



Orion Minerals

ASX/JSE RELEASE: 31 January 2025

December 2024 Quarterly Activities Report

HIGHLIGHTS

- The work on the Definitive Feasibility Study (**DFS**) for the Flat Mines Project, the first mine that Orion intends to develop at the Okiep Copper Project (**OCP**), is nearing completion and external review by independent technical experts, Practara Metals and Mining Advisory (**Practara**), has commenced. Once the DFS report is completed to the satisfaction of Practara, the DFS will be considered and approved by the partners of the Project. The approved outcomes of the DFS are expected to be released in February 2025.
- The DFS for Prieska Copper Zinc Mine (**PCZM**), which is also well advanced, will follow a similar approval process to OCP. The study is also currently being independently reviewed by Practara and will then move to review and approval from the partners including the IDC, Prieska Resources (Pty) Ltd and Triple Flag Precious Metals Corp. The outcomes of the DFS are expected to be released before the end of the March 2025 quarter.
- **PCZM mine dewatering rate in excess of 500m³/hour achieved from the pump station at the 178m Level and forced evaporation rate of 100-140m³/hr. Forced evaporation expanded to two shifts (day and night), successfully improving the dewatering rate.**
- **Civil construction of the 13ha water storage dam/future TSF at PCZM completed.**
- **Further positive results received from confirmatory diamond drilling at the Okiep Copper Project (OCP), to support the Feasibility Study:**
 - **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 (Flat Mine South, drill hole OFMSD083); and
 - **5.52m at 1.86% Cu**, 170m down-dip of previously reported high-grade copper mineralisation (Flat Mine South, drill hole OFMSD082).
- **A ground geophysical program was underway at Quarter-end in the Flat Mines area, with recent remodelling of historical survey data providing compelling indications of the potential for mineralisation analogous to the famous Carolusberg Deeps deposit at Okiep.**
- **Final assay results reported from confirmatory drilling at Flat Mine (Nababeep), where an Inferred Mineral Resource of 1Mt at 1.4% Cu was reported in March 2021, with highlights including:**
 - **3.54m at 3.89% Cu** from 107m down-hole (drill hole OFMD171).
- Post quarter-end, the Suspensive Conditions, including approval from the South African Takeover Regulation Panel, for the New Okiep Exploration Company (Pty) Ltd (**NOE**) and New Okiep Mining Company (Pty) Ltd (**NOM**) Historically Disadvantaged South African transactions were fulfilled. The Closing Date for the transaction will be Monday, 3 February 2025.

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

"2025 is set to be a big year for Orion as we transition from being explorers to becoming mine developers. During the December 2024 Quarter, we made good progress on the Definitive Feasibility Studies (DFS) for both PCZM and NOM. Both studies are currently undergoing detailed external review, after which they will be reviewed and approved by both the Orion Board and our partners in the projects. We expect the outcomes of the studies for both projects to be released before the end of the March 2025 Quarter.

"While both studies have taken longer than expected, we believe that the additional work and the intensive review process currently underway will result in more robust project studies that will assist in project funding from debt and equity sources, as well as offtake related funding."

EXECUTIVE SUMMARY

OVERVIEW

Orion Minerals Ltd (ASX/JSE: ORN) is a diversified international base metals company which is developing two complementary base metal production hubs in South Africa's Northern Cape Province, a richly endowed mineral province and well-established mining jurisdiction.

Orion is well advanced in its transition to developer and operating mining company, focused on the production of metals that are critical to the global clean energy transition, and which have strong market fundamentals due to declining supply and grade profiles at major mines and a lack of investment in the development of new mines.

The Company is targeting first production from its key development projects in 2026, with the aspirational goal of ramping up copper production to more than 50ktpa by the end of the decade.

QUARTERLY SUMMARY

During the December 2024 Quarter, Orion continued to progress the development of its flagship project, the Prieska Copper Zinc Mine (**PCZM**) in South Africa's Northern Cape Province, paving the way for a Definitive Feasibility Study (**DFS**) which is due by the end of the March 2025 Quarter. The DFS is well advanced and is also currently being independently reviewed.

