butress Faults, also showing the resource domains and the drill collar locations of previous drilling.

Competent Person's Statement

Exploration Results

The information in this announcement that relates to Exploration Results at the Black Butte Copper Project, is based on, and fairly represents, information and supporting documentation compiled under the supervision of Mr Richard Holmes, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Holmes is a permanent employee of Sandfire 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 Holmes consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

Mineral Resources estimates

The information in this announcement that relates to Mineral Resources estimates at the Black Butte Copper Project is extracted from the market announcement titled 'Updated Mineral Resource Completed for Jonny Lee Deposit, Black Butte Copper Project, USA.' released to the ASX on 30 October 2019. Sandfire confirms that it is not aware of any new information or data that materially affects the information included in that market announcement and confirms that all material assumptions and technical parameters underpinning the estimates in that market announcement continue to apply and have not materially changed.

Forward-Looking Statements

Certain statements within or in connection with this release 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. Forward-looking statements can generally be identified by the use of forward-looking words such as 'expect', 'anticipate', 'may', 'likely', 'should', 'could', predict', 'propose', 'will', 'believe', 'estimate', 'target', 'guidance' and other similar expressions.

You are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. 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.

APPENDIX 1: JORC CODE, 2012 EDITION – TABLE 1

Black Butte Copper Project

JORC Code Assessment Criteria	Comment
Section 1 Sampling Techniques and Data	
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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report. 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.*	• Sampling boundaries of diamond drill core (DD) are geologically defined and sampling intervals are commonly one metre in length unless a significant geological feature warrants a change from this standard unit. The minimum sample length of drill core is 0.3m and the maximum length is 1.5m. • Sampling of DD core is completed using Sandfire sampling protocols and QA/QC procedures as per industry standard. The quality assurance program includes regular addition of quality control samples such as blanks, standards, and duplicates. • The determination of mineralisation is based on observed sulphides and lithological differences. DD core samples were taken from PQ and HQ core and cut longitudinally in half using a diamond drill core saw.

Drilling techniques *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.), and details (e.g., core diametre, 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.).*	• DD drillholes used PQ (85mm) and HQ3 (63.5mm) core size (standard tubes). Core orientation is completed whenever possible, using the Reflex ACT III Tool. • At Johnny Lee Lower and Upper Copper Zones all holes but one were drilled with DD drilling; one historic RC hole tested the zone. The Lowry has received only diamond drilling. Primarily HQ sized core was used. Some NQ core was used. Reflex Omni x 38 and Omni x 42 survey tools, Reflex ACT III orientation tool.
Drill sample recovery *Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *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.*	• DD recoveries were quantitatively recorded using length measurements of core recoveries per-run. Core recoveries routinely exceeded 95% below transported cover. • No sample recovery issues are believed to have impacted on potential sample bias.
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 is completed for all holes. The major rock unit (lithology, grain size, texture), weathering, alteration (style and intensity), mineralisation (type), structural (type & orientation), interpreted origin of mineralisation, estimation of % sulphides/oxides, and veining (type, style, origin, intensity) are logged following Sandfire standard procedures. • Data is recorded and validated using geological logging software and imported to the central database.

Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.), photography. *The total length and percentage of the relevant intersections logged.*	• Logging is both qualitative and quantitative depending on the data being logged. • All DD core is photographed. • All drill holes are fully logged.
Sub-sampling techniques and sample preparation *If core, whether cut or sawn and whether quarter, half or all core taken.* *If noncore, whether riffled, tube sampled, rotary split, etc., and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all subsampling stages to maximise representivity of samples.* *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.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Longitudinally cut half core samples are produced using a core saw. • All samples were prepared and analysed at ALS Reno, USA or ALS Vancouver, Canada. • Samples were weighed and crushed to 70% passing 2mm and then a riffle split 250g-split pulverised to 85%, <75um. A 0.25g charge was subjected to four acid digestion and analysed using ICP-AES. A 30g aliquot was assayed for gold by fire assay with an atomic absorption spectroscopy (AAS finish). • The procedure is considered to represent industry standard practices and are considered appropriate for the style of mineralisation. • Most post-2010 samples were processed at ALS Reno, USA, or ALS Vancouver, Canada; a small amount were processed at Buenas Veritas in Reno, USA. • The samples were dried at 100°C for 8+ hours, then coarse crushed to 70% below 6 mm, with every 30th sample checked for crush specifications. • These were further fine-crushed to 70% below 2 mm, and a 1,000 g sample was divided for analysis, with every 20th sample checked for fine-crushing quality. • The analytical sample was pulverised to 85% below 75 µm, with every 20th sample wet-sieved for consistency. • For assays, ~130g was used for fire assay and 25-50g for ICP-AES, with remaining material stored.

