

# SULPHIDES DRILLED AT DIBETE Cu-Ag PROJECT, BOTSWANA

- Drilling has progressed at flagship Dibete Cu-Ag Project, Botswana.
- Drilling is testing for copper sulphides at AMT and IP geophysical targets.
- Multiple targets over a 4.5km x 1km x 500m continuous trend.
- Five Reverse Circulation (RC) holes have been drilled to date for 633m.
- Chalcopyrite and chalcocite have been confirmed in two holes representing fresh rock and supergene mineralisation.
- Diamond drill rig has arrived at site to test the fresh target extensions at depth over the next two weeks.
- Portable XRF in use to detect mineralisation and guide the program in real time.
- Initial samples have been sent to ALS Global laboratory in South Africa with first results expected in October.
- Trenching program in progress to sample copper oxide mineralisation at surface above the geophysical anomalies.

Si6 Metals Limited ("**Si6**" or "the **Company**", ASX code: **Si6**) is pleased to provide an update on the drilling campaign currently underway at Dibete, one of the Company's flagship projects in Botswana (refer ASX release dated 29 August 2023).

The drilling program aims to extend the known high-grade Cu-Ag supergene discovery zone at Dibete, previously defined with only shallow drilling, by targeting AMT and IP conductive anomalies that are believed to reflect significant sulphide mineralisation at greater depths (Figure 1).

Logging of RC chip samples has confirmed the presence of chalcopyrite and chalcocite in holes DBRD141 and DBRD142 (Figure 2), which shows the AMT anomalies are associated with copper sulphides and are highly encouraging results.

Analysis of the samples will be expediated with the arrival of a new portable XRF unit on site last weekend. Initial samples have been sent to the ALS laboratory in South Africa and assay results are expected in October.

Dibete is the first of three flagship projects in Botswana, including Airstrip (Cu-Ag) and Maibele North (Ni-Cu-PGEs), which will be drilled over the next four months. Drilling commenced on 5 September and to date there have been five RC holes completed for a total of 633 metres. Drilling has commenced







on a sixth RC hole and a diamond drill rig arrived on site last weekend to commence tails on several RC holes to test the geophysical anomalies at greater depths.

The drilling at Dibete is designed to test extensions to mineralisation identified during previous drilling campaigns and through AMT, IP and VTEM geophysical surveys conducted at the project. The AMT survey conducted at Dibete in 2021 identified pipe-like copper sulphide targets, which are the focus of the current program, both beneath and along strike from mineralisation previously intersected in shallow drilling and coincident conductive geophysical anomalies (Figure 1).



Figure 1: Dibete collar plan, AMT survey lines overlaid on the gradient array chargeability image and regional VTEM 400m depth slice as an undelay. Four untested conductive anomalies have been identified along the 4km x 1km strike trend (numbered 1 to 4).







Previous shallow high-grade results at Dibete include:

- 38m @ 1.72% Cu, 119.5g/t Ag from 16m (DBRC014)<sup>1</sup>
- 17m @ 2.7% Cu, 40.5g/t Ag from 16m
- 11m @ 4.5% Cu, 229.9g/t Ag from 33m
- 10m @ 3.9% Cu, 110g/t Ag from 43m
- 25m @ 2.17% Cu, 77g/t Ag, from 27m
- 13m @ 2.11% Cu, 37.8g/t Ag from 37m
- 13m @ 1.9% Cu, 61.9g/t Ag from 41m
- 6m @ 4.46% Cu, 162 g/t Ag from 38m
- 10m @ 2.04% Cu, 15.6g/t Ag from 7m

(DBRC081)<sup>1</sup> (DBRC028)<sup>1</sup>

- (DBRC108)<sup>1</sup>
- (DBRC124)<sup>2</sup>
- (DBRC129)<sup>3</sup>
- (DBRC130)<sup>3</sup>
- (DBRC131)<sup>3</sup>
- (DBRC133)<sup>3</sup>



Figure 2: Drilling on first section has confirmed chalcocite (DBRD142) and chalcopyrite (DBRD141) sulphide mineralisation within a prominent steeply-dipping AMT conductive anomaly. Shallow historical drilling (grey drill holes) has generally only tested the weathered copper oxide zone.

- <sup>2</sup> ASX release 16 November 2017 "Thick High-Grade Copper and Silver Initial Holes at Dibete".
- <sup>3</sup> ASX Release 18 December 2017 "Drill Results from Dibete Prospect in Botswana".





