Orion Minerals

ASX/JSE RELEASE: 17 December 2024

Strong New Copper Intercepts Indicate Significant Additional Potential of Flat Mine South – Okiep Project

Assay results including 40.52m at 1.34% Cu confirm significant strike and down-dip extensions, with an expanded project scope being incorporated in the Feasibility Study, due in early 2025

- **Assay results received for diamond drill hole OFMSD083 at Flat Mine South, which returned a significant broad intercept of strong copper mineralisation:**
  - **40.52m at 1.34% Cu including 18.52m at 2.00% Cu, confirming a 45m strike extension to the west of the previously reported high-grade copper mineralisation.**
- **Assay results also received from diamond drill hole OFMSD082, which returned a strong intercept well below previous drilling:**
  - **5.52m at 1.86% Cu, 170m down-dip of previously reported high-grade copper mineralisation.**
- **A ground geophysical program is currently in progress in the Flat Mines area using techniques not available to historical workers and is providing compelling indications of the potential for mineralisation analogous to the famous Carolusberg Deeps deposit at Okiep.**
- **The positive results from ongoing exploration have resulted in a strategic decision to investigate changing the primary access and ore handling strategy for FMS. Results of the updated engineering studies will be incorporated in the BFS, now scheduled for release in January 2025.**

Orion's Managing Director and CEO, Errol Smart, commented:

"Our latest drilling results from Flat Mine South show that this deposit is stacking up to become a major growth hub for the Okiep Copper Project. Recent drilling supported by interpretation of geophysical surveys have identified remarkable vertical persistence of strong copper mineralisation, and the drilling has not yet tested the most prospective horizon.

"The vertical continuity of Flat Mines South indicates a well-developed steep structure that is a key component for large- tonnage intrusive mineralisation in the district. The deposits with the largest scale and highest-grade mineralisation in the district have historically been encountered in well-developed steep structures, where they traverse the interval 250m above the Springbok Quartzite.

"Our interpretation of ground geophysics and SkyTEM™ airborne survey data has allowed us to predict the depth of this highly prospective horizon – and shows that we are now drilling at the upper reaches of the zone. En echelon offsets with large blows of mineralisation at the Springbok Quartzite contact are typical at the largest known deposits in the Okiep Copper District.

"We have therefore taken the strategic decision to investigate the redesign the Flat Mine South primary mine access and ore handling strategy. The results will be incorporated in the Bankable Feasibility Study, which is now scheduled for release in January 2025."

Orion Minerals Limited (**ASX/JSE: ORN**) (**Orion** or **Company**) is pleased to report final assay results from diamond drill holes completed to test strike and down-dip extensions of the high-grade copper mineralisation at the Flat Mine South (**FMS**) deposit, part of the Okiep Copper Project (**OCP**) in the Northern Cape, South Africa.

The latest results add further momentum to Orion's development strategy for the OCP, building on the outstanding outcomes of the recently completed confirmation drilling program, which has confirmed the geology and endowment of the Flat Mines area (refer ASX/JSE releases 22 April 2024, 24 June 2024, 9 July 2024, 3 September 2024 and 23 October 2024).

The OCP ground holdings of 703km² cover most of the Okiep copper mining district, where a total of 105Mt is reported to have been mined over the past 100 years (refer ASX/JSE release 21 May 2021). Of the 105Mt mined, some 77Mt was mined on OCP prospecting and mining rights held by Orion. The Flat Mines area and the current drilling program fall entirely within the fully permitted Mining Right NC10150MR.

Results reported in this announcement have confirmed both strike and down-dip continuity of previously intersected high-grade copper mineralisation, highlighting the potential for further upside and extensions to the mineralisation intercepted in drilling by Newmont and Goldfields of South Africa (**GFSA**) in the 1980s and 1990s as well as Orion's confirmation drilling program in 2024 (refer Appendix 1).

The historical drilling information underpinned Orion's Mineral Resource for the Flat Mines deposits (refer ASX/JSE release on 28 August 2023) (Table 1)[1].

Table 1: Mineral Resource Statement for the Flat Mine North, Flat Mine East, Flat Mine South.

Mine / Prospect	Measured			Indicated			Inferred		
	Tonnes	% Cu	t Cu	Tonnes	% Cu	t Cu	Tonnes	% Cu	t Cu
Flat Mine North	440,000	1.13	5,000	940,000	1.42	13,000	200,000	1.5	4,000
Flat Mine East	-	-	-	3,400,000	1.37	47,000	1,000,000	1.0	9,000
Flat Mine South	-	-	-	2,600,000	1.35	35,000	800,000	1.6	13,000
Total*	**440,000**	**1.13**	**5,000**	**6,900,000**	**1.37**	**95,000**	**2,000,000**	**1.3**	**26,000**

**Numbers may not add up due to rounding.*
Resources are reported at a 0.7% Cu cut-off grade.

Flat Mine South Down-dip Drilling Program

The first three FMS drill holes exploring for extensions to high-grade copper mineralisation beyond the margins of the current Indicated Mineral Resource have been successfully completed (Figures 2, 3, 4 and 5). Significant assay results have been received for OFMSD082 and OFMSD083, while OFMSD081 intersected lower grade mineralisation but has confirmed the continuation of the prospective ultramafic host unit (refer Table 2 and Figures 2, 3, 4 and 5).

Drill hole OFMSD083 intersected a broad zone of 40.52m at 1.34% Cu from 585.00m down-hole (580m below surface), including **10.00m at 1.03% Cu** from 585.00m and **26.52m at 1.60% Cu** from 599.00m (Table 2).

The intersection is located 45m west of historical drill hole FMS053D1 (Figure 5), which intersected 38.98m at 2.16% Cu from 574.45m.

[1] Mineral Resource reported in accordance with the JORC Code (2012) in ASX release of 28 August 2023: "Orion upgrades Mineral Resources at Okiep Copper Project" available to the public on http://www.orionminerals.com.au/investors/asx-jseannouncements/. Competent Person Mineral Resource: Mr Sean Duggan. Orion confirms it is not aware of any new information or data that materially affects the information included above. Orion confirms that all material assumptions and technical parameters underpinning the estimates in the original release continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

Importantly, the copper mineralisation in OFMSD083 is composed of sulphide mineralisation that is conducive to geophysical detection methods (Figure 1).

Figure 1: Copper sulphide mineralisation intersected within 608.00–609.00m interval in OFMSD083 with 2.69% copper and associated pyrrhotite and pyrite, which makes the mineralisation suitable for electrical geophysical methods. Detailed assay results are provided in Table 6.

Drill hole OFMSD082 intersected **5.52m at 1.86% Cu** from 742.48m (Table 2) down-hole (730m below surface), approximately 170m down-dip from drill hole OFMSD080 (Figures 3, 4, 5), which intersected 59.00m at 3.14% Cu from 533.00m (refer ASX/JSE release 23 October 2024).

Interpretation of geophysical exploration data indicates continuity of the steep structure associated with the mineralisation down-dip.

Drill hole OFMSD081 intersected a zone of 10.00m at 0.51% Cu from 668.00m (Table 2) down hole (670m below surface), approximately 100m down-dip from drill hole OFMD079 (Figure 5), which intersected 7.00m at 2.32% Cu from 501.00m (refer ASX/JSE release 3 September 2024).

While the mineralisation is lower grade, the intersection is indicative of the continuation of the mineralised mafic unit.

