ASX Release May 15, 2024

Honeymoon Uranium Project, South Australia

Maiden copper exploration program intersects encouraging mineralisation

The results come from First Quantum Minerals' initial drilling program at Honeymoon; In light of these results, First Quantum has committed to proceeding with Phase 2 of the farm-in program

Highlights

- **First results received from copper exploration program conducted by First Quantum under its farm-in agreement with Boss at Honeymoon; Assays include:**
  - **23CURDD002: 16m @ 0.27% Cu and 0.1g/t Au, from 288m, and;**
  - **23CURDD006: 47m @ 0.19% Cu from 404m, with a number of narrower zones of 5-6m containing up to 0.5% Cu and 0.12g/t Au.**
- **The Boss- First Quantum agreement gives First Quantum the right to earn a 51% interest in Honeymoon's base metal endowment by spending $6m on exploration and a further 24% interest by sole-funding all base metals expenditure up to a Decision to Mine**
- **The agreement enables Boss to remain fully-focused on its core business of uranium exploration, development and production while having exposure at no cost to the significant potential of a base metals exploration program led by a global major**

Boss Energy Limited (ASX: BOE; OTCQX: BQSSF) is pleased to announce that First Quantum Minerals' (TSE:FM) (First Quantum) maiden diamond drilling program on Honeymoon's tenements in South Australia has successfully intersected basement-hosted base metal mineralisation below the Yarramba Palaeovalley which holds the uranium.

Figure 1: *Stratiform and vein-hosted chalcopyrite mineralisation in metasiltstones at Atlas target*

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Summary of drilling results from First Quantum 2023 drilling on EL6081 and EL6510

Following a phase of regional data assessment and targeting for base metals in the Paleo-Mesoproterozoic basement stratigraphy, a rotary mud-diamond drilling program was conducted on EL6081 and EL6510 during October-December 2023. Six holes totalling 2,473.4m across three targets were completed by DDH1 Drilling. The program intended to test several target styles associated with the Bimba Formation, the regionally anomalous unit that hosts the majority of known base and precious metal occurrences in the region.

Atlas target

Three holes totalling 1,029.5m were completed at the Atlas target, 4km east of Honeymoon. Drilling yielded several zones of stratiform and vein-hosted copper mineralisation with minor gold and outboard weak zinc at the interpreted Bimba Formation position, in two holes separated by 1.3km strike length. Mineralised intercepts include **16m @ 0.27% Cu and 0.1g/t Au, from 288m (23CURDD002)** and **47m @ 0.19% Cu from 404m (23CURDD006),** with a number of narrower zones of **5-6m containing up to 0.5% Cu and 0.12g/t Au.** The intercepts are proof of process; evidence for movement and precipitation of copper (~gold/~zinc) within the Bimba Formation in the target area.

Hole ID	From (m)	To (m)	Interval (m)	Cu %	Au g/t	Zn%	Mineralisation style
23CURDD001	141	144	3	0.20	0.13		Blebs and stratiform bands of CP
23CURDD002	288	304	16	0.27	0.10		Stratiform layers and blebs of chalcopyrite
incl.	294	300	6	0.49	0.12		
	307	312	5			0.23	
	316	327	11	0.29	0.08		Blebby chalcopyrite in quartz veins > stratiform chalcopyrite
incl.	316	322	6	0.37	0.09		
23CURDD003	161	173	12			0.15	Sporadic sphalerite veins associated with carbonate and quartz
	208	212	4			0.55	
	228	239	11			0.27	
	246	254	8			0.23	
	306	310	4			0.25	
	346	352	6			0.22	
	368	370	2			0.66	
	382	406	24			0.10	Disseminated/ stratiform sphalerite bands
	416	480	64			0.10	
23CURDD006	170	174	4	0.17	0.29		Stratiform bands of chalcopyrite +/- sphalerite
	182	184	2	0.15			
	184	186	2		0.22		
	270	286	16			0.17	Stratiform bands of sphalerite with minor chalcopyrite
	350	400	50			0.17	
incl.	388	400	12			0.33	
and	404	451	47	0.19	0.04		Blebby to disseminated chalcopyrite in quartz veins
incl.	409	413	4	0.52	0.12		
and	428	433	5	0.29	0.04		
incl.	428	430	2	0.44	0.04		
and	438	443	5	0.35	0.04		