<sup>&</sup>lt;sup>1</sup> ASX Release 16 April 2012 "Dibete drilling confirms additional High-Grade Copper-Silver of up to 15.5% Copper and 1,220 g/t Silver (or over 30 ounces/t Ag) from 30m".





Figure 3: Chalcopyrite mineralisation logged in DBRD141 at 48-49m down hole.

In addition to the drilling, nine trenches have been excavated (four on Dibete and five on Airstrip) with a total length of 512m, with logging and sampling in progress (Figure 5). The trenching program has revealed copper oxide mineralisation at surface above the AMT and IP geophysical anomalism (Figure 6).









Figure 4: Diamond drilling has commenced at Dibete to test fresh rock AMT anomalies.



Figure 5: Trench sampling in progress at Dibete.







Figure 6: Malachite mineralisation in trench sampling at Dibete.

#### **Visual Estimates**

In respect to the visual estimates provided in this announcement, the Company provides the following information. The Company anticipates assay results to be available in around 4-6 weeks.

Hole ID	Easting	Northing	RL	Туре	Dip	Azi	Depth (m)	Interval (m)	Mineralisation Description (Visual Estimate)
DBRD141	638235	7593800	844	RC	-55	334	113	50-52	Chalcopyrite 5-10% disseminated in amphibolite
DBRD142	638204	7593856	830	RC	-60	330	130	47-49	Chalcocite 5-10% disseminated in amphibolite
DBRD143	638660	7593975	831	RC	-60	330	100	-	Not observed
DBRD144	639064	7594173	833	RC	-60	334	94	-	Not observed
DBRD145	639143	7594208	834	RC	-60	334	197	-	Not observed
DBT001	638192	7593877	844	Trench	0	326	113	60-90	Cu oxide fragments in regolith
								86-87	Malachite fractures & disseminated in gneiss

 Table 1: Dibete Prospect Significant Intervals.

\*Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analysis where concentrations or grade are the factor of principal economic interest. Visual estimates may be inaccurate, and also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.





## **Next Steps**

The Company intends to progressively develop its flagship projects and further updates will be provided to the market on the following steps in this campaign:

- Airstrip Cu-Ag drill program designed to test targets beneath and along strike of known mineralisation
- Additional drilling to test deeper targets at Dibete and Maibele North
- Review Maibele North Ni-Cu-PGE Mineral Resource Estimate (MRE) to include infill drill program and US\$5 million spent on historical drilling by previous operators that has not been incorporated into the current MRE
- Undertake a review of potential open pit mining and sulphide processing at Maibele North.

This announcement has been made with the approval of the Managing Director of Si6 Metals Ltd.

# Contacts

For further information, please contact:

Jim Malone	Ben Creagh
Managing Director	Investor Relations Consultant
T +61 (0) 419 537 714	T +61 (0) 417 464 233
<u>im@si6metals.com</u>	benc@nwrcommunications.com.au

# **Competent Persons Statement**

The information in this report that relates to Exploration Targets and Exploration Results is based on exploration information compiled by Mr Cain Fogarty, who is a Competent Person and a Member of the Australian Institute of Geoscientists. Mr Fogarty is a Non-executive Director at Si6 Metals Limited. Mr Fogarty has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Fogarty consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.







# About Si6

Si6 is a diversified critical metals and minerals explorer with a portfolio of flagship projects in Botswana, Brazil and Western Australia.

The Company's Botswana portfolio contains three flagship projects where high-grade Cu-Ag (Airstrip and Dibete) and a maiden JORC Inferred Resource (Maibele North) have been discovered. Maibele North currently hosts a JORC (2012) inferred resource of 2.4Mt @ 0.72% Ni and 0.21% Cu + PGMs + Co + Au and is located within 50km of the Selebi mine recently acquired by TSX-listed Premium Nickel Resources Ltd (TSX-V:PNRL).

Si6 has also entered a joint venture (subject to shareholder approval) to acquire 50% of a portfolio of critical metals exploration assets from Foxfire Metals Pty Ltd, predominantly focused on rare earth elements and lithium in Brazil including projects amongst known discoveries in the Lithium Valley (North Minas Gerais) and Poços de Caldas area (South Minas Gerais).