Flat Mine Nababeep drilling

At the Flat Mine Nababeep (**FMNb**) satellite deposit, the final drill hole of a nine hole program has also returned important results (Figure 2).

Drill hole OFMD171 intersected **3.54m at 3.89% Cu** from 107.00m down-hole (Table 2), 30m along strike of drill hole OFMD167, which intersected **7.80m at 5.08% Cu** from 121.20m down-hole (refer ASX/JSE release 3 September 2024).

A revised geological and mineralisation interpretation for FMNb is being completed and an updated Mineral Resource will be reported in conjunction with the Bankable Feasibility Study (**BFS**), which is expected to be released in January 2025.

Assay Results

Results received for FMS and FMNb are summarised in Table 2 below. Individual sample results are presented in Tables 4 to 7 in appendix 2.

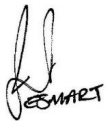
Table 2: Summary table of drill results to date for FMS and FMNb prospects (minimum cut-off of 0.7% Cu with maximum 3m consecutive internal waste allowed). Intersections and inclusions with grades above 0.7% Cu are tabulated. The data are not capped. Note: widths are down-hole drill widths.

Hole ID	Mineralisation				
	Notes	From (m)	To (m)	Interval (m)	% Cu
OFMSD081		668.00	669.00	1.00	0.82
		676.00	677.00	1.00	0.75
OFMSD082		742.48	748.00	5.52	1.86
OFMSD083		585.00	595.00	10.00	1.03
		599.00	625.52	26.52	1.60
	including	607.00	625.52	18.52	2.00
OFMD171		107.00	110.54	3.54	3.89

Implications of recent drilling in FMS and FMNb

In the light of the recent drilling results, Orion has made the strategic decision to investigate changing the primary access and ore handling strategy for FMS. Results of the updated engineering studies will be reported in the BFS expected to be released in January 2025.

For and on behalf of the Board.



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Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Paul Matthews (Pr.Sci.Nat.), a Competent Person who is a member of the South African Council for Natural Scientific Professionals, a Recognised Professional Organisation (**RPO**). Mr Matthews is a full-time employee of Orion. Mr Matthews 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 JORC Code. Mr Matthews consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Reference to Previous Report

Exploration Results from previous drilling at Flat Mines area were reported in ASX/JSE releases of 22 April 2024: "Spectacular High-Grade Copper Intercept at Okiep Project", 24 June 2024: "More Outstanding Hits at Okiep Copper Project", 9 July 2024: "Okiep Copper Project Continues to Deliver", 3 September 2024: "Okiep Confirmation Drilling Successfully Completed", and 23 October 2024: "Continuation of High-Grade Copper Mineralisation at Okiep", available to the public on http://www.orionminerals.com.au/investors/asx-jse-announcements/. Competent Person: Mr Paul Matthews. Orion confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. Orion confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

FMN, FME and FMS Mineral Resources were reported in ASX/JSE release dated 28 August 2023: "Orion upgrades Mineral Resources at Okiep Copper Project" available to the public on http://www.orionminerals.com.au/investors/asx-jseannouncements/. Competent Person Mineral Resource: Mr Sean Duggan. Orion confirms it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

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This release may include forward-looking statements. Such forward-looking statements may include, among other things, statements regarding targets, estimates and assumptions in respect of metal production and prices, operating costs and results, capital expenditures, mineral reserves and mineral resources and anticipated grades and recovery rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These forward-looking statements are based on management's expectations and beliefs concerning future events. Forward-looking statements inherently involve subjective judgement and analysis and are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Orion. Actual results and developments may vary materially from those expressed in this release. Given these uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. Orion makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect events or circumstances after the date of this release. All information in respect of Exploration Results and other technical information should be read in conjunction with Competent Person Statements in this release (where applicable). To the maximum extent permitted by law, Orion and any of its related bodies corporate and affiliates and their officers, employees, agents, associates and advisers:

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Appendix 1: Drilling Diagrams, Geophysical Results and Discussion

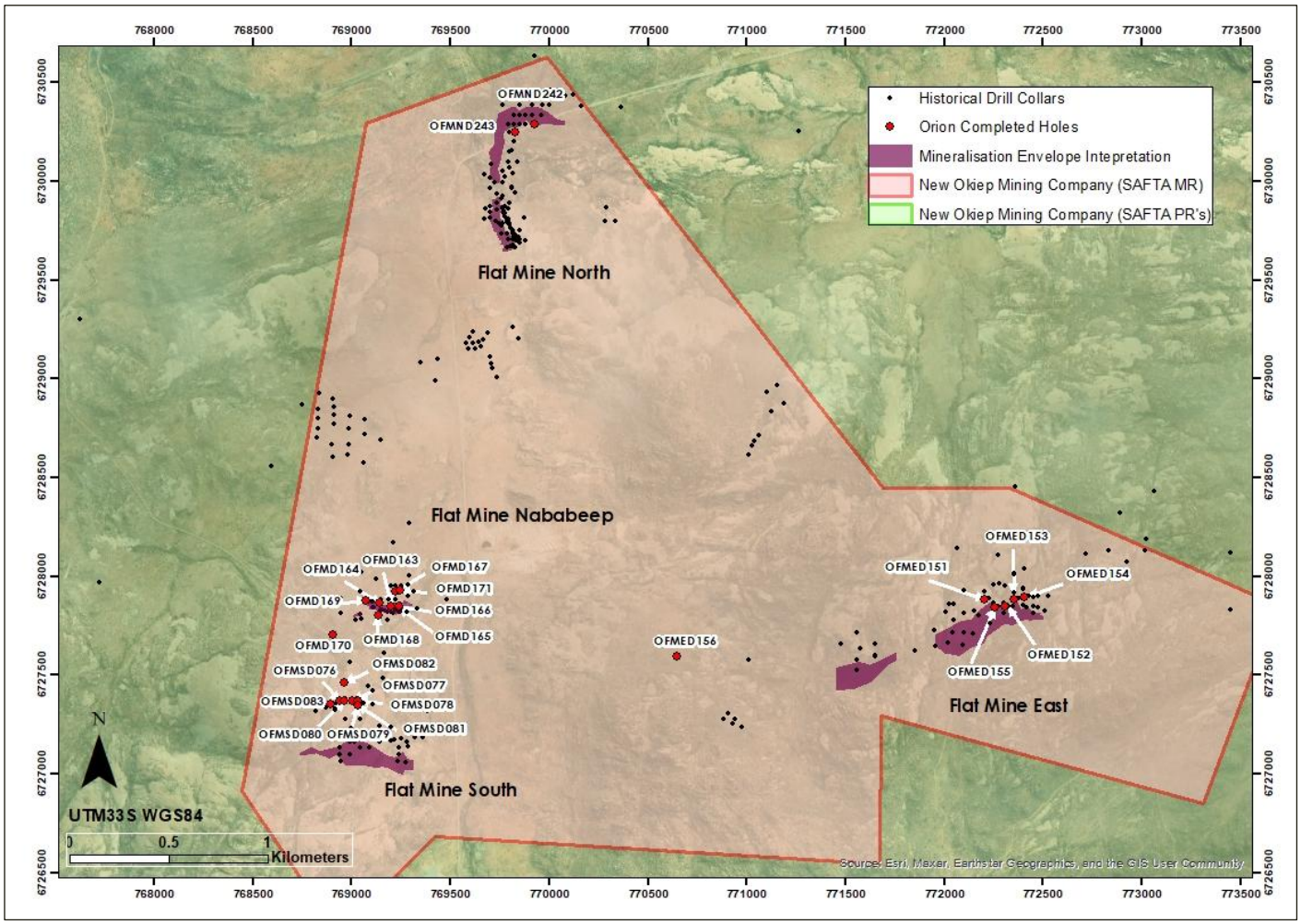

Figure 2: Plan showing historical and Orion drill holes, interpreted mineralisation envelopes and extent of the Mining Right.