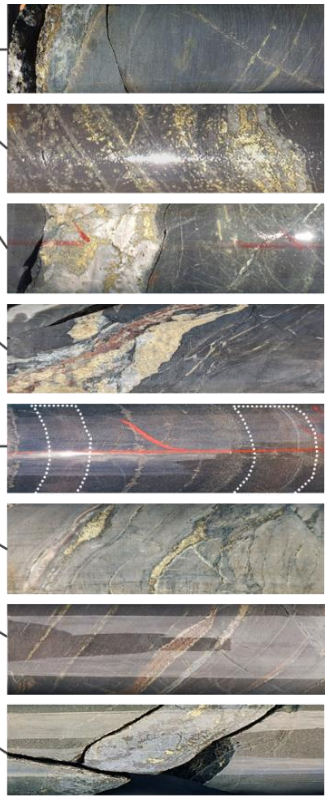

Table 1: *Atlas target intercept table. 0.1% Cu and Zn cutoff, <6m internal dilution*

Pandora target

Two holes totalling 701.6m were completed at the Pandora target, 8km south of Honeymoon. One hole intersected an interval of stratiform low grade zinc-bearing stratigraphy, inferred to be the upper portion of the Bimba Formation. This zone potentially lies outboard of a lower copper (~gold) zone, at the currently untested base of the Bimba Formation.

Yarramba target

One deep drillhole totalling 742.3m was completed at the Yarramba dome target, 15km north of Honeymoon. The hole targeted the inferred base of Bimba Formation and magnetic footwall beneath, based on magnetic inversion modelling and geological interpretations. Whilst geometrically the apex of the dome was well-tested, neither the target horizon nor any appreciable mineralisation was intersected at economic depths; the target has been downgraded as a result.

