Orion Minerals

ASX/JSE RELEASE: 29 October 2024

Progress Update – Feasibility Studies for Prieska and Okiep Projects, South Africa

Internal review and optimisation of both Feasibility Studies underway to realise additional potential upside following key appointments to strengthen the Owners' team

- **Internationally respected project manager Nick Fouche appointed as PCZM Project Director to manage the completion of the PCZM Feasibility Study and oversee project execution.**
- **Australian-based LMMS Consultants, who are global experts in mine design and scheduling and have significant international and South African project experience, appointed to assist with the completion of the final stages of the Feasibility Study for the Prieska Copper Zinc Mine (PCZM).**
- **internal review of the PCZM Feasibility Study following these appointments has identified the potential for further upside that may be realised from the optimisation of mine scheduling and design.**
- **As a result, LMMS has commenced a further mine schedule optimisation program, which is scheduled for completion in the current quarter. The outcomes of this work will be incorporated in the final PCZM Feasibility Study, which is now scheduled for delivery in Q1 CY2025.**
- **Feasibility Study for the Flat Mines Project, part of the broader Okiep Copper Project, on track for external review commencing in mid-November 2024. Flat Mines Feasibility Study targeted for delivery in late Q4 CY2024.**

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

"We are thrilled to welcome Nick Fouche as Project Director for the PCZM development. Nick was Project Director for the Feasibility Study and execution of the Palabora underground mining project and has unique experience that is applicable to Orion's underground copper mining projects. His vast global experience includes roles with ERO Copper, South 32 and Rio Tinto as General Manager Growth. Nick is a fantastic addition to the Orion team, as we move towards the development phase at Prieska.

"We are also pleased to have secured the services of LMMS Consultants, the same expert mining team that contributed to the success of the Palabora Copper Mine Lift 2 development project, the last big underground copper mine developed in South Africa. LMMS are recognised internationally for their specialist expertise in underground bulk mining applications and consult on high-profile large mining project development optimisations for major mining houses such as BHP, Rio Tinto and South 32, as well as for several junior mining companies.

"A recent review of the Prieska financial model with input from LMMS and Nick has highlighted the potential to unlock additional upside at Prieska by further optimising mine design and scheduling. The Prieska Mineral Resource has unique geometry, being folded through dip rotations of almost 3200 and having mineralised true widths varying from 2m – 45m.

For personal use only

"While it has been relatively simple to select suitable mining methods to extract this superb orebody, the iterative process required to optimise the appropriate mining methods in different mining areas to achieve optimum ore recovery and cash-flow is proving time consuming.

*"The additional optimisations now underway will require several iterative runs using Mine Shape Optimiser (**MSO**) software with manual adaptation of development layouts to connect mining areas using different mining methods. This time-consuming process can only be executed by suitably experienced mining engineers.*

"When building large, long-life mines with large specialist mining fleets, getting the best combination of mining methods and primary development layouts is critical to maximise long-term project execution and financial returns. In the case of PCZM, unlocking the potential upside from additional optimisation studies outweighs the earlier completion of a Feasibility Study."

Orion Minerals Ltd (**ASX/JSE: ORN**) (**Orion** or the **Company**) provides an update on the progress of the Feasibility Studies for both the Prieska Copper Zinc Mine (**PCZM**) and the Okiep Copper Project (**OCP**), both located in the Northern Cape Province of South Africa.

The Company has appointed highly respected and experienced international project manager, Nick Fouche, as PCZM Project Director to oversee the completion of the Feasibility Study.

Mr Fouche is a highly regarded global mining executive with vast experience in the development of execution of major mining projects around the world. He was previously General Manager Growth for HBIS Palabora Mining Company, where he oversaw the development of the last major copper mine in South Africa. He has also held senior roles with South32, MMC Mining, Rio Tinto and, most recently, Piedmont Lithium.

Orion has also secured the services of highly respected LMMS Consultants to assist in expediting ongoing optimisation work for the PCZM Feasibility Study.

LMMS have been contracted for a three-month period from October 2024 to provide intensive input to optimise the PCZM BFS (see below). The consultant employees involved in the optimisation program are Joe Luxford and Doug Syme, both of whom have worked on orebodies using the selected mining methods for PCZM, both in Australia and worldwide.

They were also both key members of the Palabora mine planning and execution teams and therefore understand the South African operating environment with local challenges and opportunities.