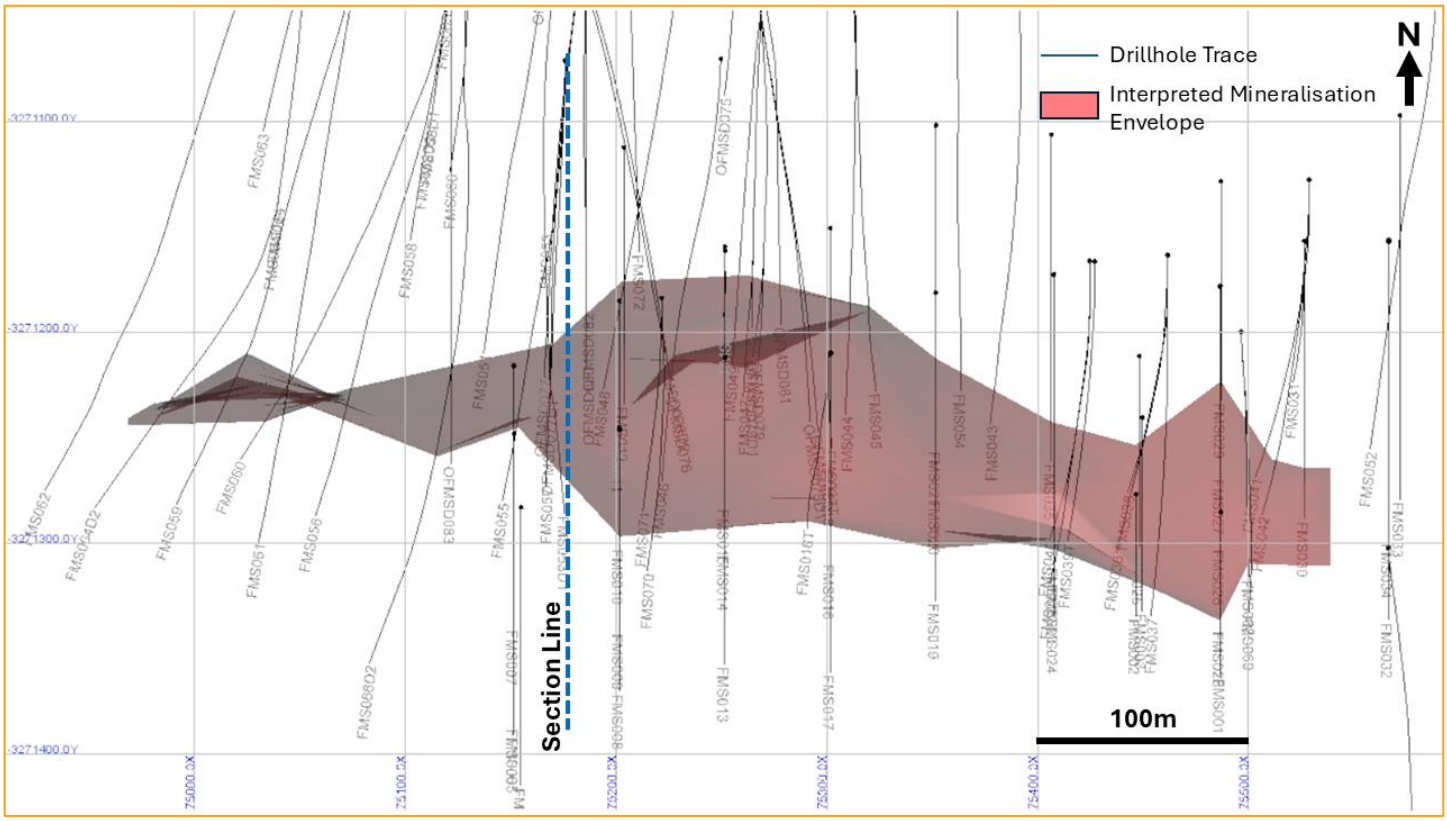

Figure 3: Plan view of section line for OFMSD082.

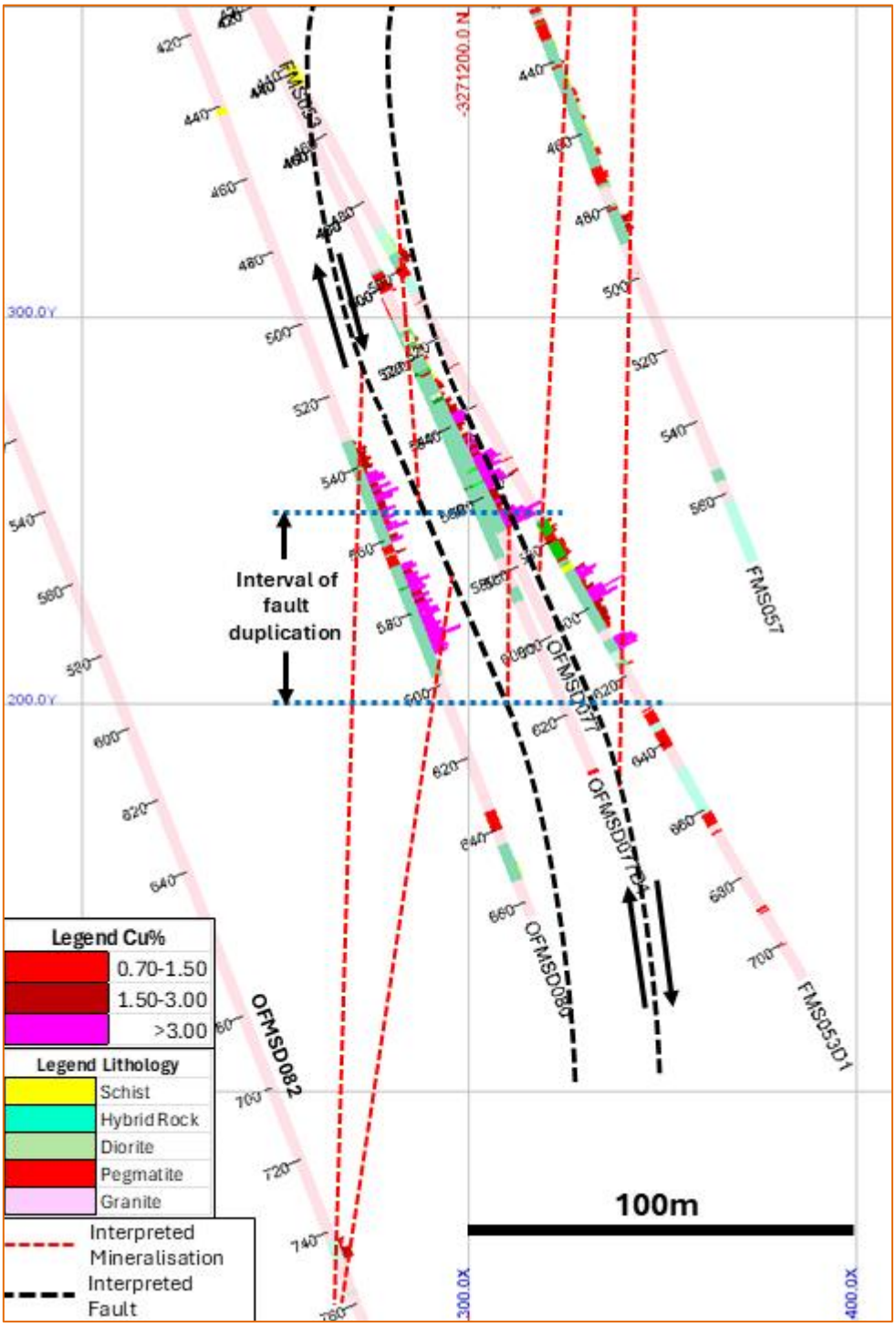

Figure 4: Cross-section of OFMSD082 with adjacent holes.