PCZM is a substantial brownfields development asset, underpinned by a JORC (2012) Mineral Resource of 31Mt grading 1.2% Cu and 3.6% Zn, containing 370kt copper and 1.1Mt zinc including the near-surface high grade +105 Block with 2.3Mt at 1.7% Cu and 1.6% Zn, containing 38,000t of copper and 35,000t of zinc in oxide and sulphide mineralisation (refer ASX/JSE release 25 July 2023).

The +105m Block has been identified as an attractive early mining opportunity focused on the high-grade sulphide mineralisation of 1.3Mt at a grade of 2.4% Cu and 2.1% Zn for 30,000t contained copper and 27,000t of contained zinc (refer ASX/JSE release 25 July 2023) that can be accessed from existing underground development. The mining of this upper section will form part of the DFS.

Construction of the 13ha water storage dam section of the future Tailings Storage Facility (**TSF**) was completed ahead of schedule in November 2024. Construction of the TSF was supervised by the on-site team, at a substantially lower cost than initial contractor estimates.

Orion intends to follow this project execution model in other areas, including the non-EPCM sections of the DFS.

Dewatering from the 178m Level maintained a pumping rate in excess of 500m³/hour during the Quarter. Daytime forced evaporation at the TSF showed that evaporation rates in excess of 100m³/hr can be achieved. These learnings have been incorporated into the DFS shaft dewatering plan.

At the Okiep Copper Project (**OCP**), final assay results reported 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 added further momentum to Orion's development strategy, building on the outstanding outcomes of the recently completed confirmation drilling program.

OCP is a highly strategic asset, located within a prolific copper-producing district that historically produced over two million tonnes of contained metal.

The DFS for the Flat Mines Project, the first mine that Orion intends to develop at the Okiep Copper Project, is nearing completion and external review by independent technical experts has commenced. The approved outcomes of the DFS are expected to be released in February 2025. In parallel, drilling and exploration work is ongoing at OCP.

HEALTH AND SAFETY, ENVIRONMENTAL, SOCIAL AND GOVERNANCE

Health and Safety

One minor injury, not resulting in any lost time, was reported for the Quarter. The hours worked for the Quarter and the 2025 financial year to date (**YTD**) are shown in the table below:

Table 1: Hours worked at the Group's Areachap and Okiep Copper Projects (South Africa).

Category of Work	Hours Worked	
	Quarter	FY2025 YTD
Exploration	16,318	34,009
Surface	21,576	40,058
Underground	5,510	13,811
Contractors	49,295	116,865
Total	92,699	204,743

The Lost-Time Injury Frequency Rate (**LTIFR**) per 200,000 hours worked was **0.0** for the December Quarter and at the end of the Quarter, the team celebrated 2,054 days without a Lost-Time Injury (**LTI**).

Community and Stakeholder Engagement

Prieska Copper Zinc Mine (PCZM)

New PCZM Social and Labour Plan (SLP)

Following the consultation meetings held during the previous Quarter with local communities, the Siyathemba Local Municipality and the Orion Siyathemba Stakeholder Engagement Forum (OSSEF), further engagements were held and the new Social and Labour Plan (**SLP**) for PCZM for the period 2025-2029 was completed and submitted to the DMRE for approval during the Quarter.

The SLP outlines the commitments PCZM will make to benefit its workforce and nearby communities and includes specific goals related to human resource development (HRD) and local economic development (**LED**).

Endorsements of the proposed LED projects were obtained from the Siyathemba Local Municipality and the Northern Cape Provincial Department of Education, and the SLP was submitted to the Department of Mineral and Petroleum Resources (**DMPR**) for approval. As required by legislation, the SLP will be made publicly available once the DMPR has formally approved the plan, which is anticipated during the March Quarter of 2025.