PCZM Feasibility Study Optimisation

Orion recently completed an internal review of the PCZM Feasibility Study with input from LMMS and Mr Fouche. This review highlighted the potential to unlock additional upside in the Project by undertaking a further optimisation of the mine design and scheduling for the Prieska Deeps orebody.

The PCZM orebody is unique due to its laterally extensive but folded tabular structure. The dip of the orebody rotates through almost 320^0 on mine scale and has true widths of 2m – 45m; however, due to folding, the horizontal spans can vary from 2m – 200m and the vertical height of mineralised blocks ranges from 2m – 200m.

In the Deeps section of the orebody, which has a Mineral Resource of 29 million tonnes at 1.2% Cu and 3.8% Zn (refer ASX/JSE release 18 December 2018)[1], the complex geometry of the Mineral Resource results in the need for multiple mine stoping methods to extract the ore of varying dip and thicknesses (Figure 1).

[1] Mineral Resource reported in ASX release of 18 December 2018: "Landmark Resource Upgrade Sets Strong Foundation" available to the public on http://www.orionminerals.com.au/investors/asx-jse-announcements/. Competent Person Orion's exploration: Mr Errol Smart. Competent Person: Orion's Mineral Resource: Mr Sean Duggan. Orion confirms it is not aware of any new information or data that materially affects the information included above. For the Mineral Resources, the Company confirms that all material assumptions and technical parameters underpinning the estimates in the ASX release of 18 December 2018 continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented here have not been materially modified.

For personal use only

The different mining methods that have been selected require different mining equipment and different layouts of waste access development.

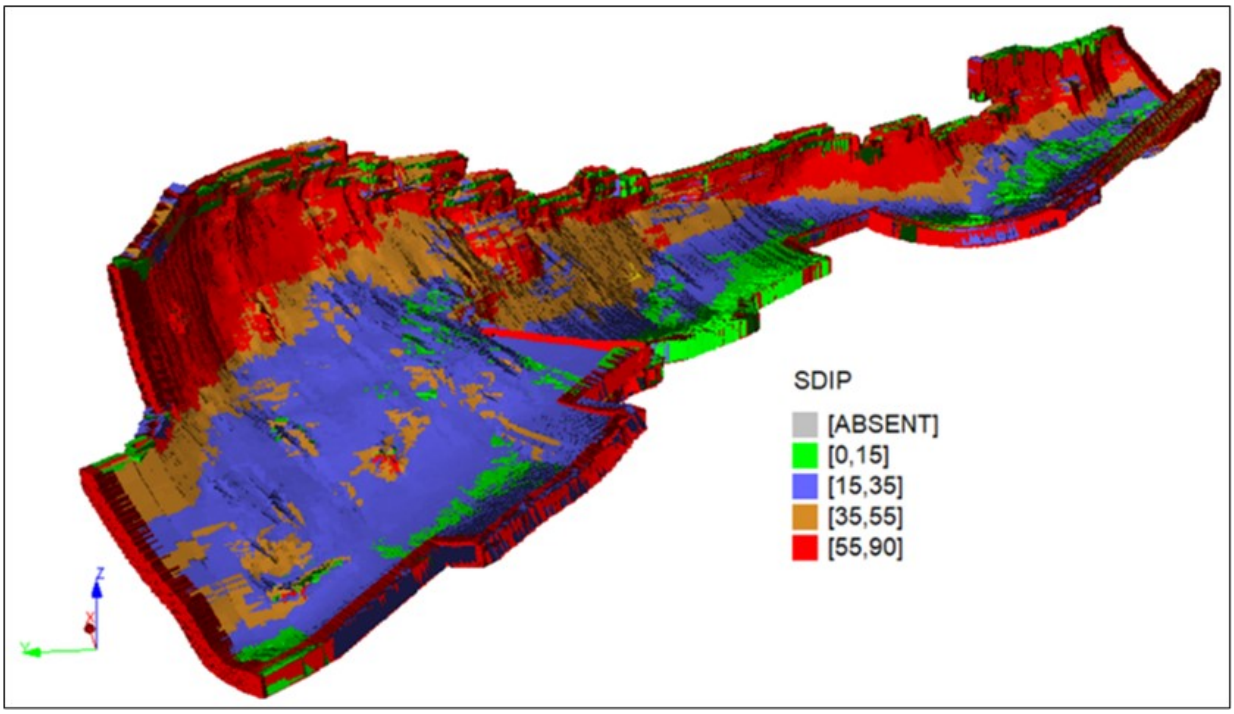


Figure 1: Variable Mineral Resource dip over the Prieska Deeps Mining Area.