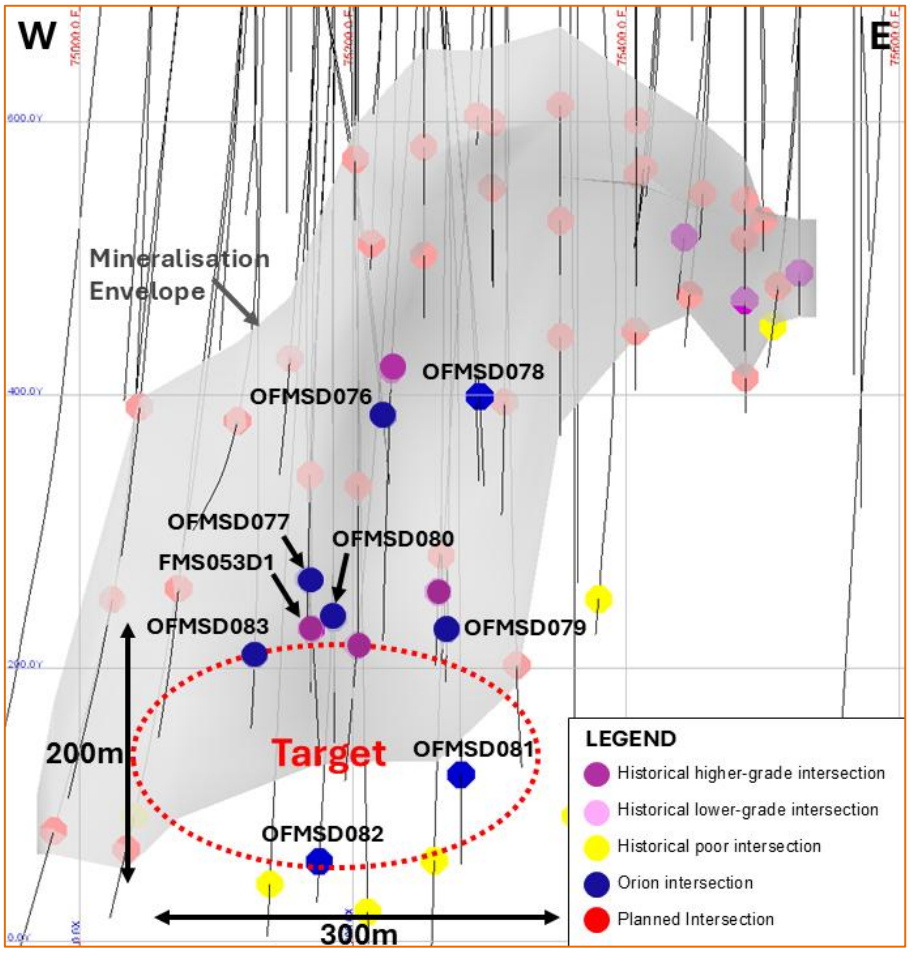

Figure 5: Long section of FMS down-dip drilling target.

Geophysical Exploration Program

Detailed geophysical surveys are currently being conducted over the deposits in the Flat Mines area applying magnetic, gravity and electrical methods to assist in ranking a number of priority drill targets previously identified by geological mapping and various geophysical anomalies from the 2021 SkyTEM™ survey (refer ASX/JSE release 1 September 2021). Modern geophysical techniques enable exploration down to 1,000m and beyond while advanced processing of SkyTEM™ data is yielding new insights in structural and stratigraphic modelling.

Additional processing and modelling of the 2021 SkyTEM™ data is permitting the sub-surface mapping of certain key stratigraphic units and their predicted intersection with steep structures that act as structural conduits for mineralised intrusive bodies (Figure 7). Historically, the most prospective target for mineralisation has been 0m-250m above the Springbok Formation contact, with the largest orebodies in the district, including Carolusberg (Figure 6), Okiep and Nababeep, developed in steep structures at this stratigraphic horizon. The intrusions up-dip in the steep structures most often pinch and swell with an en echelon, semi-continuous distribution. In proximity to the Springbok Quartzite mineralisation increases in continuity, dimension and grade.

The specific mineralisation at FMS is proving to be particularly suitable for geophysical investigation (Figure 1). A steeply dipping SkyTEM™ conductivity anomaly has been modelled extending from near surface to depths exceeding 800m (Figure 8). The anomaly appears to pinch and swell in vertical extent as expected. The form and setting of this anomaly is analogous to that of the famous Carolusberg Deeps, the largest known deposit in the Okiep district (Figure 6), and presents a compelling target. The Carolusberg Deeps deposit contributed 16Mt at a head grade of 2.05% Cu (refer ASX/JSE release 3 August 2021).

The current deepest mineralised intersection at approximately 730m vertical depth is found in the recently drilled OFMSD082. The zone 0m-250m stratigraphically above the Springbok Formation at 900-950m depth below surface is considered the highest potential for hosting high tonnage mineralised intrusive.

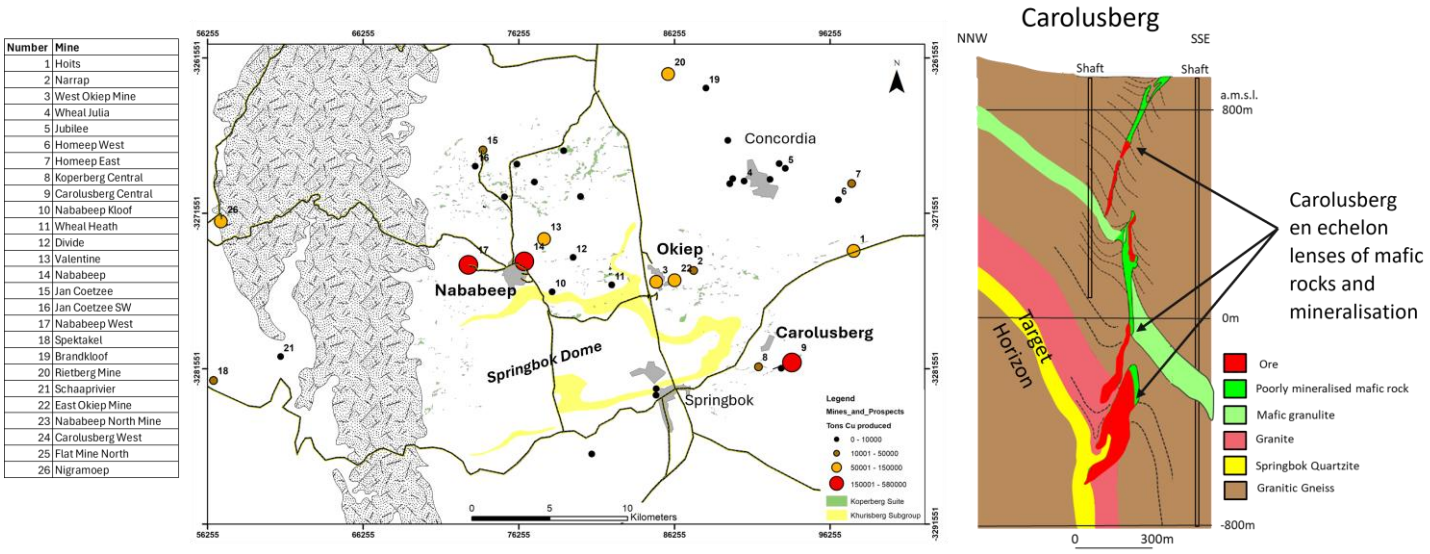

Figure 6: Locality map (left) of the Okiep Copper District showing the distribution of selected deposits, in particular Carolusberg. Schematic section (right) through the Carolusberg orebody, illustrating the en echelon nature of the mineralisation hosted in steep structures, and the majority of ore located at the Springbok Quartzite contact.