	• Duplicate analysis of Coarse Reject and Pulp Reject samples has been completed and identified no issues with sampling representativity with assays showing a high level of correlation. • The sample size is considered appropriate for the mineralisation style.
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.* *For geophysical tools, spectrometres, handheld XRF instruments, etc., the parametres used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *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.*	• Samples analysed by ALS Laboratories Reno, using ALS method ME-ICP61a for total Cu and 33 other elements, with an over-range trigger to ME-OG62 for high-grade ore elements, including Cu, Pb, and Zn. Pulp charges of 0.25g are prepared using a four-acid digest and an FAA-Au finish. • No geophysical tools were used to analyse the drilling products. • Precision and accuracy were monitored using field duplicate samples, and the insertion of certified reference materials (CRMs) and blanks into the sample stream. 1 out of every 20 samples are “unknowns” with field duplicates measuring precision. • CRMs are sourced from Ore Research Laboratories in Canada, and except for blank material, span a range of Cu grades appropriate to the mineralisation at the Black Butte deposits. • Analysis of duplicate samples (Coarse Rejects, Pulp Rejects and Pulp Duplicates) shows a high degree of precision and repeatability, with no indications of analytical or sample bias.
Verification of sampling and assaying *The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.*	• Significant intersections have been verified by suitably qualified company personnel. • No twinned holes have been drilled. • Logging data (including geotechnical parameters) are captured into geological logging software before being imported into the Sandfire America Resources MX Deposit cloud-based server and Sandfire Resources SQL database. Both MX Deposit and the SQL server database are configured for optimal validation through constraints, library tables, triggers and stored

Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. *Discuss any adjustment to assay data.*	procedures. Data that fails these rules on import is rejected or quarantined until corrected. • No adjustments have been made to the primary assay data. Where duplicate samples have been analysed, the primary sample retains priority in the database.
Location of data points *Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	• Drillholes are initially set out prior to drilling using a handheld global positioning system (GPS). After completion, holes are capped and marked with a marker peg. • Periodically, collar locations are surveyed by Sandfire surveyors or third-party contractors using a Trimble GNSS system, which provides sub-decimetre accuracy. • Downhole surveying is completed on all drillholes via north-seeking gyroscopic survey tools. • Collars are marked out and picked up in UTM form NAD83 Zone 12N. • Topographic control is provided by the GNSS survey system used for collar pickup. The topography of the Black Butte project area is mountainous but variations in topography within the project are not significant. The topographic control is considered fit for purpose.
Data spacing and distribution *Data spacing for reporting of Exploration Results.* *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.*	• Drill holes at the Johnny Lower and Upper Copper Zones are spaced on a nominal 50mE x 50mN grid spacing. Drill spacing to-date at Lowry are wider, currently within 110m. Any future drilling will likely be at a nominal 50mE x 50mN grid spacing. • In the Johnny Lee Lower and Upper Copper Zones, Cu mineralisation is generally consistent in grade and thickness. However, at the lens edges, occasionally sudden changes in thickness are observed. To delineate Cu mineralisation in these specific areas more accurately, thorough examination and additional infill drilling have been carried out.

