Orion Minerals

**ASX/JSE RELEASE: 28 April 2022**

# Strong Results from Maiden Drilling Confirm Outstanding Potential of Okiep Copper Project, South Africa

**Maiden 25-hole program intersects significant copper mineralisation, including 10 holes which encountered wide zones of high-grade mineralisation**

- **Successful maiden drilling program completed on the Koperberg – Carolusberg line of intrusives at the Okiep Copper Project in South Africa, with a total of 25 diamond drill holes completed totalling 3,411m.**
- **A total of 14 holes were drilled at Koperberg West, 6 at Koperberg East and 5 at Koperberg West Extension. The assay results have confirmed historically reported drill results and highlighted the presence of significant shallow mineralisation.**
- **10 holes returned high-grade assay results with best assays including:**
  - **7.76m at 1.94% Cu from 29.7m including 4.1m at 2.01% Cu from 33.3m in OKED064; and**
  - **9.02m at 1.45% Cu from 103.08m including 5.9m at 1.86% Cu from 103.08m in OKWED068.**
- **This is in addition to previously reported high-grade intersections of 10.36m at 1.84% Cu from 58.98m in OKWD100, 5.71m at 1.93% Cu from 72.85m in drill hole OKWD102 and 4.69m at 2.05% Cu from 49.22m in OKWD105.**
- **Importantly, the bulk of the Koperberg high-grade intersections are less than 100m below surface.**
- **Assays confirm that copper-nickel mineralisation was intersected from initial drill testing of a SkyTEM™ anomaly on the Nous Prospect, with follow-up drilling now underway to test an adjacent, stronger conductor.**

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

*"We are delighted with the outcome of our maiden drilling program at Okiep. The results we've received to date have exceeded our expectations, demonstrating the presence of widespread near surface copper mineralisation across the project and reinforcing what we have always thought – that Okiep represents an exceptional growth opportunity for Orion.*

*"The drilling focused initially along the Koperberg - Carolusberg line of intrusives and saw a total of 25 holes completed, 10 of which intersected high-grade mineralisation. The Carolusberg area was the biggest contributor to historical production at Okiep and our drilling here has confirmed the tenor and grade of mineralisation.*

*"These drill results infill and confirm the previous Newmont and Goldfields era drilling that outline an extensive, unmined near surface swarm of copper mineralised mafic dykes and lenses. This drilling will now be followed up with further infill and extension drilling to enable future resource estimation.*

*"Importantly the mineralisation intersected has strong similarity to the near surface mineralisation mined along strike at the Carolusberg Mine, which was the largest mine of the district."*

*"We are also very pleased with the results from the first hole at Nous that is following upon targets identified from the SkyTEM™ survey. The higher pyrrhotite content sulphides discovered are nickel rich and present an exciting new opportunity. With strong market outlook and the LME nickel price currently more than three times the copper price, a potential nickel credit can be very valuable."*

Orion Minerals Limited (**ASX/JSE: ORN**) (**Orion** or **Company**) is pleased to report highly encouraging results from its maiden drilling program across the Koperberg – Carolusberg line of intrusions at the Okiep Copper Project (**OCP**) in the Northern Cape, South Africa.

All assay results have been received from the Company's maiden 25 hole diamond drilling program at Okiep, with the drilling confirming historically reported drill results and establishing the presence of shallow high-grade copper mineralisation across the project.

In addition, Orion's first greenfields exploration hole at Okiep intersected veins and massive sulphide lenses of pyrrhotite–chalcopyrite in drill core within a magnetite rich, mafic intrusive host (refer ASX/JSE release 24 February 2022), with assays confirming the presence of copper mineralisation with significant strong nickel credits.

This hole tested down-dip of copper mineralisation exposed on surface coincident with an electromagnetic (**EM**) anomaly detected by SkyTEM™ and confirmed by a ground EM follow-up survey. The success of this hole has provided an important proof-of-concept that will assist Orion with ongoing exploration at the OCP.

**Koperberg - Carolusberg Drilling Program**

The Phase 1 exploration drilling program on the Koperberg - Carolusberg line of intrusions was designed to twin, in-fill, and expand - known mineralisation intersected in historical drilling at the Koperberg West, Koperberg West Extension and Koperberg East deposits (Figures 1 and 2, Appendix 1 Table 3).

The Carolusberg Complex was the biggest contributor to historical mining in the Okiep Copper District, delivering 38Mt grading at 1.54% Cu out of the reported total of 105Mt mined in the district over the past 100 years (refer ASX/JSE release 21 May 2021). Historical mine records show that Carolusberg Deeps contributed 16Mt at a head grade of 2.05% Cu (refer ASX/JSE release 3 August 2021).

A total of 3,411m of diamond drilling was completed in 25 holes. A total of 362 split core samples were submitted to ALS Chemex for analysis and all assay results have now been received.

Drilling confirms the historical drill results and the presence of high-grade, near-surface sulphide copper mineralisation. Updating of geological models to include the new drill data is currently underway.

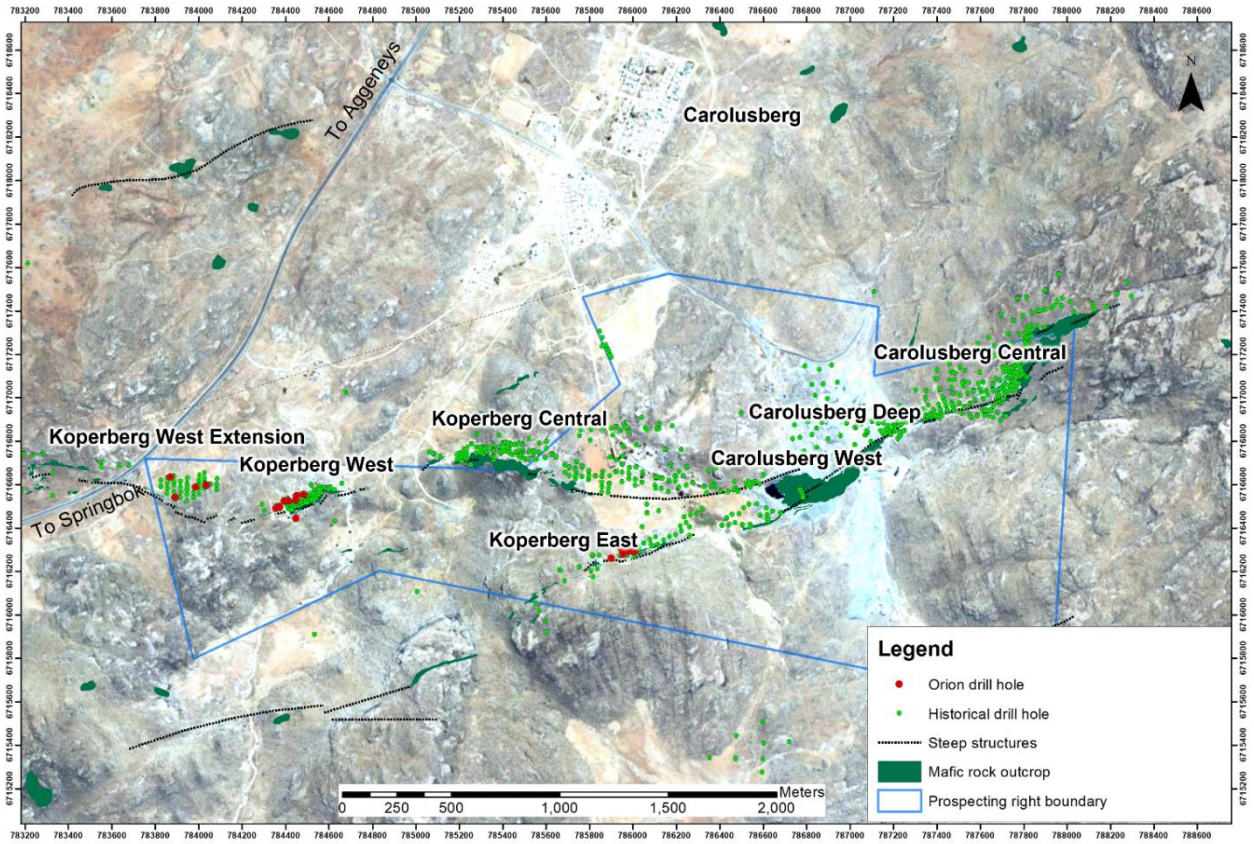



**Figure 1: Koperberg - Carolusberg locality map showing drill hole collars, prospects/mines and mafic intrusive bodies.**