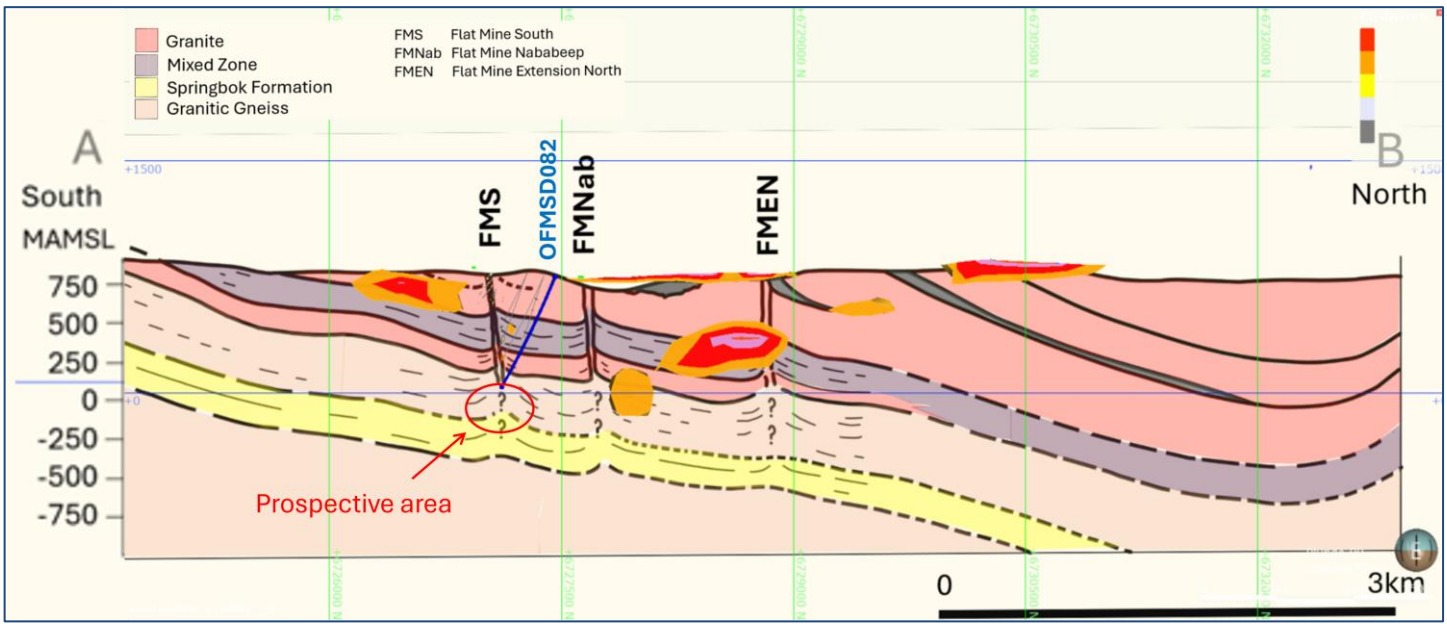

Figure 7: Cross section over the Flat Mines area overlain by resistivity model after SkyTEM™ data. Anomalies map the position of the highly prospective stratigraphic horizon which has not yet been drilled. Location of drill hole OFMSD082 indicated by blue trace.

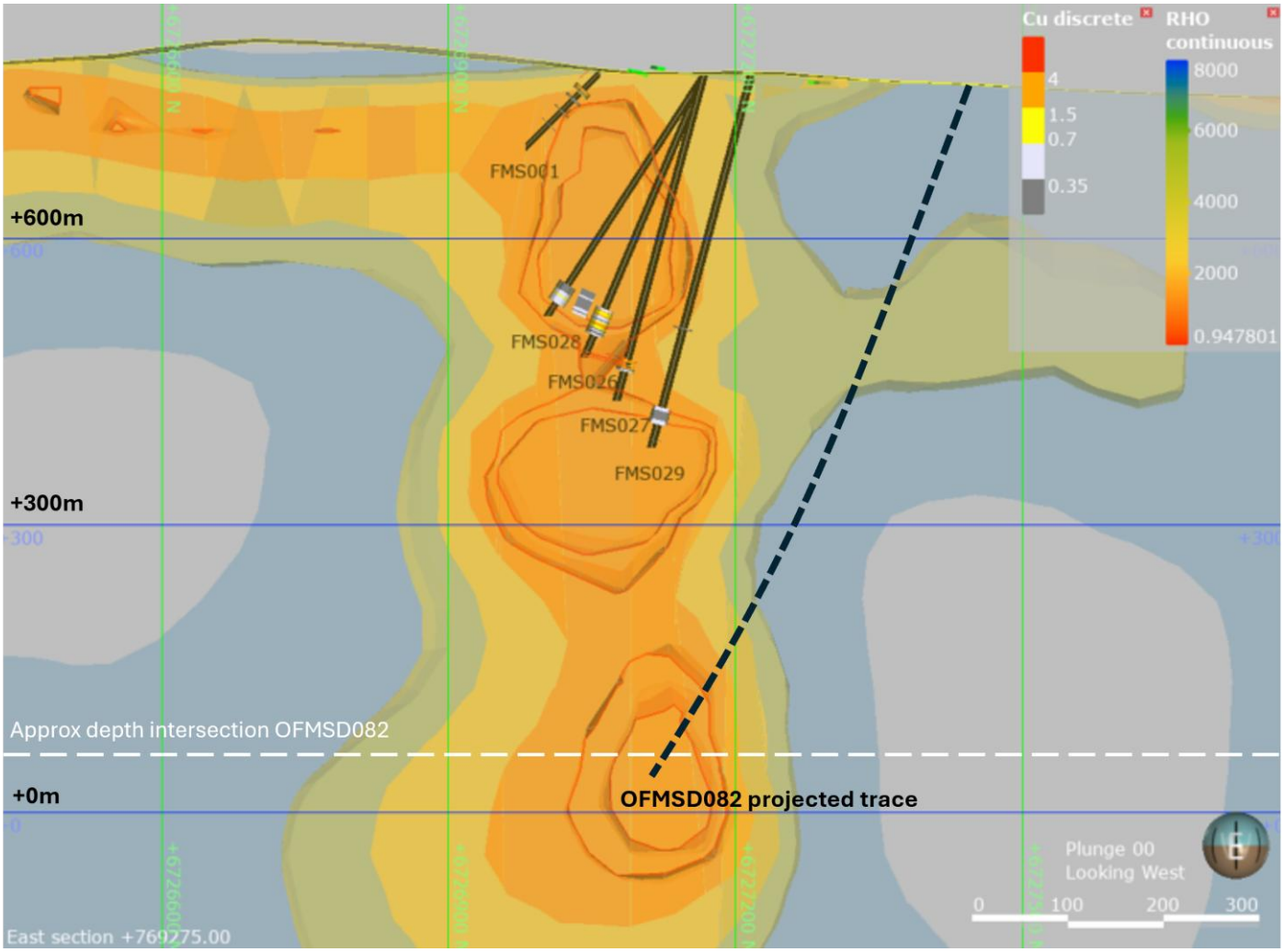

Figure 8: Cross section looking west through the Flat Mine South area showing 3D resistivity model of 2021 SkyTEM™ data, drill hole traces and Cu-assayed intersections. Cross section is 300m east of OFMSD082 intersection. OFMSD082 drill hole trace has been projected onto the section to illustrate the depth of intersection.

