



## Orion Minerals

ASX/JSE RELEASE: 4 September 2023

### Orion expands Okiep Copper Project after securing prospecting rights over highly prospective adjoining Nigramoep Mine

District-wide consolidation gathers pace with the grant of rights to five additional areas in the Okiep Copper District and rights to additional minerals within the Flat Mines Mining Right also granted

- ▶ Existing NCC prospecting right for copper ore and tungsten extended with three adjoining areas added to the existing Okiep Copper Project in the Northern Cape region of South Africa.
- ▶ The new areas include the highly prospective Nigramoep Mine, with historical production of 7Mt @ 2% Cu.
- ▶ Two new prospecting rights covering highly prospective areas in the district have also been granted.
- ▶ A third prospecting right application overlying the existing Flat Mines Mining Right, held for copper and tungsten, has been granted for additional minerals, including gold and silver.

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

"Our vision for the acquisition of mineral rights and the consolidation of the majority of the most prospective areas of the historic O'okiep Copper Company's (OCC) mineral holdings has taken a major step forward, with the recent granting of mineral rights, some of which have been under application for several years.

"When Orion decided to invest in the Okiep Copper District in 2021, we recognised that the key driver for success in achieving future large-scale production would be reconsolidating the then fragmented mineral rights of the district. History shows that Newmont, and later Goldfields, had succeeded in producing more than 15,000tpa of copper for 50 years from 1948 from a cluster of mines operating in the district. Combined production peaked at over 40,000tpa of copper in 1965. OCC had also conducted intense exploration for many decades and Orion has benefited from acquiring all the extensive exploration records for our mineral right areas. This database includes detailed mapping and hundreds of thousands of metres of drilling which Orion has been systematically digitising to use alongside state-of-the-art, modern airborne exploration conducted by Orion to identify both drilled/known mineralisation and virgin targets which now form the focus of our exploration and feasibility studies,

"The ability to operate several individual mines within a twenty kilometre radius under a central management hub brings economies of scale for operations and also lends flexibility with multiple production sites, each accessible via a well-established network of roads. As brownfields sites – with the benefit of existing primary infrastructure and services including grid power, water and decline roadways to access the drilled mineralisation remaining from an era of mining with very low metal prices – the barriers are substantially lowered for re-development.

"With Bankable Feasibility Studies (BFS) now completed for the establishment of a new mill and tailings site at the central Flat Mines, we expect the independent expert sign-off of the BFS in the coming months. This is expected to coincide with the granting of a water use license and environmental approval for a new tailings deposition facility, designed to international best practice standards, that will be the cornerstone for long-term, sustainable mining to be re-established in the district. Orion's vision of re-establishing production to ultimately reach historic levels on its properties is being reinforced as we 'mine' the extensive database acquired and consolidate mineral rights in the district."

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Orion Minerals Limited (**ASX/JSE: ORN**) (**Orion** or **Company**) is pleased to announce that it has received notice from the Department of Mineral Resources and Energy (**DMRE**) for the addition of five new "copper ore" and "tungsten ore" areas to its existing tenement portfolio on the Okiep Copper Project (**OCP**), located in the Northern Cape Province of South Africa.

As a result, Orion will now increase its tenement holding west, south and east of the central Southern African Tantalum Mining (Pty) Ltd (**SAFTA**) mining right area (red outlined area, Figure 1) by approximately 30,000 hectares (grey and orange shaded areas, Figure 1). Once executed, the grant of these additional areas opens up a number of exciting opportunities for Orion to explore for potential copper and associated minerals to supplement the Flat Mines Project, which is currently undergoing an Independent Expert's Review of the Bankable Feasibility Study (BFS), while also expanding its control over a number of high-priority targets including the very important historical Nigramoep Mine.