While some ore blocks may be extracted by more than one of the selected mining methods, each will deliver different waste dilution tonnes and therefore influence run-of-mine grade and require different development intensity.

The combination of these three factors may materially impact Capex, Opex and operating revenue in any given period. The detailed layouts, planning and relative scheduling have been identified as factors that can materially impact peak funding and operating cash-flows, and which therefore require increased focus on optimisation.

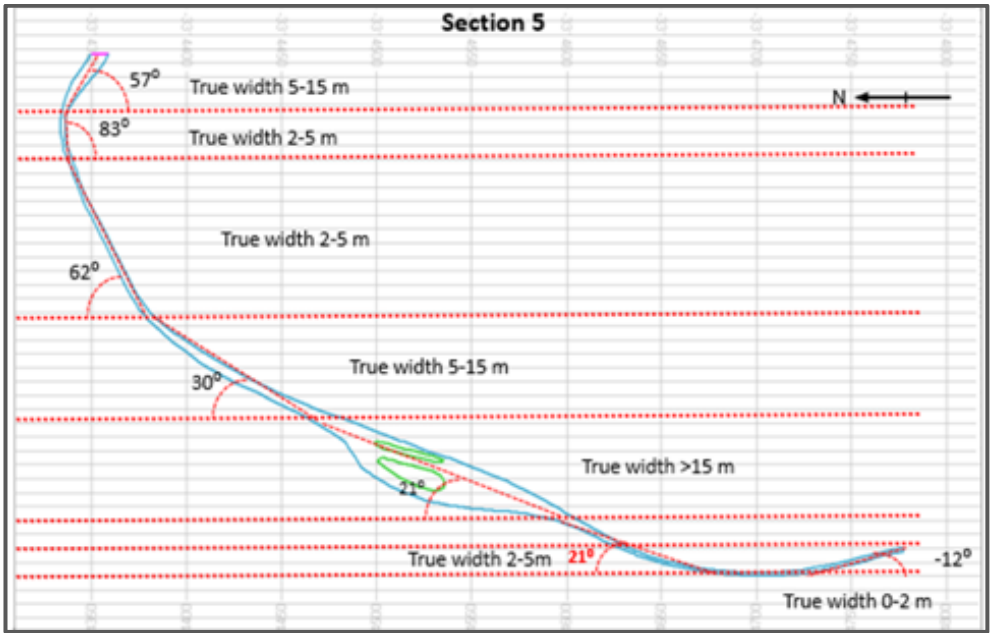


Figure 2: Cross-section through the PCZM Deeps orebody demonstrating variation in dip & thickness of ore.