Appendix 2: Drill hole collar information and assay results from drill program at Flat Mine South, Flat Mine Nababeep and Flat Mine East.

Table 3: Drill hole collar information for FMS, FMNb and FME prospects. Coordinates in LO17 Hartebeesthoek 94.

Hole ID	Easting	Northing	RL	Azimuth	Dip	Depth (m)	Comment
OFMSD081	-75259.02	3270991.79	767.43	170	-74	742.23	Completed
OFMSD082	-75187.17	3270885.84	749.34	182	-68	778.46	Completed
OFMSD083	-75136.50	3270987.60	762.56	182	-66	665.00	Completed
OFMD169	-75289.90	3270462.67	751.08	190	-60	223.41	Completed
OFMD170	-75120.65	3270636.76	740.87	356	-63	88.44	Completed
OFMD171	-75456.41	3270415.48	754.76	177	-60	160.52	Completed
OFMED156	-76868.12	3270720.29	824.98	171	-75	198.60	Completed

Table 4: OFMSD081 drill assay results.

Hole ID	From (m)	To (m)	% Cu
OFMSD081	652.00	654.00	0.0036
OFMSD081	654.00	656.00	0.0041
OFMSD081	656.00	657.00	0.0372
OFMSD081	657.00	658.00	0.0145
OFMSD081	658.00	659.00	0.2590
OFMSD081	659.00	660.00	0.1055
OFMSD081	660.00	661.00	0.2430
OFMSD081	661.00	662.00	0.2410
OFMSD081	662.00	663.00	0.0904
OFMSD081	663.00	664.00	0.0329
OFMSD081	664.00	665.00	0.0377
OFMSD081	665.00	666.00	0.0306
OFMSD081	666.00	667.00	0.0091
OFMSD081	667.00	668.00	0.0363
OFMSD081	668.00	669.00	0.8210
OFMSD081	669.00	670.00	0.4690
OFMSD081	670.00	671.00	0.3160
OFMSD081	671.00	672.00	0.0964

Hole ID	From (m)	To (m)	% Cu
OFMSD081	672.00	673.00	0.2740
OFMSD081	673.00	674.00	0.6980
OFMSD081	674.00	675.00	0.5650
OFMSD081	675.00	676.00	0.4730
OFMSD081	676.00	677.00	0.7520
OFMSD081	677.00	678.00	0.5930
OFMSD081	678.00	679.00	0.2440
OFMSD081	679.00	681.00	0.0067
OFMSD081	681.00	683.00	0.0038
OFMSD081	683.00	685.00	0.0034
OFMSD081	685.00	687.00	0.0052
OFMSD081	687.00	689.00	0.0929
OFMSD081	689.00	691.00	0.1365
OFMSD081	691.00	693.00	0.1615
OFMSD081	693.00	695.00	0.1495
OFMSD081	695.00	697.00	0.0781
OFMSD081	697.00	699.00	0.0036
OFMSD081	699.00	701.00	0.0069

Table 5: OFMSD082 drill assay results.

Hole ID	From (m)	To (m)	% Cu
OFMSD082	737.00	738.00	0.0024
OFMSD082	738.00	739.00	0.0031
OFMSD082	739.00	740.00	0.0041
OFMSD082	740.00	741.00	0.0029
OFMSD082	741.00	742.00	0.0031
OFMSD082	742.00	742.48	0.0534
OFMSD082	742.48	743.00	1.8950
OFMSD082	743.00	744.00	1.3400
OFMSD082	744.00	745.00	0.7360

Hole ID	From (m)	To (m)	% Cu
OFMSD082	745.00	746.00	2.1900
OFMSD082	746.00	747.00	2.4500
OFMSD082	747.00	748.00	2.5500
OFMSD082	748.00	749.00	0.0295
OFMSD082	749.00	750.00	0.0075
OFMSD082	750.00	751.00	0.0037
OFMSD082	751.00	752.00	0.0067
OFMSD082	752.00	753.00	0.0101

Table 6: OFMSD083 drill assay results.

Hole ID	From (m)	To (m)	% Cu
OFMSD083	578.00	579.00	0.1885
OFMSD083	579.00	580.00	0.0393
OFMSD083	580.00	581.00	0.7160
OFMSD083	581.00	582.00	0.0150
OFMSD083	582.00	583.50	0.0021
OFMSD083	583.50	584.00	0.6260
OFMSD083	584.00	585.00	0.6920
OFMSD083	585.00	586.00	0.8500

Hole ID	From (m)	To (m)	% Cu
OFMSD083	586.00	587.00	0.5270
OFMSD083	587.00	588.00	0.7230
OFMSD083	588.00	589.00	0.6930
OFMSD083	589.00	590.00	0.9970
OFMSD083	590.00	591.00	1.2650
OFMSD083	591.00	592.00	1.4500
OFMSD083	592.00	593.00	1.1900
OFMSD083	593.00	594.00	1.8750

Hole ID	From (m)	To (m)	% Cu
OFMSD083	594.00	595.00	0.7230
OFMSD083	595.00	596.00	0.4050
OFMSD083	596.00	597.00	0.2070
OFMSD083	597.00	598.00	0.5720
OFMSD083	598.00	599.00	0.4810
OFMSD083	599.00	600.00	0.8890
OFMSD083	600.00	601.00	0.7330
OFMSD083	601.00	602.00	0.9490
OFMSD083	602.00	603.00	0.7710
OFMSD083	603.00	604.00	0.2450
OFMSD083	604.00	605.00	0.5960
OFMSD083	605.00	606.00	0.3200
OFMSD083	606.00	607.00	0.8590
OFMSD083	607.00	608.00	1.5150
OFMSD083	608.00	609.00	2.6900
OFMSD083	609.00	610.00	3.3900
OFMSD083	610.00	611.00	2.5700
OFMSD083	611.00	612.00	1.7950
OFMSD083	612.00	613.00	1.8850

Hole ID	From (m)	To (m)	% Cu
OFMSD083	613.00	614.00	2.0500
OFMSD083	614.00	615.00	1.9500
OFMSD083	615.00	616.00	3.6100
OFMSD083	616.00	617.00	1.8550
OFMSD083	617.00	618.00	1.2800
OFMSD083	618.00	619.00	1.1050
OFMSD083	619.00	620.00	1.4650
OFMSD083	620.00	621.00	1.8050
OFMSD083	621.00	622.00	1.1950
OFMSD083	622.00	623.00	1.7050
OFMSD083	623.00	624.00	1.6350
OFMSD083	624.00	625.00	2.6100
OFMSD083	625.00	625.52	1.7100
OFMSD083	625.52	627.00	0.1640
OFMSD083	627.00	628.00	0.0468
OFMSD083	628.00	629.00	0.0034
OFMSD083	629.00	630.00	0.0018
OFMSD083	630.00	631.00	0.0033
OFMSD083	631.00	632.00	0.0014

Table 7: OFMD171 drill assay results.