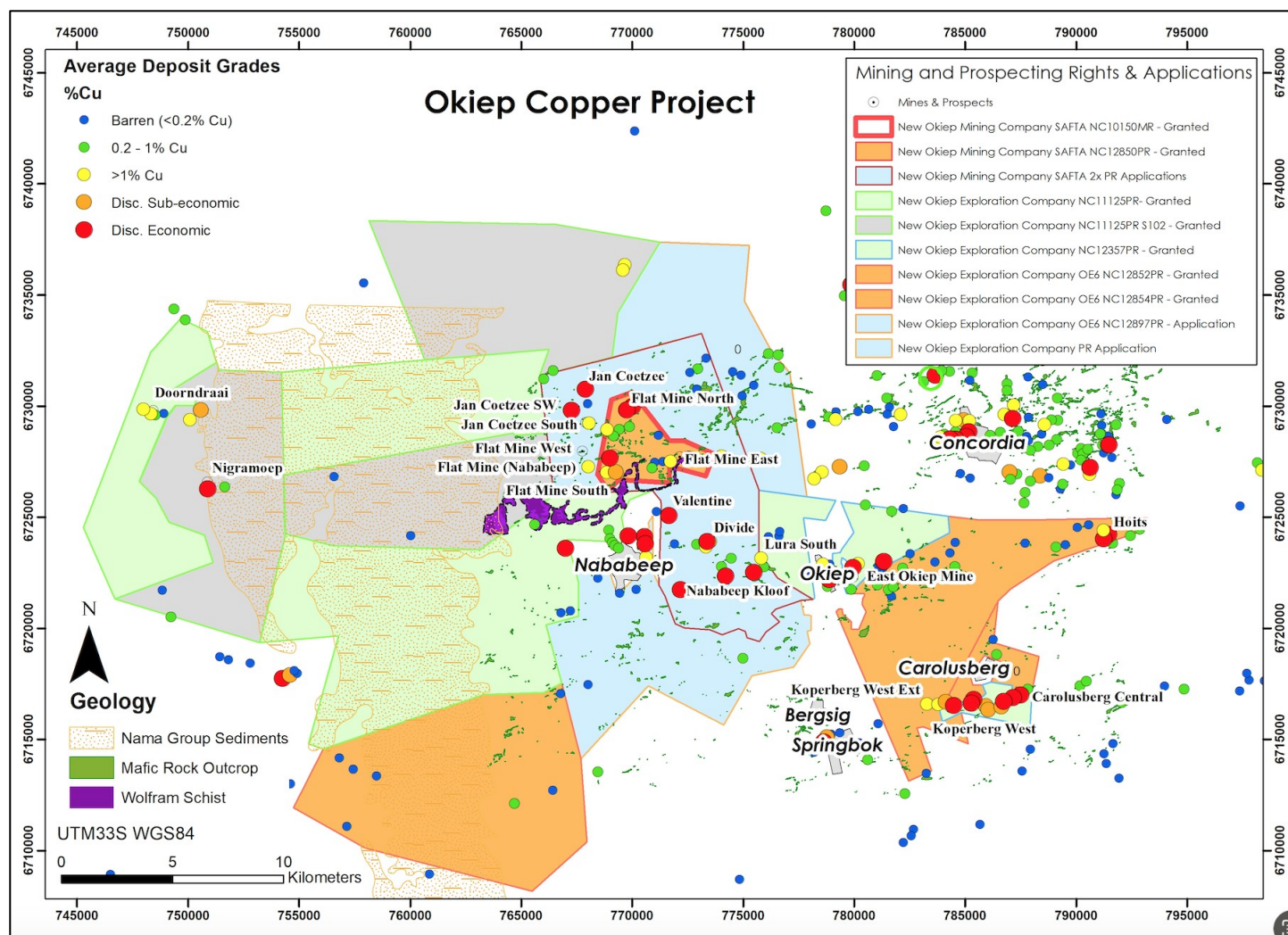


Figure 1: Grey shaded areas showing 3 new S102 areas; orange shaded areas showing three newly granted prospecting rights, Orion's OCP Project.

### Grant of Section 102 Mineral Rights

This grant is the significant part of four amendment applications to existing rights acquired (Table 1), adding surface area and additional minerals to a right in terms of Section 102 (**S102**) of the Minerals and Petroleum Development Act, 2002 (**MPRDA**) of South Africa and gives the exclusive right to prospect for "copper ore" and "tungsten ore" over the area once the formality of execution is concluded.

The newly granted rights add 15,400 hectares (shaded in grey, Figure 1), to Orion's granted tenements.

The above-mentioned prospecting right is currently in the process of being ceded from Nababeep Copper Company (Pty) Ltd (**NCC**) and registered in the name of Orion's subsidiary, New Okiep Exploration Company (Pty) Ltd (**NOEC**), at the Mineral and Petroleum Titles Registration Office.