For personal use only

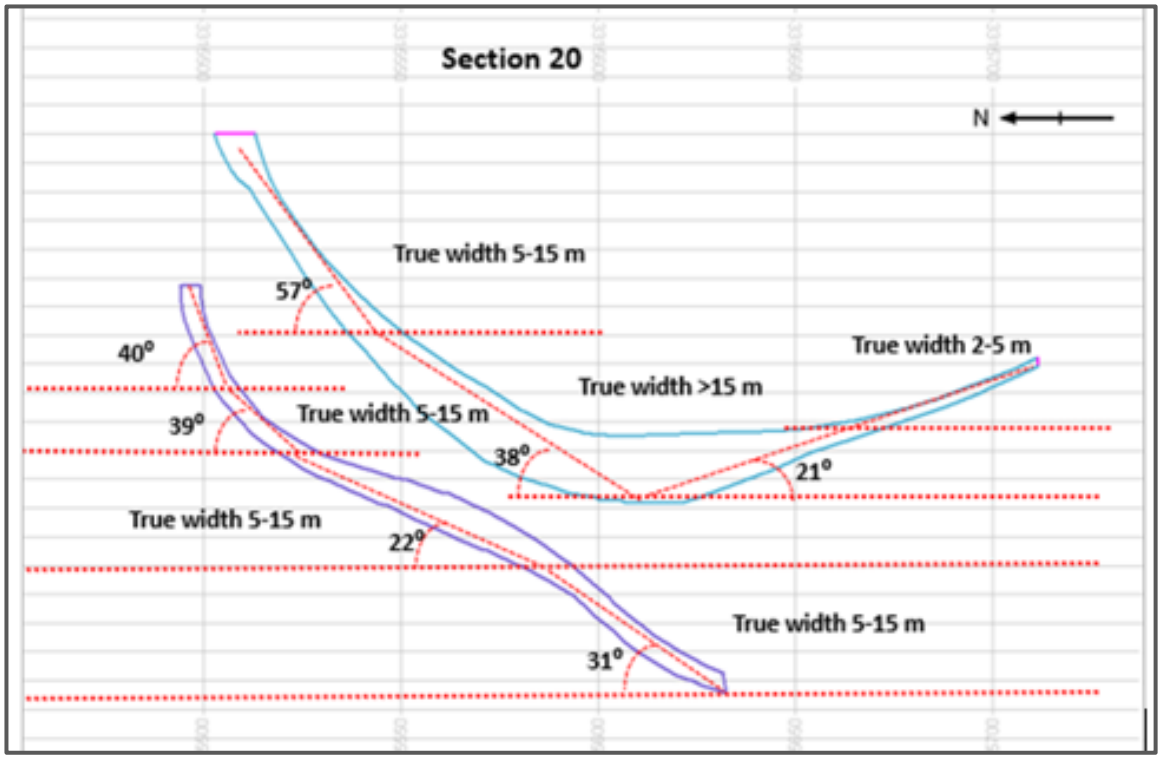


Figure 3: Section through the twin orebody Deeps Mineral Resource Area showing variation in dip and thickness and having geotechnical considerations for relative scheduling of extraction.

The detailed mine scheduling requires multiple iterative scenario runs, which require manual intervention and detailed design finessing in addition to the use of standard computerised Mine Shape Optimiser (MSO) software. This is particularly the case in the zones where the geometry of the orebody requires mining methods to transition and where complete runs of the financial model are required to test the impact of the modifications.

The primary development and ventilation layouts also require optimisation for long-term use to extract the anticipated extensions of the orebody in the strike and parallel footwall orebody (Figure 3).

In addition, the geotechnical stress regime needs to be reviewed for different extraction schedules and mining rates, taking into consideration the geometry of mining void development.

LMMS have commenced detailed optimisation of the mine schedule, with the optimisation program expected to be completed in December 2024. This will be submitted for review by external experts at the earliest opportunity and then incorporated into the finalised PCZM Feasibility Study.

Considering potential December festive season disruption, the final Feasibility Study is expected to be ready for release in early Q1 CY2025.

New Okiep Mining (NOM), Flat Mines Copper Project

The first draft of the Flat Mines Feasibility Study was reviewed by The Minerals Corporation (**TMC**), which has been appointed as the debt financiers' Independent Experts, in July 2023. TMC recommended some additional work requiring confirmation drilling.

The revised Flat Mines Feasibility Study is progressing well following the successful completion of an 11 hole, 5,800m confirmation drilling program that was executed and reported between February 2024 and September 2024.

The drilling program confirmed the Mineral Resource Estimates as previously reported which were incorporated in the initial life-of-mine (**LOM**) schedules.

For personal use only

The availability of drill core also afforded the opportunity for additional geotechnical appraisal and metallurgical test work.

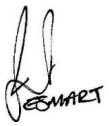
Metallurgical test work has now confirmed historical data and recovery assumptions that were used the first draft of the Feasibility Study that was reviewed by TMC

Geotechnical test work of core and a review of detailed logging and mapping has also confirmed expectations of highly competent host rock, with minor modifications being recommended for stope designs to accommodate rare, minor fractures within the orebodies.

These revised stope designs are now nearing completion and will be incorporated in the financial modelling and submitted for external review by mid-November 2024.

This will pave the way for the expected release of the Flat Mines Feasibility Study in December 2024.

For and on behalf of the Board.



Errol Smart
Managing Director and CEO

ENQUIRIES

Investors
Errol Smart – Managing Director & CEO
Denis Waddell – Chairman
T: +61 (0) 3 8080 7170
E: info@orionminerals.com.au

Media
Nicholas Read
Read Corporate, Australia
T: +61 (0) 419 929 046
E: nicholas@readcorporate.com.au

JSE Sponsor
Monique Martinez
Merchantec Capital
T: +27 (0) 11 325 6363
E: monique.martinez@merchantec.com

Disclaimer

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:

- disclaim any obligations or undertaking to release any updates or revisions to the information to reflect any change in expectations or assumptions;
- do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this release, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and
- disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence).

For personal use only