Siyathemba Golf Day benefits deserving causes in host community

As previously reported, Orion hosted a very successful golf day in September 2024 in Prieska, which raised ~A\$6,400 (ZAR47,000) for the host communities of Prieska, Marydale, Niekerkshoop and Vanwyksvlei. The funds raised were subsequently used to sponsor various community projects including:

- Chairs, tables and fire extinguishers for the Busy Bee Early Childhood Development Support Centre in Vanwyksvlei;
- Educational support materials including whiteboards, chairs and printing material for Bloukrans Primary School in Prieska;
- Athletics equipment for JJ Dryer Primary School in Prieska;
- Mattresses for the Bergendal school boarding house in Marydale; and
- Health equipment for community health workers to assist them in conducting home visits in Niekerkshoop.

Vanwyksvlei storm damage

Orion provided a disaster relief package to support the most vulnerable members of the Vanwyksvlei community who were impacted by a severe storm in late December 2024.

The town experienced a powerful storm which caused significant damage to several properties in the area. The management team at PCZM oversaw the implementation of the relief effort, which focused on roof repairs to assist in restoring safety and security for the affected community members.

Okiep Copper Project (OCP)

Orion Minerals engages with Nababeep Community

Orion held an open community meeting in Nababeep in November 2024, engaging with approximately 200 residents on the progress to date and future plans for the Flat Mines Project. Community members showed continued interest in and enthusiasm for the project, recognising the potential for economic uplift and job creation.

Creating positive change for the youth in the community

Orion assisted the Nababeep and Bulletrap communities to establish youth forums aimed at helping young people in the community.

The Nababeep Youth Forum will address critical social issues such as drug and alcohol abuse, while also creating opportunities for skills development and community engagement. The Bulletrap Youth Development Forum focuses on uniting the youth to become agents of change in their village, tackling the root causes of poverty and creating pathways for long-term progress.

Orion believes it is critical to support and empower young people in its host communities as they hold the key to a better future. High unemployment rates and social challenges highlight the need to support the youth and ensure they take ownership of their lives and become active contributors to their community.

These forums are also platforms for constructive dialogue and provide spaces for young people to access training, information and tools to improve their own lives while also providing hope to the wider community.

Environmental Management

Making positive contributions to the state of the natural environment, reducing pollution and ensuring negligible contamination from operational activities are central to Orion's business model and part of the Company's commitment to delivering the highest level of environmental compliance, while managing and monitoring the environmental impacts of our activities throughout the exploration and mining lifecycle.

There were no environmental incidents recorded during the Quarter.

ORION MINERALS' OPERATIONS

PRIESKA COPPER ZINC MINE (PCZM)

Critical Focus Items

During the December 2024 Quarter, the focus was on the operation of the mine dewatering infrastructure, the completion of the construction of a 13ha water storage dam on the TSF footprint, the operation of the 15MVA Eskom Cuprum Substation, early works on the main shaft (Hutchings) sub-bank preparation for future shaft refurbishment and above water level shaft infrastructure inspection.

Significant progress was made across all of these areas, including:

- Dewatering from the main shaft via the 178 Level pump station consistently achieved pumping rates in excess of the design 500m³/hr;
- All surface and underground electrical infrastructure is operational and in use for shaft dewatering and evaporation at the TSF area (4km away);
- The 15MVA Cuprum Substation upgrade and Eskom grid connection tie-in is in operation and functioning as designed;
- The 13ha water storage dam civil construction was completed in November; and
- The three evaporators installed on the bank of the TSF 80m x 50m overflow HDPE lined sump intermittently achieved evaporation rates in excess of the design 100m³/hr.

Definitive Feasibility Study

The Company is currently finalising the Definitive Feasibility Study (DFS) for PCZM that considers an accelerated development strategy from high-grade near-surface JORC Resources (which have been accessed and prepared for production during the 2024 Trial Mining Program), while preparing the Deeps ore for extraction at a production rate of 200ktpm from the fifth year of operations.

The mining method to be used for the extraction of near-surface Resources will be Longitudinal Long-hole Open Stoping. The change from the Drift & Fill mining method to Longitudinal Long-hole Open Stoping has provided an opportunity to increase monthly production from 15kt/month to 20kt/month with a substantial reduction in mining costs. This has had a major positive impact on the feasibility of the early mining phase of the Project.