**Table 1: S102 Applications Status for NC11125PR.**

S102 Number	Year Submitted	S102 Type	S102 Details	Granted
S102#1	2016/18	Addition of land	Portion of the Remainder of Steinkopf 22	Yes
S102#2	2020	Addition of land	Remainder, Portion 1, Portion 5 and Portion 6 of the Farm Nigramoep 136 & portion of the Farm Grace's Puts No. 201	Yes
S102#3	2021	Addition of land	Remainder of Plaatjesfontein No. 135	Yes
S102#4	2021	Addition of minerals	Beryllium Ore, Bismuth, Chrome, Cobalt, Gold Ore, Heavy Minerals, Iron, Lead, Molybdenum, Monazite, Nickel, Niobium, Phosphate, Platinum Group Metals, Pyrite, Rare earths, Rutile, Silver, Sulphur, Sulphur in Pyrite, Tantalum, Tin, Uranium, Vanadium, Zinc Ore and Zirconium	Pending

### Grant of Three New Prospecting Right applications

In addition to the S102 rights, three new prospecting rights expanding Orion's tenement holdings by 14,600 hectares have been granted by the DMRE to Orion's New Okiep Mining Company (Pty) Ltd (**NOMC**) (previously Orion Exploration No. 6 (Pty) Ltd) (**OE6**) and SAFTA for a suite of minerals giving Orion the exclusive right to prospect on those areas for copper ore, tungsten ore, gold ore and silver ore, among other commodities. These prospecting rights each carry the inherent exclusive right to apply for a mining right (Table 2, shaded in ochre on Figure 1).

In terms of the Transaction Agreement (refer ASX/JSE release 2 August 2021), the SAFTA right will be ceded to NOMC subject to MPRDA Section 11 approval being received from the DMRE.

**Table 2: Newly Granted Prospecting Rights for the OCP Project.**

Right Holder	Right Reference Number	Grant Date
Southern African Tantalum Mining (Pty) Ltd	NC30/5/1/1/2/12850PR	27 June 2023
Orion Exploration No. 6 (Pty) Ltd	NC30/5/1/1/2/12852PR	22 August 2023
Orion Exploration No. 6 (Pty) Ltd	NC30/5/1/1/2/12854PR	22 August 2023

### Nigramoep Mine Prospect

Copper oxide staining of outcropping diorite was first discovered at Nigramoep in the late Nineteenth Century. Intermittent drilling campaigns from the 1950s through to the 1990s led to the evaluation and development of the Nigramoep prospect.

A total of 84,000 metres in 154 surface diamond holes and a further 494 underground diamond holes comprising 74,000 metres were drilled during the course of the life of the mine. All drill results have been digitally captured and stored within Orion's database and are currently being modelled ahead of confirmation drilling that will be required to establish mineral resources declared in compliance with JORC standards.

Mine development at Nigramoep commenced in 1990 with a vertical shaft sunk from surface to 868m below surface and a decline system from surface to 911m below surface. According to historical mine records and verbal accounts from past mine employees, underground production commenced in 1992 with an average of approximately 60,000 tonnes per month achieved<sup>1</sup>. Production ceased in 2002 and, according to historical records, as of April 2002, a total of 7Mt of material at an average of 2% Cu was trammed over the ten years of mining<sup>1</sup>. The ore was milled and concentrated on site with the concentrate hauled to a central smelter at Nababeep.

<sup>1</sup> Nigramoep Mine. Stope histories based on tramming figures. Mine Survey Records April 2002.

The prospect is located on the western side of a rift of younger sedimentary rocks of varying thickness that obscures highly prospective basement sequences into which mineralised mafic rocks were intruded in irregular pipelike fashion. At Nigramoep, the intrusive displays copper oxide mineralisation on surface where exposed and is covered in part by the younger Nama sediments. Prospecting rights have now been secured over the area where these younger sequences obscure the highly prospective basement sequences that host the intrusive copper mineralisation in the district. While our initial focus will be on the pre-developed and drilled mineralisation at Nigramoep, Orion will also commence the highly complex detailed analysis of the high resolution SkyTEM™ survey completed by the Company in 2021. This data is expected to assist in identifying blind intrusive copper bodies. This area of the Okiep Copper District is very mountainous and inaccessible; only becoming more accessible after the construction of haulage roads to reach the mine in the 1990's. The area has therefore had less intense surface exploration and presents a high priority exploration area with a key structural corridor linking the Nigramoep and Nababeep Mines (Figure 1).

At Nigramoep the copper mineralisation is very steeply dipping, plunging to the north-east, with the hanging wall of the mineralisation nearly vertical. In plan view, the mineralised body has an east-northeast trend with dimensions in the order of 250m by 100m. The full vertical extent of the drilled mineralised body is approximately 800m. The east-northeast dimension increases to a maximum 430m metres of strike and 80m of width on the 628m Level where a sausage shaped appendix of mineralised diorite, referred to historically as the “Wors Orebody”, extends to the west-southwest with a vertical extent in the order of 100m (Figure 2).