Hole ID	From (m)	To (m)	% Cu
OFMD171	101.00	103.00	0.0007
OFMD171	103.00	105.00	0.0059
OFMD171	105.00	106.00	0.0158
OFMD171	106.00	107.00	0.2750
OFMD171	107.00	108.00	3.1000

Hole ID	From (m)	To (m)	% Cu
OFMD171	108.00	109.00	1.6250
OFMD171	109.00	110.00	4.3300
OFMD171	110.00	110.54	8.7000
OFMD171	110.54	112.00	0.0430
OFMD171	112.00	114.00	0.0069

Appendix 3: The following tables are provided in accordance with the JORC Code (2012) requirements for the reporting of Exploration Results from the Okiep Copper Project.

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 (e.g. 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 (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 was carried out using industry-standard diamond drilling procedures. NQ-size diamond drill cores were longitudinally split in half using a diamond core cutting machine. Half core was cut to quarter core where field duplicates were taken. • HQ core size was only drilled in the upper weathered portion and no HQ core was sampled. • One-metre sample length was taken in most cases, with two-metre sample length in poorly mineralised zones and internal waste. Sample lengths were varied to honour geological and mineralisation boundaries, with a maximum sample size of 2.00m and a minimum sample size of 48cm. • Areas of sampling were selected based on visual observations and readings from a handheld Niton XL3t 500 XRF analyser (standard analytical range >25 elements from S to U with additional elements Mg, Al, Si and P via helium purge).
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).*	• Diamond core drilling was undertaken. • HQ and NQ size core was drilled using a standard tube, HQ core size was only drilled in the upper weathered portion of approximately 6m. No Cu mineralisation was visually identified in the HQ core and no HQ core was sampled. • Core was oriented using a Reflex ACT III™.

Criteria	JORC Code explanation	Commentary
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 'stick-ups' reflecting the depth of the drill hole are recorded at the rig at the end of each core run. A block with the depth of the hole written on it is placed in the core box at the end of each run. At the core yard, the length of core in the core box is measured for each run. The measured length of core is subtracted from the length of the run as recorded from the stick-up measured at the rig to determine the core loss. • Core recovery was found to be very good (>98%) within the mineralised zone. • Ground conditions below the weathered zone were very good. • No obvious relationship exists between sample recovery and grade. • No core/sample loss or gain which could result in 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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean. channel. etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Core of the entire hole length was geologically logged by qualified geologists. • The core was logged to a level of detail that is sufficient to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Geological logging was qualitative and was carried out using a standard sheet with a set of standard logging codes to describe lithology, structure and mineralisation. The logging sheet allows for free-form description to note any unusual features. • Geological logs were captured electronically. • All cores were photographed before sampling. • Geotechnical logging was completed on oriented core. The data collected per drill run consisted of core recovery, length of core greater than ten centimetres, longest piece, fracture count, alpha and beta angles for all joint types and lithological contacts, joint infill types and their strength as well as nature of joint surface.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffle, 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.*	• NQ core was cut, and half core was taken as sample with quarter core for duplicates. • HQ core size was only drilled in the upper weathered portion and no HQ core was sampled. • Sample preparation was undertaken at ALS Laboratory Johannesburg (**ALS**), an ISO accredited laboratory, and is considered appropriate. ALS utilises industry best practice for sample preparation for analysis involving drying of samples, weighing samples, crushing to <2mm if required. Crushed samples are riffle-split and a 250g portion pulverised with +85% passing through 75 microns. • Crushing and pulverising QC tests were applied by ALS and found acceptable. • Quarter core field duplicates were taken for six samples. • All sample sizes are deemed appropriate.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Areas of sampling were selected based on visual observations and readings from a handheld Niton XL3t 500 XRF analyser (standard analytical range >25 elements from S to U with additional elements Mg, Al, Si and P via helium purge. • Samples submitted to ALS were analysed for base metals and gold. • All samples were analysed by an appropriate high-grade aqua regia ICP-AES method, ALS code ME-ICP41a. • Samples where assays returned >5% Cu were re-assayed by aqua regia digestion and ICP-AES method, ALS code MEOG-46. • Samples were assayed for gold by fire assay and AAS, ALS code AU-AA25 method. • Orion inserted CRMs every 10th sample. A total of fourteen CRMs were inserted. CRMs were alternated throughout the sample stream and where possible, matched to the sample material being analysed. • Four CRMs were used, AMIS0399 (1.014 %Cu), AMIS0847 (1.05%Cu), AMIS0809 (2.97 %Cu) and AMIS0088 (0.3 %Cu). • All CRMs returned acceptable results within two standard deviations of the CRM average. • Chip blanks are inserted at the beginning of each batch and after any sample that may be considered high grade. A total of ten blanks were used. Acceptable results were returned indicating no contamination. • The laboratory conducts their own checks which are also monitored.

Criteria	JORC Code explanation	Commentary
		The accuracy and precision of the geochemical data reported on has deemed to be acceptable. • Results from the six quarter core field duplicates showed a correlation coefficient of 0.98. • No external laboratory checks have been carried out at this stage.
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.*	• Orion's exploration geologist personally supervised the drilling and sampling along with a team of experienced geologists. • Hole OFMSD081 was planned to test downdip continuity of mineralisation intersected in Orion drill hole OFMSD079. Hole OFMSD082 was planned to test downdip continuity of mineralisation intersected in Orion drill hole OFMSD080. Hole OFMSD083 was planned to test mineralisation along strike from historical hole FMS053D1 and Orion drill hole OFMSD077. None of the holes are twin holes. • The Competent Person has reviewed the raw laboratory data and confirmed the calculation of the significant intersections. • No adjustments have been made to the assay data.
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.*	• Collar positions of the FMS, FMNb and FME prospect holes were initially located using a hand-held Garmin GPS and have been subsequently surveyed by a qualified surveyor using a differential GPS. • On completion drill collars are capped and labelled. • The local South African Lo17 (Hartebeesthoek 94) grid system is used. • All the FMS, FMNb and FMS holes have been surveyed down-hole. A north seeking Reflex SPRINTIQ gyro tool was used for the down-hole surveys.
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.*	• At FMS, OFMSD081 intersected mineralisation approximately 100 metres downdip from mineralisation intersected in drill hole OFMSD079, OFMSD082 intersected mineralisation approximately 170 metres downdip from mineralisation intersected in drill hole OFMSD080, OFMSD083 intersected mineralisation approximately 45 metres along strike from mineralisation intersected in drill hole FMS053D1 and OFMSD077. • OFMD171 intersected mineralisation approximately 30m east along strike from OFMD167. • The holes were drilled to test for downdip and strike continuity and to test the latest structural interpretation. • The drill spacing is considered sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource

Criteria	JORC Code explanation	Commentary
		and Ore Reserve estimation and classifications. • Holes OFMSD169, OFMSD170 and OFMED156 were drilled to test geological interpretations of geophysical anomalies. • Two-metre samples were taken in wider zones of internal waste or barren zones separating hanging wall and footwall mineralised zones.
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 achieve unbiased sampling, drilling is oriented as close as practically possible to perpendicular, or at a maximum achievable angle, to the attitude of the mineralisation. Holes were inclined at between -60° and -75°. • No sampling bias is anticipated as a result of drill hole orientations.
Sample security	• *The measures taken to ensure sample security.*	• Chain of custody is managed by the Company. Samples were stored on site in a secure locked building and then freighted directly to the laboratory.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews have been carried out to date.