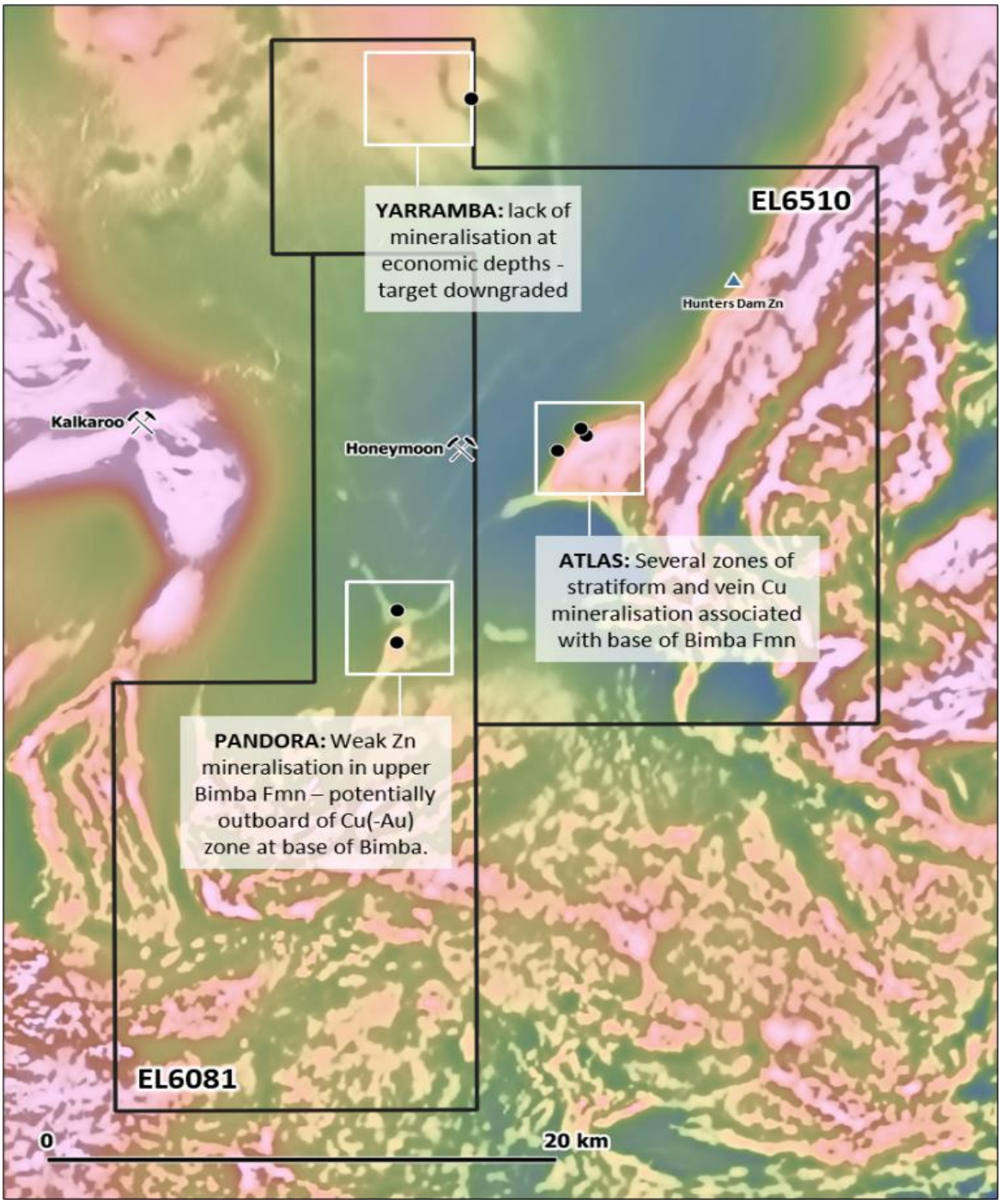

Figure 2: *RTP 1VD aeromagnetic image with location of targets and drill holes*

Earn-in and Joint Venture Principles

Boss Energy entered into an exploration earn-in agreement with First Quantum in February 2022. First Quantum is a significant Canadian-listed group operating eight mines across four continents producing copper, nickel, and gold with an additional three mines under development. With a proven track record in discovering and developing deposits, Boss considers First Quantum an ideal partner in the exploration and potential development of any base metal discoveries at Honeymoon.

The Agreement relates to base metals rights over the following 5 tenements at Boss' Honeymoon Uranium Project: EL 6512, EL 6511, EL 6020, EL 6510, EL 6081 (collectively referred to as the "JV Project").

Following receipt of these results, First Quantum has elected to continue to fund further exploration under a joint venture agreement. Under the agreement First Quantum has the right but not the obligation to spend $6M on exploration within 5 years, and maintain a minimum annual expenditure on the JV Project of $500,000 per year. If First Quantum completes these obligations it will earn an initial 51% interest in the project ("First Earn-in").

First Quantum may elect to earn an additional 24% interest in the JV Project for a total interest of 75% by sole funding expenditure on the JV Project until a Decision to Mine within 5 years and maintaining minimum annual expenditure on the JV Project of $500,000 ("Second Earn-in"). First Quantum may extend the Second Earn-in up to 10 years by increasing minimum annual expenditure on the JV Project to $1M.

After acquiring a 75% interest, First Quantum shall continue to sole fund required studies and programs up to receipt of all permits for commencement of construction, after which Boss can maintain its project interest of 25% by funding its share of project development costs or dilute.

If First Quantum does not complete the Second Earn-in, Boss' interest in the JV Project will revert to 51% with First Quantum retaining a 49% interest.

Boss shall be the operator of the JV Project until First Quantum has acquired a 51% interest after which First Quantum can opt to become the operator.