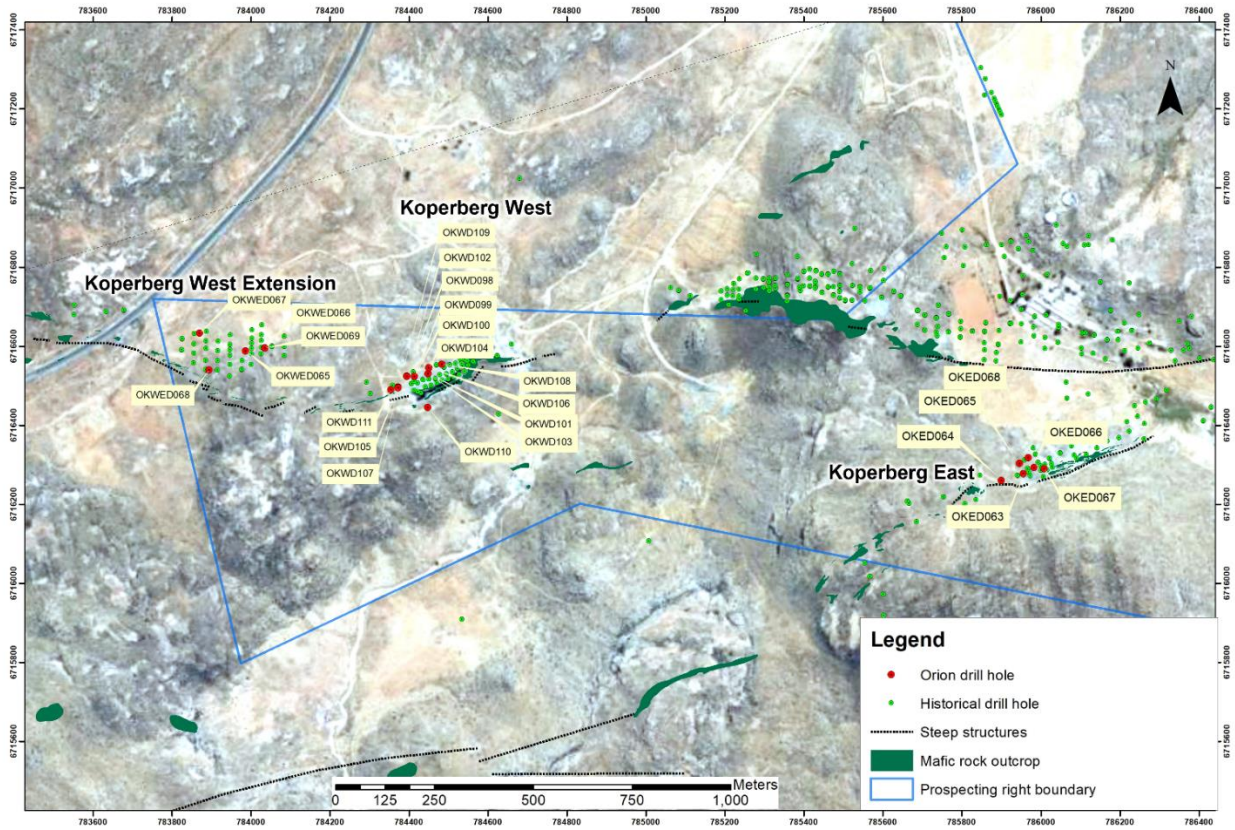



**Figure 2: Koperberg West, Koperberg West Extension, and Koperberg East drill hole locations (refer Table 3, Appendix 1 for collar details).**

Copper mineralisation at the Koperberg West, Koperberg West Extension, and Koperberg East prospects occurs close to surface (Figures 3 to 7). The mineralisation can potentially be accessible by open pit or shallow underground mining. Figures 4 and 6 show the modelled mineralisation on level plans.

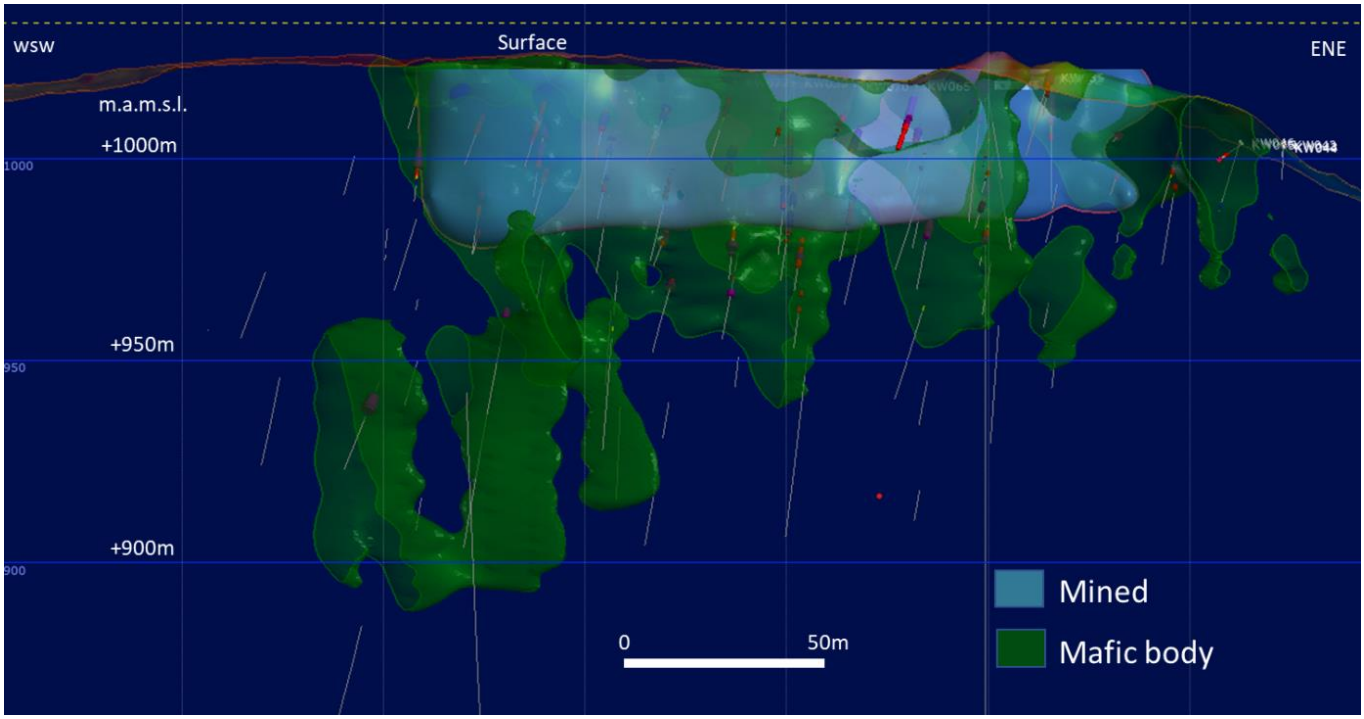
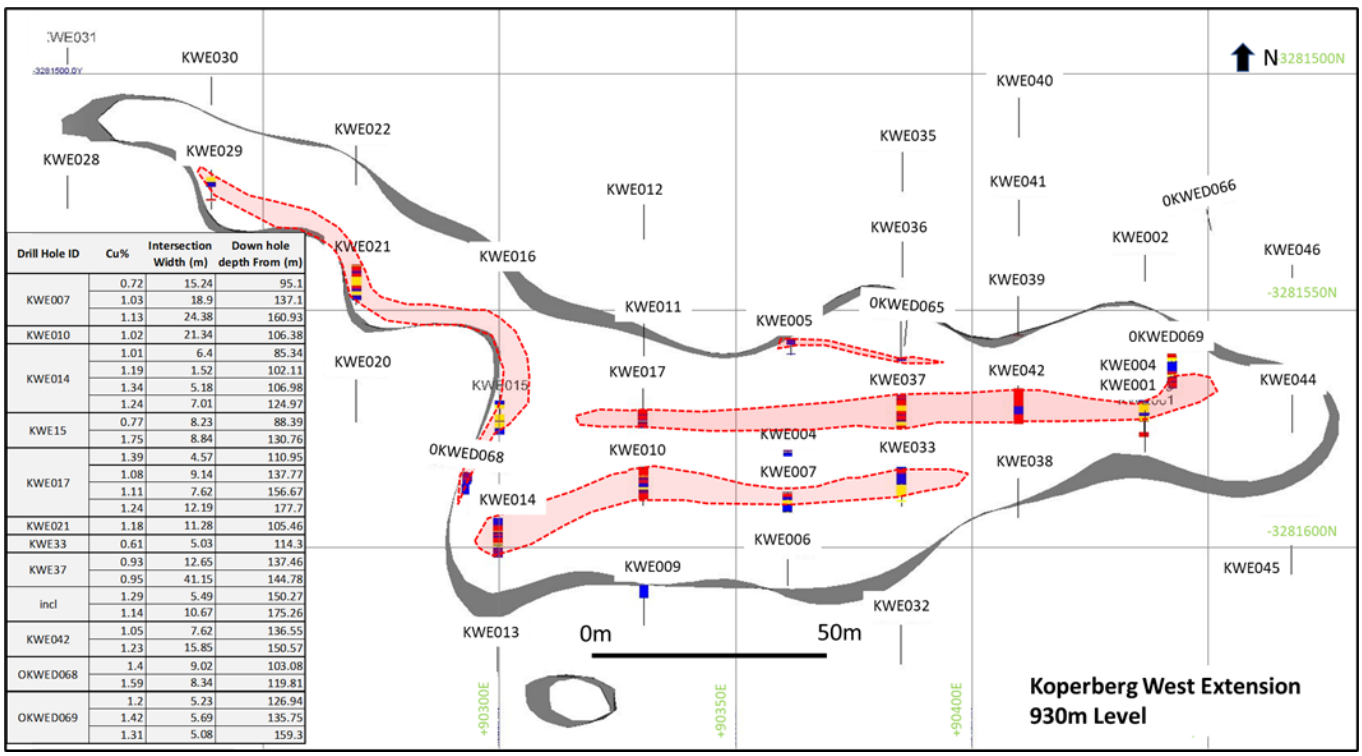