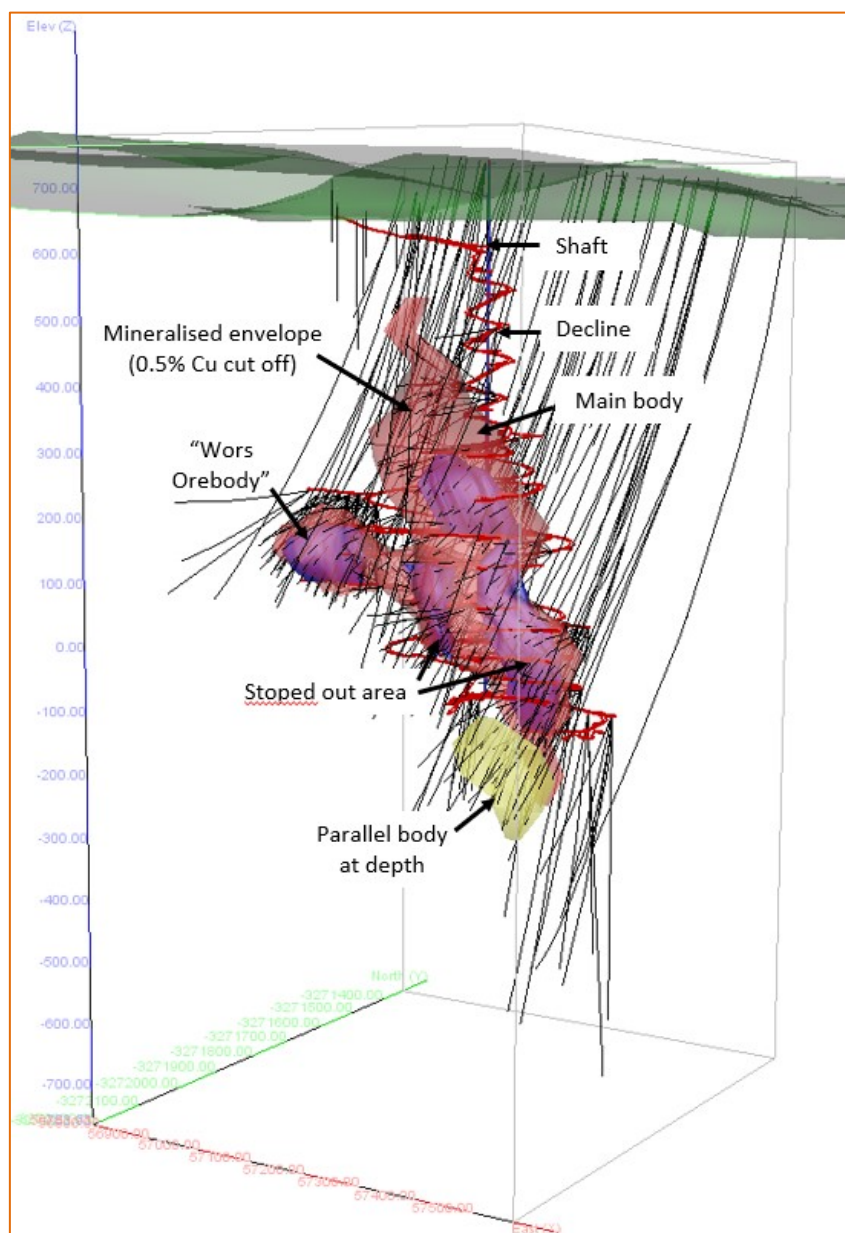


Figure 2: Nigramoep deposit showing main mineralised zones (red and yellow), historical stoping (blue), main development and historical drill hole traces. View looking north-west.

Historical stoping was carried out between 463m and 911m below surface. Unmined copper mineralisation persists up dip by 250m and down-dip by 100m beyond the limits of historical stoping (Figure 2). An unmined en-echelon zone of copper mineralisation in the footwall of the main body below the 868m Level has been delineated by historical drilling.

Detailed interpretation of the historical drilling data and mining information is ongoing in preparation for potential future mineral resource estimation following confirmation of suitable data quality. Initial observation is that the exploration data for Nigramoep appears to be of a similar high quality to the Flat Mines, where Orion has succeeded in declaring Mineral Resources of 12Mt @ 1.4% Cu (refer ASX/JSE release 28 August 2023), with the work being carried out at Nigramoep by the same geological teams, drillers and laboratory over a similar time period.

Orion's expertise in underground mine design and planning for the Prieska Copper Zinc Mine, which also has vertical shafts and inclined roadways to similar depth as Nigramoep Mine, is expected to assist in fast-tracking the evaluation of Nigramoep.

For and on behalf of the Board.



Errol Smart  
**Managing Director and CEO**

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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.

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