Boss retains the sole right to explore for and exploit all uranium discoveries on the JV Project (being greater than 50% of the in-situ metal value being uranium). Boss will have a first right of offer in respect of any uranium discoveries made by First Quantum within the Curnamona craton of South Australia.

First Quantum may withdraw from the JV Project at any point pursuant to 60 days' notice. If the withdrawal occurs after FMQ has earned a 51% interest, but prior earning a 75% interest, Boss shall revert to a 51% interest. Should either party's interest fall below 10%, its interest will convert to a 1% net smelter royalty.

Figure 3: *Diamond drilling at Atlas target, 4km east of Honeymoon mine*

This ASX announcement was approved and authorised by the Board of Boss Energy Limited.

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About Boss Energy Limited

Boss Energy Limited (ASX: BOE; OTCQX: BQSSF) (**Boss Energy** or the **Company**), is ramping up uranium production at its Honeymoon Uranium Project in South Australia. Annual production at Honeymoon is forecast to reach 2.45Mlbs of U_3O_8. Boss also owns 30 per cent of the Alta Mesa uranium project in Texas, USA. Production at Alta Mesa is ramping up to 1.5Mlbs of U_3O_8 a year. For more information please visit www.bossenergy.com

Competent Person's Statement

The information contained in this announcement that relates to exploration results is provided by Mr Michael Christie, who is a Member of the Australasian Institute of Geoscientists (AIG). Mr Christie 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 JORC 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Christie has 38 years' experience and is a full-time employee as Director Exploration for First Quantum Minerals Ltd. Mr Christie consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

Forward-Looking Statements

This announcement includes forward-looking statements. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties, and other factors, many of which are outside the control of Boss Energy, which could cause actual results to differ materially from such statements. Boss Energy makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of this announcement.

APPENDIX 1 – Table 1: Drill collar table

In accordance with ASX Listing Rule 5.7.2, the Company provides the following information:

Hole ID	Easting	Northing	RL	EOH	Azimuth	Dip
	MGA94, z54		(m)	(m)	Deg (˚)	Deg (˚)
23CURDD001	472911	6488778	137	195.5	147	-60
23CURDD002	472706	6489074	123	358.5	147	-60
23CURDD003	465513	6481228	133	482.3	180	-60
23CURDD004	465495	6479843	137	219.3	295	-60
23CURDD005	468415	6503346	90	742.3	330	-80
23CURDD006	471792	6488124	129	484.9	149	-70

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 techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	• All core was logged and photographed prior to cutting. • Core was sampled at nominally 2m intervals, reducing to 1m in mineralisation. • Holes that did not intersect target stratigraphy were subject to 2m samples at 10-20m intervals throughout the hole. • Adjustments were made for major geological boundaries or major visual changes in mineralisation grade or style. Sample lengths range between 0.5m and 3m. • Half diamond drill core samples are submitted to ALS for preparation and assay; all assay results have been received.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• Drilling was conducted using rotary mud through the Cenozoic cover sequence followed by diamond drilling using standard HQ and NQ tube. • Drill holes were angled • Holes were oriented using the Reflex ActIII electronic orientation tool • Downhole surveys were conducted using the Axis North Seeking Gyro
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.*	• Core recovery is expressed as a percentage. • Overall core recoveries averaged over 98%. • There is no relationship between sample recovery and grade.

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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• 100% of diamond core was logged on site during the drilling program, a total of 1813.2m • Logging included lithology, alteration, mineralisation and structure, both qualitative and quantitative • Magnetic susceptibility measurements were collected at 1m intervals downhole using a handheld magnetic susceptibility meter. • Core was photographed prior to cutting. • Rotary mud material drilled through the cover sequence was also logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, 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 sub-sampling 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.*	• Samples were transported to Adelaide for core cutting by Euro Exploration Services. • Diamond core was cut and sampled as half core at nominally 2m intervals, reducing to 1m in mineralisation. • Holes that did not intersect target stratigraphy or mineralisation were subject to 2m samples at 10-20m intervals throughout the hole. • Adjustments were made for major geological boundaries or major visual changes in mineralisation grade or style. Sample lengths range between 0.5m and 3m. • The sample sizes and sampling methods are considered appropriate for the style of mineralisation at the project.