**Figure 3: Long section through the Koperberg West deposit showing the historical shallow mining.**




| Drill Hole ID | Cu% | Intersection Width (m) | Down hole depth From (m) |
|---|---|---|---|
| KWE007 | 0.72 | 15.24 | 95.1 |
| | 1.03 | 18.9 | 137.1 |
| | 1.13 | 24.38 | 160.93 |
| KWE010 | 1.02 | 21.34 | 106.38 |
| KWE014 | 1.01 | 6.4 | 85.34 |
| | 1.19 | 1.52 | 102.11 |
| | 1.34 | 5.18 | 106.98 |
| | 1.24 | 7.01 | 124.97 |
| KWE15 | 0.77 | 8.23 | 88.39 |
| | 1.75 | 8.84 | 130.76 |
| KWE017 | 1.39 | 4.57 | 110.95 |
| | 1.08 | 9.14 | 137.77 |
| | 1.11 | 7.62 | 156.67 |
| | 1.24 | 12.19 | 177.7 |
| KWE021 | 1.18 | 11.28 | 105.46 |
| KWE33 | 0.61 | 5.03 | 114.3 |
| KWE37 | 0.93 | 12.65 | 137.46 |
| | 0.95 | 41.15 | 144.78 |
| incl | 1.29 | 5.49 | 150.27 |
| | 1.14 | 10.67 | 175.26 |
| KWE042 | 1.05 | 7.62 | 136.55 |
| | 1.23 | 15.85 | 150.57 |
| OKWED068 | 1.4 | 9.02 | 103.08 |
| | 1.59 | 8.34 | 119.81 |
| OKWED069 | 1.2 | 5.23 | 126.94 |
| | 1.42 | 5.69 | 135.75 |
| | 1.31 | 5.08 | 159.3 |

**Figure 4: Koperberg West Extension 930m level plan showing mineralisation 90m below surface and intersections in relevant drill holes[1].**

[1] Historical Exploration Results (KWE and KE drill holes) were reported in accordance with the JORC Code (2012) in Orion's ASX release of 3 August 2021: "Exploration ramps up at the Okiep Copper Project following exercise of Option to Purchase" available to the public on https://www.orionminerals.com.au/investors/asx-jse-announcements/. Competent Person: Mr Errol Smart. Orion is not aware of any new information or data that materially affects the information included here. Orion confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

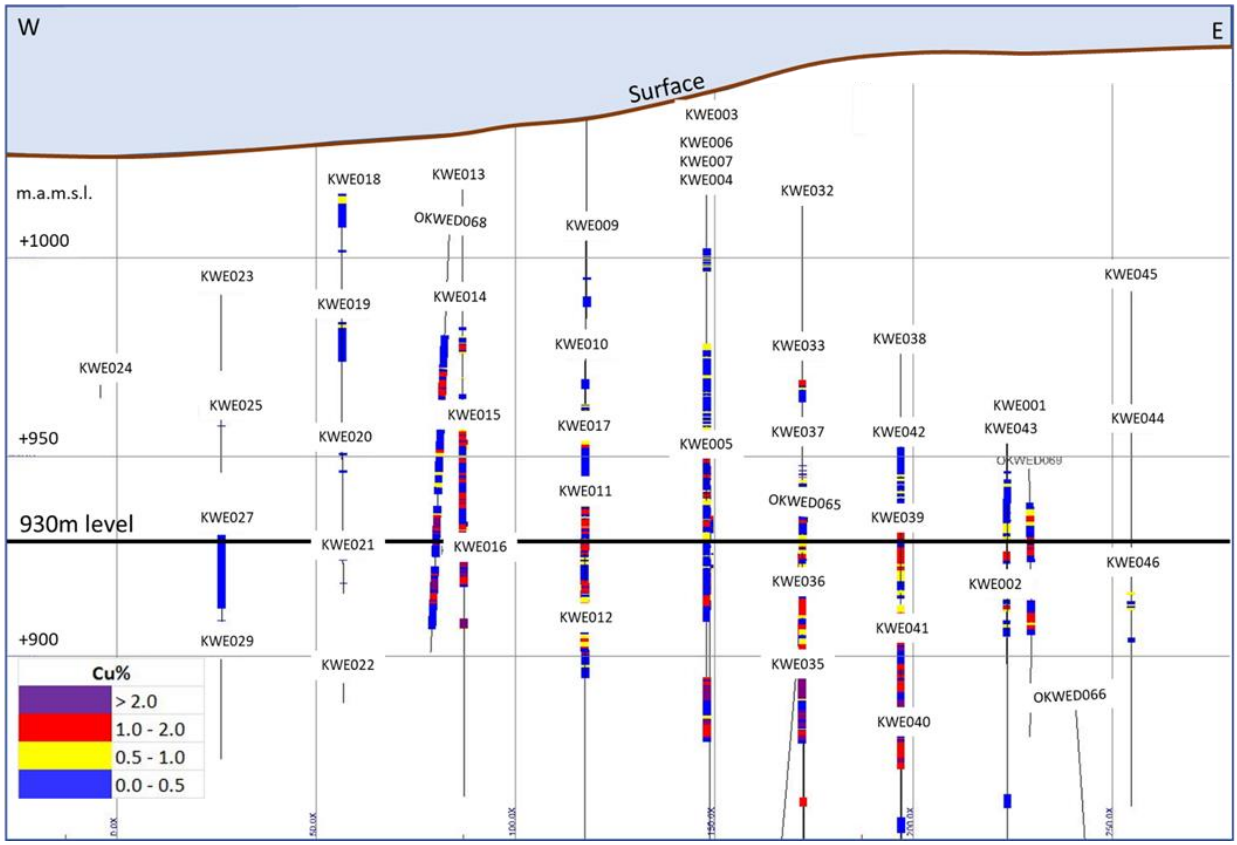
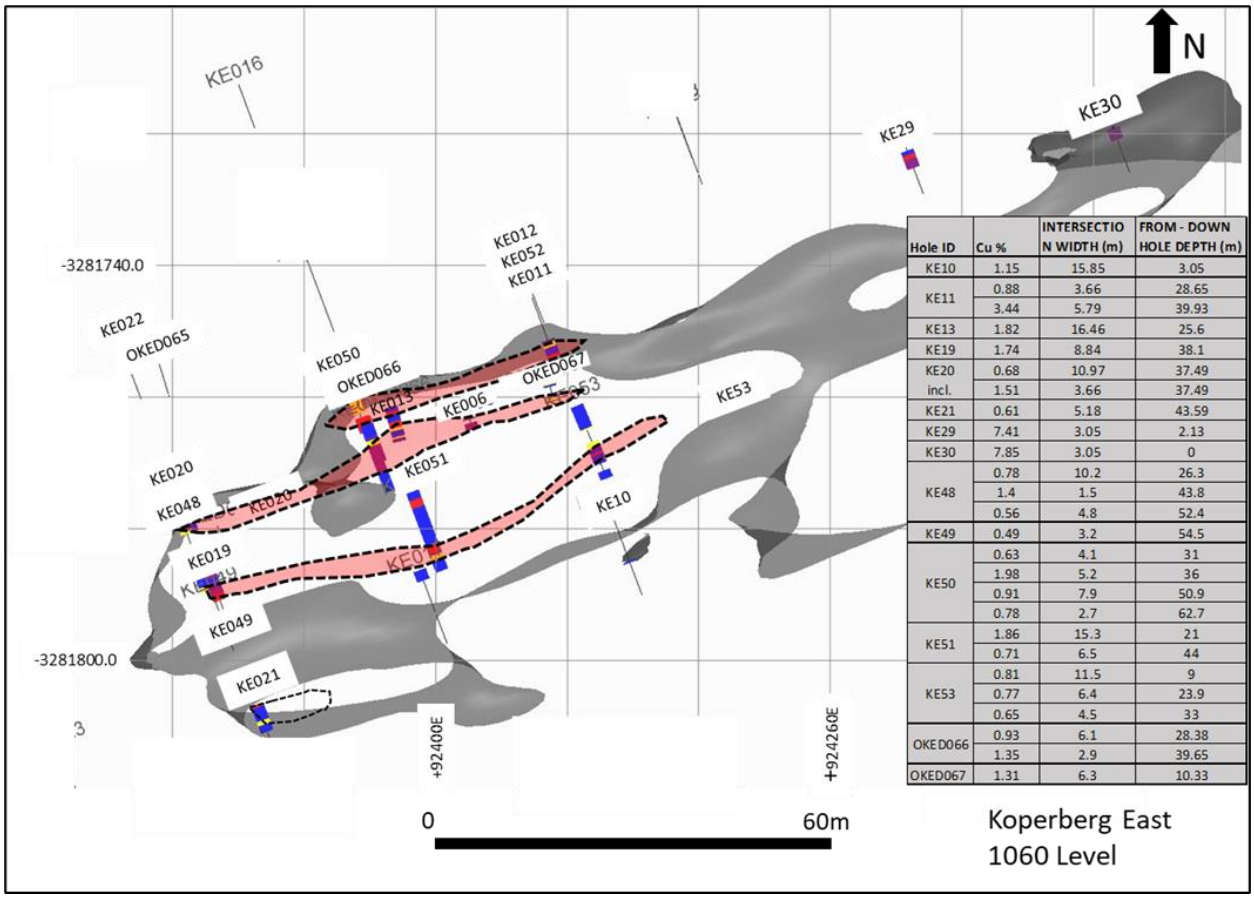