#### Botswana

- Dibete Project high-grade Cu + Ag
- Airstrip Project high-grade Cu + Ag
- Maibele North Project Ni-Cu-PGE JORC Inferred Resource 2.38Mt @ 0.72% Ni + 0.21% Cu+ PGM+ Co + Au

#### **Brazil (50% Joint Venture)**

- Lithium Valley Projects, North Minas Gerais (Li, REE)
- Caldera Project, South Minas Gerais (REE)
- Apuí Project, Amazonas (REE, Au)
- Pedra Branca Project, Ceara (Li, Au)







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## Appendix 1 - JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

CRITERIA	JORC Code Explanation	Commentary
Sampling	- Nature and quality of sampling (eg channels, random	RC and trench sampling. For RC drilling,
techniques	chips, or specific specialised industry standard	samples were taken from each 1m interval
	measurement	off the cyclone, washed and logged. Bulk
	tools appropriate to the minerals under investigation,	1m samples weighed approximately 15-
	such as down hole gamma sondes, or handheld XRF	20kg, and "A" and "B" splits were taken for
	instruments, etc). These examples should not be taken	assay weighing approximately 2kg.
	as limiting the broad meaning of sampling.	
		Trenches were treated as horizontal
	<ul> <li>Include reference to measures taken to ensure sample</li> </ul>	drillholes, measured with tape and logged
	representivity and the appropriate calibration of any	for geology and mineralisation. Samples
	measurement tools or systems used.	of approximately 1-2kg were collected
		along the tape line in 1m intervals and
	- Aspects of the determination of mineralisation that are	bagged for assay.
	Material to the Public Report.	
	la anna mhann findintair, de start suit tra hann tart	
	- In cases where industry standard work has been done	
	drilling was used to obtain 1 m samples from which 2 kg	
	unning was used to obtain 1 m samples nom which 3 kg	
	In other cases, more explanation may be required, such	
	as where there is coarse gold that has inherent sampling	
	as where there is coarse you that has inherent sampling	
	(eq submarine nodules) may warrant disclosure of	
	detailed information	
Drilling	Drill tune (or core, reverse sizevelation, even hale	Deverse size dation drilling with 2.5 inch
techniques	- Drill type (eg core, reverse circulation, open-noie	• Reverse circulation drilling with 3.5-inch
	hammer, rotary air blast, auger, Bangka, sonic, etc) and	diameter face-sampling hammer.
	details (eg core diameter, triple or standard tube, depth of	
	diamond tails, face sampling bit or other type, whether	Trenches are treated as horizontal drill
	core is oriented and if so, by what method, etc).	holes.
Drill	- Method of recording and assessing	• • • • • • • • • •
sample	core and chip sample recoveries and results assessed	KU sample recoveries were tested for
recovery		consistency by weighing the bulk samples
	- Measures taken to maximise sample recovery and	with scales at the rig, recoveries were
	ensure representative nature of the samples.	generally excellent.
	- Whether a relationship exists between sample recovery	• RC samples were split using a riffle splitter
	and grade and whether sample bias may have occurred	at the rig to ensure sample representivity
	due to preferential loss/gain offline/coarse material.	Trench samples were taken 'blind' class
		the measuring terms
		tne measuring tape.
		There is no known relationship between
		sample recovery and grade, grades are
		not reported here.





Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Samples have been geologically logged to support their use in future resource estimates and mining studies.</li> <li>Logging is qualitative in nature for geological parameters, and quantitative for mineral percentages.</li> <li>Drill holes and trenches were logged in full.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	<ul> <li>RC samples were riffle split to obtain splits for assay.</li> <li>Channel samples were collected using a geological pick along the measuring tape.</li> </ul>
	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>The sampling techniques are considered appropriate and in accordance with industry best-practice to ensure sample representivity.</li> <li>RC "B" samples were collected from the riffle splitter for use as field duplicates and future assay checks.</li> <li>Sample sizes of 1-2kg are considered appropriate for the sampled material.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	Assay data are not reported here.









CRITERIA	JORC Code Explanation	Commentary
Verification of sampling and assaying	- The verification of significant intersections by either independent or alternative company personnel.	Assay data are not reported here
	<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data</li> </ul>	
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>A handheld GPS was used to locate each sample point. Accuracy of +/- 5m is considered reasonable.</li> <li>The grid system for the project WGS 84 / UTM zone 35S.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>RC holes have targeted geophysical anomalies along 4km of strike length at Dibete.</li> <li>The spacing is deemed appropriate for testing the mineralisation along strike, and drillholes may be used in future resource estimation.</li> <li>Samples have not been composited.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	Drillholes and trenches were oriented perpendicular over geological strike to reduce any potential sampling bias due to the orientation of mineralised structures.
Sample security	- The measures taken to ensure sample security.	<ul> <li>Samples are stored in securely closed sampled bags in a fenced storage area at the field office location.</li> </ul>
Audits or reviews	- The results of any audits or reviews of sampling techniques and data.	The data collection procedures were     examined by the Competent person and     deemed appropriate.





## Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

CRITERIA	IORC Code Explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The results reported in this announcement are located in PL2478/2023, and PL2477/2023 which are granted Exploration Licences held by African Metals Limited, a 100% owned subsidiary of Si6 Limited.</li> <li>The licenses are subject to a Joint Venture agreement (AML 60%) with BCL Limited (40%, currently in liquidation).</li> <li>The licenses were granted for an initial 3-year period commencing in 2023.</li> </ul>
Exploration done by other parties	- Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Interpretations and conclusions in this announcement refer in part to results generated by historic exploration work conducted by Roan Selection Trust, Falconbridge, Cardia Mining and Botswana Metals.</li> <li>Si6 considers all previous exploration work to have been undertaken to an appropriate professional standard.</li> </ul>
Geology	- Deposit type, geological setting and style of mineralisation.	The Dibete-Airstrip-Maibele Project is hosted within the Magogaphate Shear Zone - a major geological structural feature, generally considered to mark the boundary between the Archaean aged (>2.5 billion year old) Zimbabwean Craton and the Limpopo Belt or Limpopo Mobile Zone (LMZ). The nickel-copper deposits of Selebi Phikwe lie within the northern part of the Central Zone of the Limpopo Mobile Belt, whilst the nickel copper deposits of Phoenix, Selkirk and Tekwane located within the region lie in the Zimbabwean Craton. The Central Zone of the LMZ comprises variably deformed banded gneisses and granitic gneisses, folded amphibolites and ultramafic intrusions that have the potential to host Ni-Cu sulphide mineralization as at Maibele, and epigenetic structurally-hosted Cu-Ag mineralization as at Dibete and Airstrip.





CRITERIA	JORC Code Explanation	Commentary
Drill hole	- A summary of all information material to	See Table 1 in the report.
mormation	the understanding of the exploration results	
	for all material drill holes:	
	$\circ$ easting and northing of the drill hole	
	collar	
	$\circ$ elevation or RL (Reduced Level –	
	elevation above sea level in metres) of	
	the drill hole collar	
	<ul> <li>dip and azimuth of the hole</li> <li>down hole longth and intercontion</li> </ul>	
	denth	
	<ul> <li>hole length.</li> </ul>	
	5	
	- 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.	
Data	- In reporting Exploration Results, weighting	Assays are not reported here
aggregation	averaging techniques, maximum and/or	
metnoas	minimum grade truncations (eg cutting of high	
	grades) and cut-off grades are usually Material	
	and should be stated.	
	- Where aggregate intercents 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.	
	······································	
Relationship	- These relationships are particularly important in	Holes and trenches have been drilled as close as
between	the reporting of Exploration Results.	possible to perpendicular to geological strike.
widths and		However, the dip of mineralised structures is
intercept	- If the geometry of the mineralisation with	unknown such that the true length of mineralised
lengths	should be reported	intervals is unknown at this stage.
	- If it is not known and only the down hole	
	lengths are reported, there should be a clear	
	statement to this effect (eg 'down hole length,	
	true width not known').	
Diagrams	- Appropriate maps and sections (with scales)	See body of this report.
	and tabulations of intercepts should be included	
	Ior any significant discovery being reported	
	plan view of drill hole collar locations and	
	appropriate sectional views.	





CRITERIA	JORC Code Explanation	Commentary
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.	<ul> <li>Available visual results have been reported. Visual estimates of mineralisation may be inaccurate or incomplete, particularly if fine- grained mineralisation is present, and assay results are required to draw conclusions as to the tenor of mineralisation.</li> </ul>
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.	<ul> <li>Relevant interpretation of geophysical results is included in the body of the report, and previous ASX releases referred to in the body of the report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>The exploration results presented here are preliminary, assay results are awaited. The initial drilling and trenching program recently commenced is part of a significant exploration program focussed on the Dibete, Airstrip and Maibele targets to be completed over approximately 4 months.</li> <li>See the body of this report.</li> </ul>





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