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, 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.*
	• *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.*
		• Core was transported to ALS Geochemistry in Adelaide for sample preparation using method PREP-31; multielement assay was conducted at ALS Geochemistry in Perth using ME-MS61, with select intervals assayed for gold by method Au-ICP21:
		  ○ PREP-31: Crush to 70 % passing 2mm, riffle split off 250g, pulverise split to better than 85% passing 75 microns.
		  ○ ME-MS61: Four acid digestion followed by ICP-MS measurement for 48 elements.
		  ○ Au-ICP21: Au by fire assay and ICP-AES.

Criteria	JORC Code explanation	Commentary
		• Field QAQC protocol comprises rotating QAQC samples inserted every 20 samples (CRM standards, blanks and duplicates) • ALS also conducts its own QAQC sampling protocol in each sample batch.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Mineralised intercepts have been visually verified by multiple members of the geology team. • Logging is entered into a field laptop using the LogChief software, using logging codes and data validation. • Data is loaded and stored in an SQL database.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drillhole collars were sited using a handheld GPS with an accuracy of +/- 4 metres. • Drillhole coordinates are in GDA94 MGA Zone 54.
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.* • *Whether sample compositing has been applied.*	• The drilling completed to date is exploratory in nature, and the spacing is not adequate for a mineral resource estimation. • Reported mineralised intersections were aggregated using downhole length weighting of consecutive sample assay results.
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.* • *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.*	• To the best of our knowledge at this exploratory stage, drilling is broadly perpendicular to geological contacts and a sampling bias has not been introduced.
Sample security	• *The measures taken to ensure sample security.*	• Samples were stored onsite during the drilling program. • On completion of the program, all diamond core was transported to Adelaide for core cutting at Euro Exploration services, prior to dispatch to ALS for sample preparation and analysis.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal auditing has been completed at this time. • Sampling protocols are regularly reviewed internally.

Section 2 – Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

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.* • *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.*	• The Project consists of 1 granted Mining Lease, 5 granted Exploration Licenses, 3 Retention Leases and 2 Miscellaneous Purpose Licenses.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration for base metal deposits within the Honeymoon exploration licences has occurred sporadically since the late 1980's. • The Honeymoon Project was evaluated several times, with the degree of details varying from scoping studies to bankable feasibility undertaken in 2006. Resource estimates have been made from 1998 to 2019.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Base metal mineralisation (Zn, Pb, Ag, Cu) is hosted by the metasedimentary units of the Bimba Formation, comprising graphitic pelites, psammites, psammopelites, and calc-silicates. Mineralisation consists of conformable bands and cross-cutting veins of chalcopyrite and/or pyrrhotite and or pyrite, with minor amounts of sphalerite/galena.

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*
		• Please refer to Appendix 1, Table 1 for drill collar information.

Criteria	JORC Code explanation	Commentary
	○ *dip and azimuth of the hole* ○ *down hole 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.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.*	• Reported mineralised intersections were aggregated using downhole length weighting of consecutive sample assay results. • Lower cut-offs of 0.1% Cu and 0.1% Zn used when aggregating intersections. • Intersections contain a maximum of 6m continuous internal dilution.
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 down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Down hole length, true width not known
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.*	• Appropriate and relevant diagrams have been included in the announcement
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.*	• Balanced reporting has been adhered to. See previous exploration announcements.
Other substantive	• *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*	• Not applicable.

Criteria	JORC Code explanation	Commentary
exploration data	*treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	
Further work	• *The nature and scale of planned further work (eg 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.*	• Review of drilling geochemistry results, modelling; phase 2 drilling proposal. • May-June 2024: heritage clearance survey with NAWNTAC. • June-July: proposed phase 2 drilling program.