**Figure 5: Koperberg West Extension east-west long section (intersections projected onto section) showing the 930m level[1].**




| Hole ID | Cu % | INTERSECTION WIDTH (m) | FROM - DOWN HOLE DEPTH (m) |
|---|---|---|---|
| KE10 | 1.15 | 15.85 | 3.05 |
| KE11 | 0.88 | 3.66 | 28.65 |
| | 3.44 | 5.79 | 39.93 |
| KE13 | 1.82 | 16.46 | 25.6 |
| KE19 | 1.74 | 8.84 | 38.1 |
| KE20 | 0.68 | 10.97 | 37.49 |
| incl. | 1.51 | 3.66 | 37.49 |
| KE21 | 0.61 | 5.18 | 43.59 |
| KE29 | 7.41 | 3.05 | 2.13 |
| KE30 | 7.85 | 3.05 | 0 |
| KE48 | 0.78 | 10.2 | 26.3 |
| | 1.4 | 1.5 | 43.8 |
| | 0.56 | 4.8 | 52.4 |
| KE49 | 0.49 | 3.2 | 54.5 |
| KE50 | 0.63 | 4.1 | 31 |
| | 1.98 | 5.2 | 36 |
| | 0.91 | 7.9 | 50.9 |
| | 0.78 | 2.7 | 62.7 |
| KE51 | 1.86 | 15.3 | 21 |
| | 0.71 | 6.5 | 44 |
| KE53 | 0.81 | 11.5 | 9 |
| | 0.77 | 6.4 | 23.9 |
| | 0.65 | 4.5 | 33 |
| OKED066 | 0.93 | 6.1 | 28.38 |
| | 1.35 | 2.9 | 39.65 |
| OKED067 | 1.31 | 6.3 | 10.33 |

**Figure 6: Koperberg East 1060m level plan showing mineralisation 90m below surface[1].**

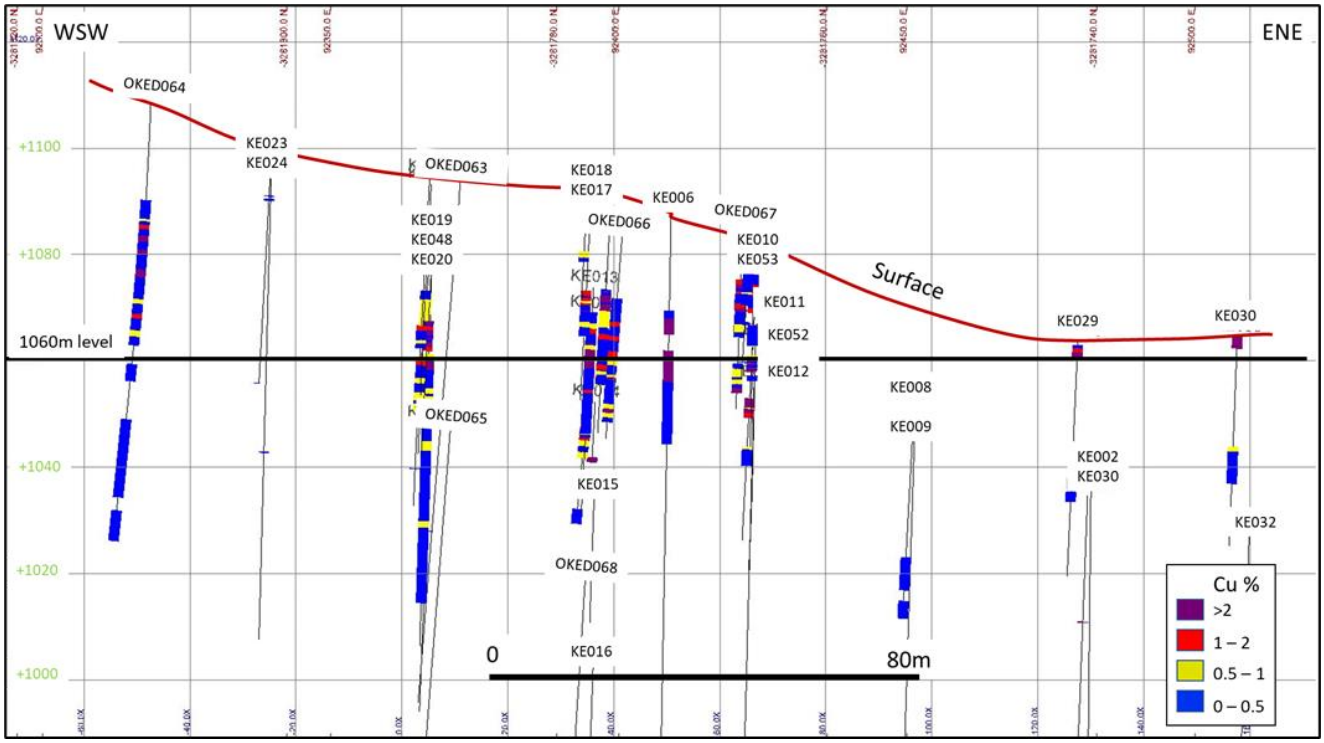



**Figure 7: Koperberg East long section (intersections projected onto section) showing the 1061 level and topography[1].**

**Results**

In-fill drill holes returned high-grade copper intersections including:

- 10.36m at 1.84% Cu from 58.98m in OKWD100;
- 5.71m at 1.93% Cu from 72.85m and 4.76m at 3.99% Cu from 95.08m in OKWD102;
- 4.69m at 2.05% Cu from 49.22m in OKWD105;
- 5.76m at 1.46% Cu from 21.38m in OKWD109;
- 7.76m at 1.94% Cu from 29.65m in OKED064;
- 9.02m at 1.45% Cu from 103.08m in OKWED068; and
- 5.69m at 1.45% Cu from 135.75m and 5.08m at 1.31% Cu from 159.30m in OKWED069.