Whether sample compositing has been applied.	• Drill hole spacing at the Johnny Lee Lower and Upper Copper Zones has been sufficient to establish continuity of both lithostratigraphy and Cu+Ag mineralisation and is considered appropriate for Inferred, Indicated and Measured Mineral Resource Estimates. • No sample compositing is applied during the sampling process.
Orientation of data in relation to geological structure	• All drill holes at the Johnny Lee Lower and Upper Copper Zones are orientated at an azimuth from 000 to 360, with dips varying between -80 to -70 degrees. The stratiform mineralisation generally dips between 10 and 15 at Johnny Lee Upper Copper Zones and between 30 and 40 at the Lower Copper Zones. • As a result, the consistently orientated drillholes are not believed to have induced any sample bias and the drill hole orientations are considered appropriate.
Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. *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.*	
Sample security	• Samples are collected at the end of each shift by Sandfire's Exploration staff and driven directly from the drill rig to the storage and logging facility in White Sulphur Springs, located within a secure and private compound. • Samples are dispatched to ALS Reno for analysis. Sample security is not considered to be a significant risk to the Black Butte Copper Project.
The measures taken to ensure sample security.	
Audits and reviews	• The sampling techniques and data collection processes are considered to be of industry standard and have been subjected to internal reviews by Sandfire personnel.
The results of any audits or reviews of sampling techniques and data.	

Section 2 Reporting of Exploration Results

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.

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.

- Recent drilling at the Johnny Lee Deposit at the Black Butte Copper Project, Montana, has been undertaken by its 87%-owned subsidiary, Sandfire Resources America Inc. (Sandfire America). Sandfire America holds exploration license #00710 as part of a larger tenement package. This license, on which the Johnny Lee Deposit is located, was renewed on January 1st, 2024, and is valid until December 31st, 2024.
- The Black Butte Copper Project – Lowry Deposit is located within Meagher County, Montana, USA, approximately 27 kilometres (km) north of the town of White Sulphur Springs.
- The Black Butte Property consists of approximately 7,863.6 hectares of fee simple lands under mineral lease by Sandfire Resources America through Tintina Montana Inc. and 1016 unpatented mining claims on U.S. Forest Service (USFS) lands covering approximately 7,969.2 hectares. A summary of mineral lands held on the property is provided in the table below.

Tract	Surface Estate	Mineral Estate	Date of Agreement	Acres	Hectares
Black Butte Mine Property	Tintina Montana Inc.	Hanson, Hanson, Dupea	Dec 2020	534.9	216.47
	Short, Joy	Short Joy	Dec 2020	29.0	11.7
Bar Z Ranch	Hanson	Hanson, Hanson, Dupea	May 2010	2,059.1	833.29
Short, Joy	Short, Joy	Short, (15%) Davis (85%)	November 2014	2,091	846.2
Buckingham	Buckingham	Buckingham, Johnston, Bodell	June 2011	2,970	1,201.9

	Thorson Ranch LLC	Thorson Ranch LLC	100% Thorson Ranch LLC	June 2017	3,442	1,393
		Thorson Ranch LLC	50% Thorsen Ranch LLC	October 2018	7,615	3,081.7
	GCC Trident LLC - US Forest Service Unpatented Mining Claims	US. Forest Service	24 claims; SRA leased sub-300' mineral rights	April 2023	127	51.4
	US Forest Service Unpatented Mining Claims	US Forest Service	1,016 Claims	---	19,692.32	7,969.2

- The project's land holdings are within Sections 19, 29, 30, 31, and 32 of Township 12 North, Range 7 East; Sections 23, 24, 25, 26, 27, 28, 30, 32, 33, 34, and 35 of Township 12 North Range 6 East; Sections 6, 7 and 13 of Township 11 North and Range 7 East; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 of Township 11 North and Range 6 East, and sections 1 and 12 of Township 11 North and Range 5 East.
- There are no known impediments to obtaining a license to operate in the area.

Exploration done by other parties	• Various exploration campaigns have occurred on the Black Butte Copper Project property from 1976 through 1993. Work was conducted by Cominco America, Inc., Utah International Inc., and BHP Ltd. • Work programs included geological mapping, surface & downhole geochemical sampling, geophysical surveys, and 342 drillholes across the entire property. • From 1975 to 1984, several companies undertook exploration in the Black Butte Copper Project area, before a JV between Broken Hill Proprietary Ltd. (BHP) and Cominco American Inc. (CAI) discovered the Johnny Lee Deposit
Acknowledgment and appraisal of exploration by other parties.	