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 mineral rights to the properties are vested in the peoples of South Africa and the Minerals and Petroleum Resources Development Act 2002 (**MPRDA**) regulates the prospecting and mining industry in South Africa. **Newmont and GFSA:** • O'Okiep Copper Company (Pty) Ltd (**OCC**), historically owned at different times by Newmont, GFSA and Metorex, held vast areas under an old order (prior to the MPRDA) mining right. **Orion:** • **Flat Mines Mining Right**. A mining right, NC30/5/1/2/2/10150MR was granted on 28 July 2022 to Southern African Tantalum Mining (Pty) Ltd (**SAFTA**) in terms of section 23 of the MPRDA to mine for a period of fifteen years. The right may be renewed for periods of up to 30 years. The mining right was ceded to Orion indirect subsidiary, New Okiep Mining Company (Pty) Ltd (**NOMC**) on 12 December 2023. The right is

Criteria	JORC Code explanation	Commentary
		for copper ore and tungsten are over a portion of portion 3, a portion of portion 13, a portion of portion 14 and a portion of portion 21 of the farm Nababeep No 134 situated within the Administrative District of Namaqualand. The area measures 1,214Ha in extent. • A prospecting right NC30/5/1/1/2/12850PR was granted on 27 June 2023 to SAFTA in terms of section 17 of the MPRDA for the same area as the mining right for 3 years (renewable for 3 years) for 26 additional minerals including gold and silver. • **SAFTA PR**, A prospecting right, NC30/5/1/1/2/12755PR was granted on 21 June 2024 to SAFTA in terms of section 17 of the MPRDA to prospect for a period of 3 years, renewable for 3 years. The right is for copper ore and tungsten ore for portion of Portion 3, portion of Portion 10, portion of Portion 13, portion of Portion 14, Portion 15, Portion 16, portion of Portion 21 of the farm Nababeep 134 and Okiep Township Plot 2086, situated within the Administrative District of Namaqualand. The total area measures 7,164Ha in extent. • A prospecting right NC30/5/1/1/2/12848PR was granted on 21 June 2024 to SAFTA in terms of section 17 of the MPRDA for the same area as the prospecting right NC12755PR for 3 years (renewable for 3 years) for 26 additional minerals including gold and silver. • Orion acquired 56.25% of the tenement rights through the SAFTA-Orion Acquisition Agreement. The remaining 43.75% is held by the Industrial Development Corporation of South Africa (**IDC**) (refer ASX/JSE releases 2 August 2021, 7 September 2022, 14 November 2022, 17 April 2024, 6 May 2024). Applications for Section 11 consent in terms of the MPRDA to cede the rights to NOMC are submitted once each right is granted and are in preparation and process. • The area was mined historically for copper and tungsten.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous explorers in the region includes Newmont, GFSA and SAFTA. Exploration was focussed on Cu. • Extensive historical drilling data (480 holes totalling 126,601m) is contained in the database inherited from Newmont, GFSA and SAFTA for FME, FMN and FMS. This includes 247 holes totalling 42,738m at FMN. 151 holes totalling 50,583m at FME and 82 holes totalling 33,280m at FMS. • Sample and analytical details are contained within JORC Table 1 of ASX/JSE release from 28 August 2023.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The tenements are located over the Central and Western parts of the Okiep Copper District (**OCD**). The style of mineralisation is mafic hosted orogenic Cu-mineralisation. • Copper mineralisation is primarily associated with irregular, elongated and steeply dipping Koperberg Suite mafic intrusives. • The Koperberg Suite intrusives are mainly restricted to so-called "Steep Structures" of extensive strike lengths and steeply dipping to the north. • The Koperberg Suite consists of intermediate to mafic rock types, predominated by anorthosite, diorite and norite. • Mineralisation usually occurs as blebs to disseminated Cu mineral assemblages: bornite > chalcopyrite > chalcocite and less pyrite and pyrrhotite. • The more mafic and magnetite-rich lithologies generally host the bulk of and higher-grade mineralisation. • The OCD has a long exploration and mining history, and the geology is well known and understood.
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• Refer to Table 3 in Appendix 2 for collar details of drill holes 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.* • *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*	• A minimum 0.7% Cu cut-off was used to calculate intercepts. • Allowance was made for 3m internal waste. • A cut-off of 1.0% Cu was used for the higher-grade inclusions. • Weighted grades were calculated as follows: %Cu x sample length(m) • The Competent Person is of the opinion that the above aggregation

Criteria	JORC Code explanation	Commentary
	such aggregations should be shown in detail. • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	methods are acceptable for this type of deposit. • These aggregation methods were also applied to historical holes and assay results in previous announcements. • No metal equivalents are reported. • No capping of assay results was required.
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 (e.g. 'down hole length, true width not known').*	• Drilling is generally oriented perpendicular, or at a maximum achievable angle to, the attitude of the mineralisation. • Generally, drill hole inclinations ranged between -60° to -75° towards the south while the mineralisation is expected to dip close to 80° towards the north. • Down holes lengths are reported in all instances apart from where true widths (TW) are specified. • Where true widths (TW) are specified, they are calculated by measuring the intersection width perpendicular to the interpreted mineralisation trend.
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.*	• Refer to body of the announcement for plans, plots and tables. • Drilling data was incorporated and monitored in Micromine™ software together with interpretation models based on the available historical drill data.
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.*	• In the Competent Person's opinion, the Exploration Results reported in this announcement have been reported in a balanced manner.
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.*	• The Company's previous ASX releases have detailed exploration works. • Surface geophysical surveys are being undertaken and include ground, drone and downhole magnetics, gravity and electrical methods. The objectives of the work is to provide baseline survey information over known and well-described mineralisation so as to inform the future application of techniques most suited to the Koperberg style of mineralisation. • A high-resolution drone magnetic survey was carried-out and will assist in future planning of additional drill holes. • Drone (DJI 600M Pro) magnetics were done at 30m AGL and 50m line spacing. • Historical detailed surface mapping is interpreted and utilised during drill hole planning.

Criteria	JORC Code explanation	Commentary
		• Where possible, bulk density measurements were made over the full length of each individual sample of split core. Where not possible due to incompetent (crushed or broken) core, a minimum of 80% of the (half-core) sample was used. The bulk density was determined by measuring and subtracting the wet weight from the dry weight using an electronic scale. Care was taken to clean and zero the scale between each weighing. The intact sample portion was first weighed in air and the weight recorded. The sample was then weighed, while completely submerged in clean water within a measuring container. The mass of container and water were deducted for net submerged weight and volume displacement read on measuring container. The sample was then removed and placed back into the core tray in the correct position and orientation. The procedure was repeated for each geological sample interval. The data were recorded in the bulk density Data Sheet. The bulk density is calculated for each sample using the formula: $BD = \frac{\text{weight of sample}}{\text{(weight of sample in air – weight of the sample in water)}}$
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).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Interpretation and modelling of drilling results is continuing.