All results are summarised in Table 1 below.

**Table 1: Summary table of all Phase 1 drill results on the Koperberg - Carolusberg line of intrusives (a minimum cut-off of 0.5 Cu% with maximum 3m internal waste allowed). Intersections and inclusions with grades mostly above 1% Cu are tabulated. The data was not capped.**

| Project | Hole ID | Mineralisation | | | | |
|---|---|---|---|---|---|---|
| | | Notes | From (m) | To (m) | Interval (m) | %Cu |
| Koperberg West | OKWD098 | No intersection | | | | |
| | OKWD099 | No intersection | | | | |
| | OKWD100 | | 58.98 | 69.34 | 10.36 | 1.84 |
| | | | 64.98 | 69.34 | 4.36 | 2.41 |
| | OKWD101 | No intersection | | | | |
| | OKWD102 | | 72.85 | 78.56 | 5.71 | 1.93 |
| | | | 75.06 | 78.56 | 3.50 | 2.09 |
| | | | 95.08 | 99.84 | 4.76 | 3.99 |
| | OKWD103 | | 66.56 | 67.77 | 1.21 | 0.62 |
| | OKWD104 | No intersection | | | | |
| | OKWD105 | | 33.85 | 34.90 | 1.05 | 1.71 |
| | | | 38.85 | 39.70 | 0.85 | 0.96 |
| | | | 49.22 | 53.91 | 4.69 | 2.05 |
| | OKWD106 | Drilled into Cavity | | | | |
| | OKWD107 | No intersection | | | | |
| | OKWD108 | | 60.57 | 65.35 | 4.78 | 0.57 |
| | OKWD109 | | 21.38 | 27.14 | 5.76 | 1.46 |
| | OKWD110 | Barren | | | | |
| | OKWD111 | | 18.69 | 19.69 | 1.00 | 0.75 |
| | | | 25.98 | 26.93 | 0.95 | 1.37 |
| Koperberg East | OKED063 | No intersection | | | | |
| | OKED064 | | 29.65 | 37.41 | 7.76 | 1.94 |
| | | Including | 33.31 | 37.41 | 4.10 | 2.01 |
| | | | 40.80 | 42.57 | 1.77 | 3.03 |
| | | | 47.32 | 55.65 | 8.33 | 0.61 |
| | | | | | | |
| | | Including | 47.32 | 48.35 | 1.03 | 0.87 |
| | | | 50.62 | 51.62 | 1.00 | 1.69 |
| | OKED065 | No intersection | | | | |
| | OKED066 | | 22.12 | 34.48 | 12.36 | 0.80 |
| | | Including | 22.12 | 32.12 | 1.00 | 1.12 |
| | | | 25.12 | 26.12 | 1.00 | 1.70 |
| | | | 28.38 | 31.38 | 3.00 | 1.08 |
| | | | 33.38 | 34.48 | 1.10 | 1.44 |
| | | | 39.65 | 42.55 | 2.90 | 1.30 |
| | | Including | 40.65 | 41.55 | 0.90 | 2.71 |
| | OKED067 | | 10.33 | 32.52 | 22.19 | 0.98 |
| | | Including | 10.33 | 13.17 | 2.84 | 1.74 |
| | | | 15.01 | 16.63 | 1.62 | 2.02 |
| | | | 31.50 | 32.52 | 1.02 | 3.52 |
| | OKED068 | No intersection | | | | |
| Koperberg West Ext. | OKWED065 | No intersection | | | | |
| | OKWED066 | No intersection | | | | |
| | OKWED067 | No intersection | | | | |
| | OKWED068 | | 62.73 | 70.69 | 7.96 | 1.04 |
| | | | 85.43 | 87.38 | 1.95 | 0.88 |
| | | | 91.67 | 95.94 | 4.27 | 0.54 |
| | | | 103.08 | 112.10 | 9.02 | 1.45 |
| | | Including | 103.08 | 108.98 | 5.90 | 1.86 |
| | | | 119.81 | 128.15 | 8.34 | 1.63 |
| | OKWED069 | | 126.94 | 132.17 | 5.23 | 1.21 |
| | | | 135.75 | 141.44 | 5.69 | 1.45 |
| | | Including | 138.08 | 141.44 | 3.36 | 1.84 |
| | | | 159.30 | 164.38 | 5.08 | 1.31 |

**Nous Prospect**

Assay results for drill hole OND001 have been received (Table 2 and Appendix 1 Table 4). The hole tested a coincident drone magnetic and ground EM anomaly down-dip of surface copper mineralisation occurring in mafic rocks (refer ASX/JSE release 24 February 2022).

The Nous Prospect (Figure 8) encompasses two adjacent SkyTEM™ anomalies referred to as Target 3 and Target 4. Both EM anomalies have associated magnetic anomalies. The prospect is located approximately 5km southwest of the historic Nababeep Mine.

Drill hole OND001 at Target 4 intersected 10.00m at 0.67% Cu and 0.07% Ni from 31.70m, including 3.87m at 0.93% Cu and 0.07% Ni from 33.45m (Table 2a). An interpretive cross-section is shown as Figure 9. Importantly, semi-massive to massive pyrrhotite sampled in the hole assayed up to 0.40% Ni indicating high nickel tenors in the pyrrhotite (Table 2b) and the potential for strong nickel credits from mineralisation hosted in pyrrhotite rich copper deposits in the OCP district.

**Table 2a: Copper mineralisation over selected zones for hole OND001**

| Hole ID | From (m) | To (m) | Width (m) | Cu (%) | Ni (%) |
|---|---|---|---|---|---|
| OND001 | 31.70 | 41.70 | 10.00 | 0.67 | 0.07 |
| including | 33.45 | 37.28 | 3.87 | 0.93 | 0.07 |

**Table 2b: Copper mineralisation and associated high nickel values in pyrrhotite rich zones in hole OND001.**

| Hole ID | From (m) | To (m) | Width (m) | Cu (%) | Ni (%) |
|---|---|---|---|---|---|
| OND001 | 31.70 | 32.33 | 0.63 | 1.02 | 0.27 |
| | 34.08 | 34.28 | 0.20 | 1.42 | 0.40 |
| | 35.29 | 35.63 | 0.34 | 0.60 | 0.10 |
| | 40.70 | 41.00 | 0.30 | 0.46 | 0.24 |

Holes OND002 and OND003 (also at Target 4) intersected granitic gneiss and meta sediments. Massive pyrrhotite lenses devoid of base metals occurred in meta sediments in hole OND003.

A down-hole EM survey in hole OND001 detected an in-hole conductor where the mineralisation occurs, confirming EM to be effective in detecting pyrrhotite bearing copper deposits in the OCP.

With Orion having now proved the concept of using EM to detect copper and copper-nickel mineralisation in the OCP, drilling has started on Target 3 at Nous (Figures 8 and 10), where a relatively strong steeply dipping conductor has been identified.

The conductor is spatially associated with a zone of intense deformation characterised by steeply dipping F2 fold structures and breccias commonly hosting Cu deposits in the OCP. These characteristic "Steep Structures" were historically targeted as the most prospective surface indication for blind deposits. Almost all copper mineralised mafic dykes discovered in the district are hosted in these signature Steep Structures. The target conductor is substantially bigger and more conductive than the Target 4 conductor.