	in 1985. BHP exited the JV in 1990 where after CAI continued to explore, discovered the Lowry zone. • Tintina Resources Inc., (Tintina) conducted exploration activities on the property including compilation and updating of geological maps, soil chemical survey, airborne magnetics and resistivity survey, and a ground-based magnetic survey over the areas that include the Johnny Lee Deposit. • In 2010 Tintina acquired the mineral rights formerly owned by CAI and, between 2010 to 2012, completed 168 diamond drillholes, primarily focused on Resource definition and Preliminary Economic Assessment (PEA) work at the Johnny Lee and Lowry deposits. Sandfire Resources NL acquired a majority shareholding in Tintina in 2013 and the company name was changed to Sandfire Resources America (SRA). • Subsequent to acquisition by SRA, an additional 87 diamond drillholes have been completed to support Resource definition.
Geology *Deposit type, geological setting and style of mineralisation.*	• The Black Butte deposits feature large pyrite-rich sulphide lenses that occur within marine sediments deposited in a continental rift, a host lithofacies, and paleo-tectonic setting consistent with that of a Sedex deposits. Whereas Sedex deposits are commonly Pb- and Zn- rich and form on or near the seafloor the Johnny Lee Deposit is enriched in Cu-Co-Ag and lacks significant Pb-Zn mineralisation. Textural evidence indicates that some Cu sulphides at Johnny Lee formed synchronous with primitive, early pyrite but that the majority of Cu-Co-Ag sulphide mineralisation occurred by replacement of early pyrite and that mineralisation/remobilisation continued post-burial and lithification. • The Johnny Lee Deposit shares some features with a sub-class of Sediment-Hosted Stratabound Copper (SSC) deposits known as Reduced-facies SSC deposits. These deposits are characterised by Cu-Co-(Ag) mineralisation hosted by reduced, organic- and pyrite-bearing shale, silt and carbonaceous dolomitic siltstone. SSC deposits are epigenetic, and mineralisation is typically found as pore fillings or replacement of existing minerals. Mineralisation in typical SSC deposits generally shows a zonation from

	relatively Cu-rich at the base (native copper, chalcocite, digenite) to more iron-rich at the top (i.e. chalcopyrite). Chalcocite-bornite-chalcopyrite zonation is evident locally in the Johnny Lee Deposit Upper Copper Zone and the association of Cu sulphide mineralisation with post-lithification veins and hydraulic brecciation supports a partially epigenetic origin. The Johnny Lee is considered a hybrid deposit exhibiting attributes of a sedimentary exhalative sulphide deposit (SEDEX) and a sediment hosted stratabound copper deposit (SSC).
Drill hole information *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* • *Easting and northing of the drill hole collar* • *Elevation or rl (reduced level – elevation above sea level in metres) of the drill hole collar* • *Dip and azimuth of the hole* • *Downhole length and interception depth* • *Hole length.* *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.*	• Information relating to the collar parameters of the drill holes described in this announcement are listed in Table 3 of the announcement. • A summary of all material information and the results of the completed holes described in this announcement are included in this announcement.
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.*	• Significant copper intersections are compiled by Sandfire when assay results are received from the laboratory using a weighted average to account for varying sample lengths. The intersections reported from the Lower Copper Zone were calculated using a cut-off of 1.00% Cu with 3m of consecutive downhole dilution allowed and a minimum interval length of 2m.

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. *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• The stratabound and vein-hosted style of Cu mineralisation intersected in drill holes reported in this announcement, commonly include varying thicknesses of the Lower Copper Zone with a cutoff grade of 1%. This includes both high-grade vein hosted mineralisation and surrounding low-grade disseminated sulphide mineralisation. • No high-grade cut is applied.
Relationship between mineralisation widths and intercept lengths *These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be 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').*	• All intersections are reported as down-hole widths. • The drill holes are interpreted to be approximately perpendicular to the strike and dip of mineralisation. • True thickness is estimated to be >80% of downhole thickness 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 drill hole collar locations and appropriate sectional views.*	• Relevant maps and diagrams are included in the body of the report.

Balance reporting	• The accompanying document is considered to be a balanced report. • This report covers eight holes of a resource definition drilling program and all material information has been provided. Details of all holes material to Exploration Results are reported in intercept tables and relevant geological context has been provided in diagrams and the text.
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.	
Other substantive exploration data	• All substantive data is reported.
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.	
Further work	• Sandfire America is continuing to update its studies of the Johnny Lee and Lowry Deposits. • Further infill resource drilling on the Johnny Lee Deposit.
The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling). *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	