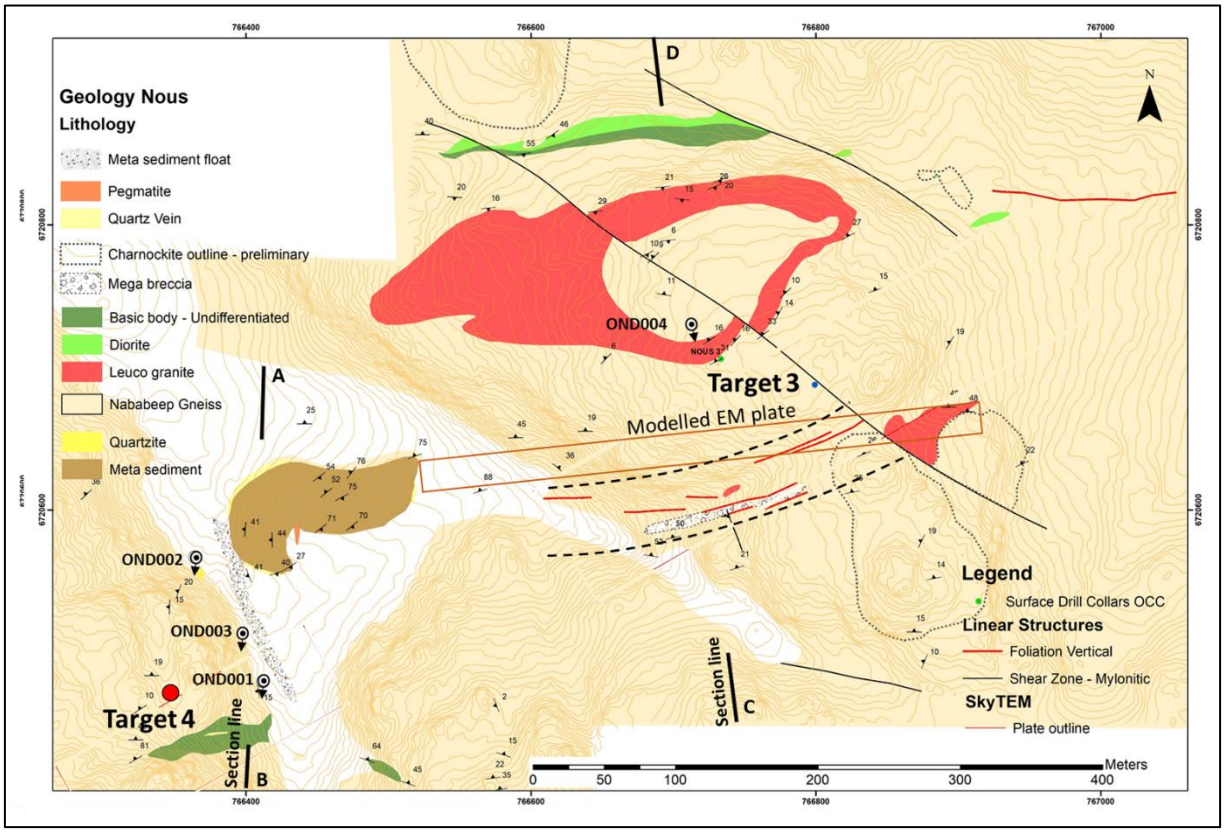



**Figure 8: Geological map of the Nous Prospect showing Targets 3 and 4 and section lines.**

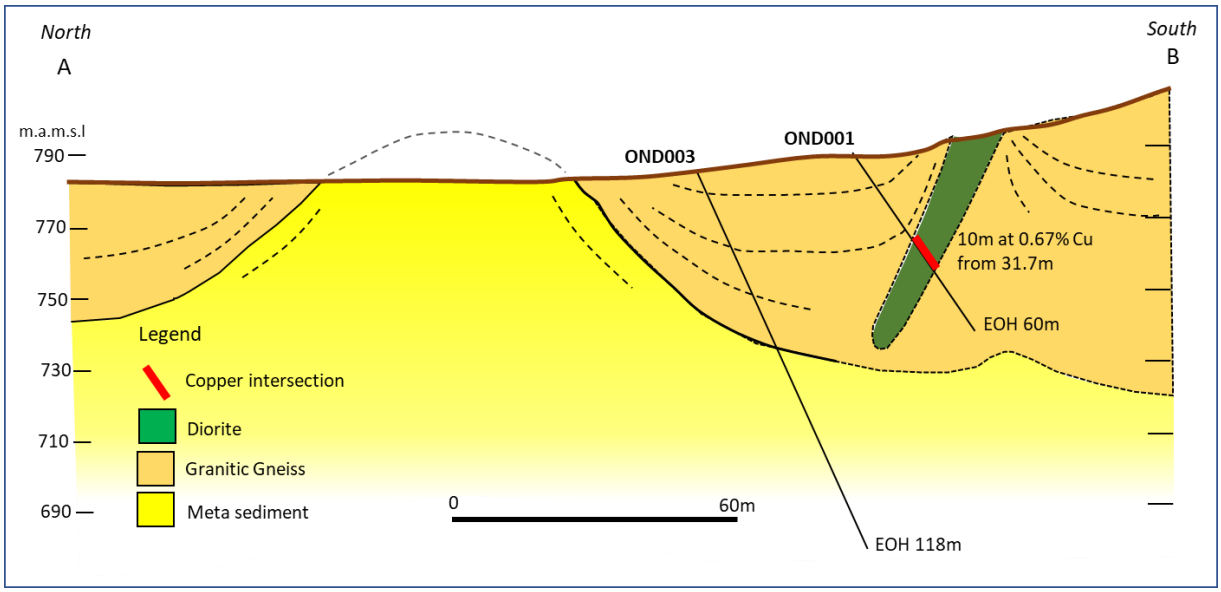



**Figure 9: Cross-section A-B facing east through Target 4 on the Nous Prospect showing OND001 and OND003.**

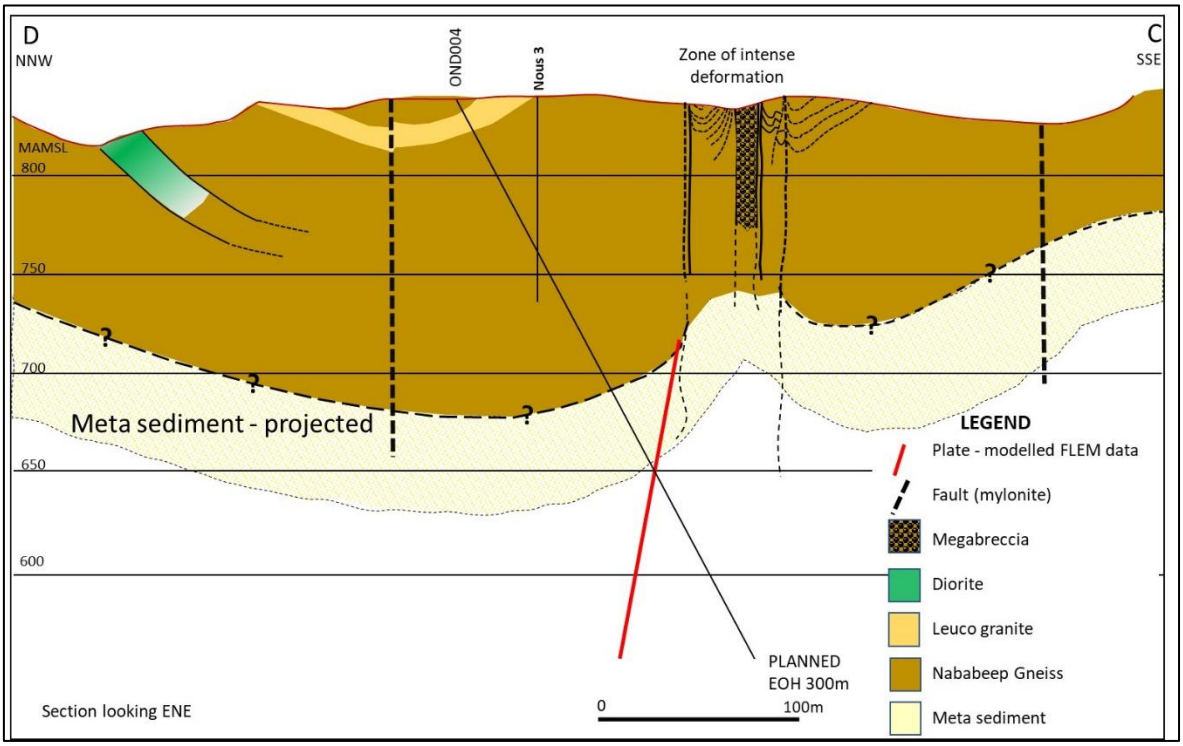
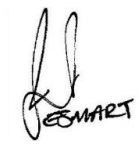



**Figure 10: Cross-section C-D looking east through Target 3 on the Nous Prospect showing the steeply dipping conductor and projected hole OND004, currently in progress.**

For and on behalf of the Board.



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### Competent Persons Statement

The information in this report that relates to Orion's Exploration Results at the Okiep Copper Project is reported in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Andre Vorster, Orion Minerals Consulting Geologist, a Competent Person who is a Professional Natural Scientist (Pr.Sci.Nat.) registered with the South African Council for Natural Scientific Professionals, a Recognised Professional Organisation (RPO). Mr Vorster is a Consulting Geologist, on a full-time basis, to the company. Mr Vorster confirms there is no potential for a conflict of interest in acting as the Competent Person. Mr Vorster 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 Vorster consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

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## Appendix 1 - Drill hole collar and intersection information from drill program at Okiep Copper Project

**Table 3: All drill hole collar information for the Koperberg - Carolusberg project area.**

| Project | Hole ID | LO17 WGS84 | | | Azimuth | Dip | Depth (m) |
|---|---|---|---|---|---|---|---|
| | | Easting | Northing | RL | | | |
| Koperberg West | OKWD098 | 90,798.47 | -3,281,546.66 | 1,011 | 160 | -65 | 181.16 |
| | OKWD099 | 90,817.88 | -3,281,547.24 | 1,012 | 160 | -60 | 127.47 |
| | OKWD100 | 90,817.99 | -3,281,547.53 | 1,012 | 160 | -50 | 100.16 |
| | OKWD101 | 90,851.88 | -3,281,540.01 | 1,013 | 160 | -75 | 106.67 |
| | OKWD102 | 90,798.55 | -3,281,547.16 | 1,011 | 160 | -50 | 120.00 |
| | OKWD103 | 90,852.03 | -3,281,540.29 | 1,013 | 160 | -65 | 100.50 |
| | OKWD104 | 90,854.00 | -3,281,524.11 | 1,011 | 160 | -65 | 121.35 |
| | OKWD105 | 90,776.39 | -3,281,575.29 | 1,016 | 160 | -60 | 110.21 |
| | OKWD106 | 90,854.16 | -3,281,524.79 | 1,011 | 160 | -45 | 64.08 |
| | OKWD107 | 90,776.55 | -3,281,575.92 | 1,016 | 160 | -75 | 127.36 |
| | OKWD108 | 90,886.25 | -3,281,515.23 | 1,012 | 160 | -65 | 121.60 |
| | OKWD109 | 90,776.82 | -3,281,576.58 | 1,017 | 160 | -45 | 87.56 |
| | OKWD110 | 90,853.13 | -3,281,625.68 | 1,019 | 340 | -75 | 210.90 |
| | OKWD111 | 90,759.16 | -3,281,581.63 | 1,017 | 160 | -50 | 79.07 |
| Koperberg East | OKED063 | 92,363.63 | -3,281,766.54 | 1,094 | 160 | -65 | 130.22 |
| | OKED064 | 92,308.21 | -3,281,785.00 | 1,112 | 160 | -60 | 109.04 |
| | OKED065 | 92,353.24 | -3,281,740.84 | 1,089 | 160 | -60 | 121.20 |
| | OKED066 | 92,390.41 | -3,281,750.94 | 1,087 | 160 | -65 | 47.15 |
| | OKED067 | 92,415.75 | -3,281,752.81 | 1,085 | 160 | -75 | 35.67 |
| | OKED068 | 92,375.32 | -3,281,725.65 | 1,082 | 160 | -65 | 199.50 |
| Koperberg West Ext | OKWED065 | 90,388.47 | -3,281,490.42 | 1,035 | 180 | -60 | 220.00 |
| | OKWED066 | 90,437.84 | -3,281,481.51 | 1,038 | 180 | -65 | 260.00 |
| | OKWED067 | 90,272.18 | -3,281,446.85 | 1,018 | 180 | -70 | 199.60 |
| | OKWED068 | 90,297.10 | -3,281,539.86 | 1,029 | 180 | -65 | 210.00 |
| | OKWED069 | 90,437.83 | -3,281,481.50 | 1,038 | 180 | -55 | 220.25 |

**Table 4: All drill hole collar information for the Nous prospect area**

| Project | Hole ID | LO17 WGS84 | | | Azimuth | Dip | Depth (m) |
|---|---|---|---|---|---|---|---|
| | | Easting | Northing | RL | | | |
| Nous | OND001 | 72,760.431 | -3,277,900.747 | 794 | 185 | -55 | 60 |
| | OND002 | 72,709.024 | -3,277,815.362 | 789 | 190 | -55 | 200 |
| | OND003 | 72,753.329 | -3,277,859.200 | 791 | 211 | -65 | 118 |

**Table 5: Twin hole and Historical hole intersections.**

| Twin Hole | | | | | Historical Hole | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Drill Hole** | **From (m)** | **To (m)** | **Thickness (m)** | **Cu%** | **Drill Hole** | **From (m)** | **To (m)** | **Thickness (m)** | **Cu%** |
| OKWD102 | 72.85 | 78.56 | 5.71 | 1.93 | KW020 | 71.63 | 78.03 | 6.4 | 1.31 |
| | 95.08 | 99.84 | 4.76 | 3.99 | Not tested. New discovery in footwall. | | | | |
| OKWD103 | 66.56 | 67.77 | 1.21 | 0.62 | KW092 | 50.02 | 58.02 | 8 | 1.47 |
| OKWED065 | No economic mineralisation | | | | KW033 | 114.3 | 119.33 | 5.03 | 0.61 |
| OKWED068 | 103.08 | 112.1 | 9.02 | 1.45 | KWE14 | 106.98 | 112.16 | 5.18 | 1.34 |
| | 119.81 | 128.15 | 8.34 | 1.63 | | 117.35 | 131.71 | 14.36 | 1.03 |
| OKWED068 | 103.08 | 112.1 | 9.02 | 1.45 | KWE015 | 128 | 135.62 | 7.62 | 1.72 |
| | 119.81 | 128.15 | 8.34 | 1.63 | | 146.91 | 149.96 | 3.05 | 2.21 |
| OKWED069 | 126.94 | 132.17 | 5.23 | 1.21 | KWE043 | 134.11 | 140.21 | 6.1 | 0.66 |
| | 135.75 | 141.44 | 5.69 | 1.45 | | 143.56 | 147.52 | 3.96 | 0.81 |
| | 159.3 | 164.38 | 5.08 | 1.31 | | 155.45 | 163.68 | 8.23 | 0.73 |
| OKED063 | No intersection | | | | KE049 | 54.5 | 57.7 | 3.2 | 0.49 |
| OKED066 | 22.12 | 34.48 | 12.36 | 0.78 | KE051 | 21 | 36.3 | 15.3 | 1.86 |
| | 39.65 | 42.55 | 2.9 | 1.35 | | 44 | 50.5 | 6.5 | 0.71 |
| OKED067 | 10.33 | 20.93 | 10.6 | 0.93 | KE053 | 9 | 20.5 | 11.5 | 0.81 |
| | 27.78 | 32.52 | 4.74 | 1.17 | | 23.9 | 30.3 | 6.4 | 0.77 |
| | Hole stopped at 35.70m | | | | | 33 | 37.5 | 4.5 | 0.65 |

## Appendix 2: 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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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.* | • Sampling was carried out under supervision using industry standard procedures. NQ size diamond drill cores were longitudinally split in half using a diamond core cutting machine.<br>• HQ core size was only drilled in the upper weathered portion and no HQ core was sampled.<br>• One-metre sample length was taken in most cases. Sample lengths were varied to honour geological / mineralisation boundaries, with a maximum sample size of 1.77m and a minimum sample size of 20cm.<br>• Areas of sampling were selected based on visual observations and readings from handheld Niton XL3t 500 XRF instrument. Standard analytical range >25 elements from S to U with additional elements Mg, Al, Si and P via helium purge. |
| ***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).* | • Diamond core drilling was undertaken.<br>• 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.<br>• Core was not oriented. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.<br>• Core recovery was found to be excellent (>98%) within the mineralised zone.<br>• Ground conditions below the weathered zone was excellent. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • No obvious relationship exists between sample recovery and grade.<br>• 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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • Core of the entire hole length was geologically logged by qualified geologists.<br>• The core was logged to an acceptable level of detail.<br>• Geological logging was quantitative and was carried out using a standard sheet with a set of standard codes to describe lithology, structure and mineralisation. The logging sheet allows for free-form description to note any unusual features.<br>• Geological logs were captured electronically.<br>• All cores were photographed before and after sampling.<br>• 25 Diamond holes, totalling ~3,411m core, were logged. Of this, approximately 59m are ultramafic/mafic lithologies primarily hosting the Cu mineralisation. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *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.<br>• HQ core size was only drilled in the upper weathered portion and no HQ core was sampled.<br>• 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.<br>• Crushing and pulverising QC tests were applied by ALS and found acceptable.<br>• Quarter core field duplicates were taken for 9 samples. An R2 of 0.9976 was returned and is considered acceptable.<br>• 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.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument* | • All samples were analysed by an appropriate high-grade aqua regia ICP-AES method, ALS code ME-ICP41a. Samples submitted to ALS were analysed for base metals and Au.<br>• Orion (purchased) CRMs were inserted every 10$^{th}$ sample. A total of 42 CRMs were inserted. CRMs were alternated throughout the sample |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | stream and where possible matched to the sample material being analysed.<br>• Two CRMs were used. AMIS0399 (1.014 %Cu) and AMIS0163 (2.754 %Cu). All 42 CRMs returned acceptable results within two Standard Deviations of the CRM average.<br>• Chip blanks are inserted at the beginning of each batch and after any sample that may be considered high grade. A total of 16 blanks were used. Acceptable results were returned indicating no contamination.<br>• The laboratory conducts their own checks which are also monitored. The accuracy and precision of the geochemical data reported on has deemed to be acceptable.<br>• 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.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Orion's exploration geologist is personally supervising the drilling and sampling along with a team of experienced geologists.<br>• Twinning is used to confirm and verify the available historical drill hole data. Nine of the 25 drill holes were twins of historical holes. An acceptable correlation was obtained considering the irregular intrusive nature of the mineralisation. Comparable intersections are presented in Table 5 in Appendix 1.<br>• The CP has reviewed the raw laboratory data and confirmed the calculation of the significant intersections.<br>• 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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Collar positions of the Nous Prospect holes were located using a hand-held Garmin GPS.<br>• All Koperberg holes were surveyed using a differential GPS.<br>• On completion drill collars are capped and labelled.<br>• Drill collars for the Nous holes will be surveyed by a qualified surveyor on completion of the drilling program.<br>• The local South African LO17 WGS84 (Hartbeeshoek 94) grid system is used.<br>• All the Koperberg - Carolusberg holes were surveyed down-hole. A Reflex EZ-Trac tool was used for the down-hole surveys.<br>• A high resolution DTM was generated and obtained from drone photogrammetry. A DJI drone is used drape flying at 100m AGL and approximately 45m line spacing. The imagery is processed using AgiSoft™ software. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • Exploration holes testing potential strike-extent/continuation are drilled closely spaced along 25m to 30m drill lines.<br>• Due to the irregular intrusive nature of the mineralisation, the drill spacing is kept tight.<br>• The drill data spacing is considered sufficient for this deposit type, geological and grade continuity. In the event of resource estimation, the data spacing and distribution will be applicable.<br>• No samples were composited. |
| ***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.*<br>• *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. Drill holes were inclined between -45° to -75° degrees.<br>• 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.<br>• 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 State and the Minerals and Petroleum Resources Development Act, 2002, (**MPRDA**) regulates the exploration and mining industry in South Africa.<br>• A registered prospecting right, NC30/5/1/1/2/12357PR, in accordance with section 17 of the MPRDA, was granted to Bulletrap Copper Co (Pty) Ltd (**BCC**) to prospect for a period of five years effective from 14 January 2021.<br>• The prospecting right was granted for the minerals copper ore and tungsten ore in respect of the farms portion of Portion 10, portion of Portion 9 and Portion 11 of the farm Brakfontein No. 133, portion of Portion 1 and portion of Portion 23 of the farm Melkboschkuil No 132, |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | situated within the administrative district of Namaqualand. The total area measures 2,547,0791 Ha in extent.<br>• A Section 102 application is in process with the authorities to add 26 minerals, including gold and silver.<br>• Orion recently acquired 100% of the project through the BCC-Orion Acquisition Agreement (refer ASX/JSE release 2 August 2021).<br>• A registered prospecting right, NC30/5/1/1/2/11125PR, in accordance with section 17 of the MPRDA, was granted to Nababeep Copper Company (Pty) Ltd (**NCC**) to prospect for a period of five years effective from 8 November 2017.<br>• The prospecting right was granted for copper ore and tungsten ore for portion of Portion 3 of the farm Nababeep No 134, remainder of the farm Plaatjesfontein No 135, portions 2, 3, 4 and 7 of the farm Nigramoep No 136, portion RE of the farm Schaap Rivier No 208, RE and Portion 1 of Farm No 610 and Portion 9 of the farm Ezelsfontein No 214, situated within the administrative district of Namaqualand. The total Area measures 18,475Ha in extent.<br>• Section 102 applications are in process with the authorities to add land to bring the total extent to approximately 33,900Ha; and add 26 minerals including gold and silver.<br>• The area was mined historically for copper.<br>• Orion, recently acquired 100% of the project through the NCC-Orion Acquisition Agreement (refer ASX release 2 August 2021). |
| ***Exploration done by other parties*** | • Acknowledgment and appraisal of exploration by other parties. | • Previous explorers in the region includes Newmont, Gold Field of SA and SAFTA. Exploration was focussed on Cu. |
| ***Geology*** | • Deposit type, geological setting and style of mineralisation. | • The tenements are located over the Central and Western parts of the Okiep Copper District. The style of mineralisation is mafic hosted orogenic Cu-mineralisation.<br>• Copper mineralisation is primarily associated with irregular, elongated and steeply dipping Koperberg Suite mafic intrusives.<br>• The Koperberg Suite intrusives are mainly restricted to so-called "Steep Structures" of extensive strike lengths and steeply dipping to the north.<br>• The Koperberg Suite consists of anorthosite, diorite and norite intermediate to mafic rock types.<br>• Mineralisation usually occurs as blebs to disseminated Cu mineral assemblages bornite > chalcopyrite > chalcocite and less pyrite and pyrrhotite. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The more mafic and magnetite-rich lithologies generally host the bulk of and higher-grade mineralisation.<br>• 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:<br>o easting and northing of the drill hole collar<br>o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar<br>o dip and azimuth of the hole<br>o down hole length and interception depth o hole length.<br>• 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 and Table 4 in Appendix 1 for collar details of all holes. |
| ***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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • A minimum 0.5%Cu cut-off was used to calculate intercepts.<br>• Allowance was made for 3m internal waste.<br>• A cut-off of 1.0 %Cu was used for the higher-grade inclusions.<br>• Weighted grades were calculated as follows; %Cu x sample length(m) x Bulk Density.<br>• The CP is of the opinion that the above aggregation methods are acceptable for this type of deposit.<br>• No metal equivalents are reported.<br>• 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.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* | • Drilling is generally oriented perpendicular, or at a maximum achievable angle to, the attitude of the mineralisation.<br>• Generally, drill hole inclinations ranged between -45° to -75° while the mineralisation is expected to dip close to $90^0$.<br>• Only down holes lengths are reported. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *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) 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, sections and tables.<br>• Drilling data was incorporated and monitored in 3D Leapfrog geological model 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.<br>• A high-resolution drone magnetic survey was carried-out and will assist in future planning of additional drill holes.<br>• Drone (DJI 600M Pro) magnetics were done at 30m AGL and 50m line spacing.<br>• Historical detailed surface mapping is interpreted and utilised during drill hole planning.<br>• The GemSys GSMP-25U mag sensor specifically designed for drones has been used.<br>• 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 is determined by measuring and subtracting the wet weight from the dry weight using an electronic scale. Care is taken to clean and zero the scale between each weighing. The intact sample portion is first weighed in air and the weight recorded. The sample is then weighed, while completely submerged in clean water within a measuring container. The mass of container and water are deducted for net submerged weight and volume displacement read on measuring container. The sample is then removed and placed back into the core tray in the correct position and orientation. The procedure is 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:<br>$BD = \frac{\text{weight of sample}}{\text{(weight of sample in air – weight of the sample in water)}}$ |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Drilling will continue on targets generated to date with the aim of adding confidence and/or tonnage.<br>• Further surface geophysical surveys may inter alia include ground, drone and/or airborne EM, gravity and radiometrics. |