The current optimised DFS has focused on the aspirational objective of achieving early production from as early as the 13th month from funding from Upper Section with near surface resources followed by larger scale extraction from the Deeps section.

Orion plans to use underground mining (a combination of Drift & Fill and Longhole Stoping) with conventional froth-flotation concentration to produce differentiated copper and zinc concentrates from the Deeps mining. The DFS is undergoing external reviews and is expected to be completed and released during the March 2025 Quarter.

Dewatering & Evaporation

The underground water depth is currently at approximately 270m below surface. All mechanical and electrical infrastructure is operational and dewatering rates in excess of 500m³/hr are being achieved from the shaft. The water level in the shaft has been reduced by 6.5m and the water level in the 800 Ramp has receded by 50.5m at the end of December 2024.

Dewatering infrastructure consists of two 220kW submersible pumps installed below water level, a surge capacity receiving dam on the 178m Level, and two 250kW multi-stage pumps in sequence delivering water through a lined borehole to the surface storage dams.

From the 8,100m³ intermediate storage dams underground, water is pumped to the evaporators at the 13ha overflow sump.

The overflow sump is situated next to the 13ha water storage dam and connected to the water storage dam via trenches as part of the final TSF design.

The three proof-of-concept evaporators are installed on the north-western bank of the overflow sump to evaporate at a minimum rate of 100m³/hr. Evaporation rates of up to 140m³/hr are currently being achieved during daylight and the mine water level has dropped by 6.5m, confirming the low rate of water influx into the mine.

The three evaporators will be relocated to the 13ha water storage dam once the HDPE lining has been installed. An additional 27 evaporators will be required to achieve the planned future 1,000m³/hr evaporation rate required for the improved mine dewatering schedule in the DFS.



Photo 1: 100m³/hr Evaporators (proof of concept).

Power Reticulation

With the Cuprum Substation 15MVA upgrade tie-in completed and the installation of the surface overhead powerlines, all the surface and underground electrical reticulation installations required for mine dewatering, forced evaporation at the TSF, Upper-Level Mining and 20 kt/month flotation plant is now in place and operational in readiness for the Project to commence.

The DFS electrical designs and single line diagrams (SLD's) have been completed for the extension of power to the surface infrastructure, the Upper Levels and Deeps underground workings, the underground pump stations and ventilation as well as to the 65ha TSF.

PCZM is now eligible for exemption from Eskom loadshedding. Importantly no electrical supply loadshedding has been recorded at the mine for 305 days at the time of this report. This is a direct result of significant improvement on electrical generation and transmission by state utility, Eskom

Water Storage Dam

Civil construction of the 13ha dewatering brine water storage facility within the footprint of the approved 65ha TSF was completed in November 2024. Embankment construction material consisted of drilled and blasted hardpan calcrete.



Photo 2: 13ha Water Storage Dam on 65ha TSF footprint.

The 13ha water storage dam is positioned in the eastern corner of the 65ha approved TSF footprint. The design minimises the embankment civil construction earthworks required by following the natural ground contours.

The dam will have a single 2mm HDPE liner. The design will allow for a seamless transition into use as a TSF, minimising additional capital costs. The footprint has been optimised for the planned dewatering rates and will make use of forced evaporators to concentrate the salts in storage.

The surface hardpan calcrete layer at the approved 65ha TSF, which is up to 2.5m thick, was drilled and blasted before excavation and used as embankment construction material. The calcrete has proven to be extremely well suited for embankment construction material with compaction strength easily achieved with 500mm layers.

By optimising the excavation and civil construction methods and optimising the design for modular expansion (paddocks) to eventually cover the entire 65ha approved site, the upfront capital costs for inclusion in the current DFS have been significantly reduced.

Geology

The +105m Level channel sampling continued to focus on the 99m Level north and south ore drives backlog areas. The channel sample material was prepared and assayed via XRF in the mine assay laboratory facility and selected duplicate sample pulps were dispatched to an accredited laboratory for ICP analysis and verification of XRF results. The sampling and on-site XRF assaying of the logged supergene surface stockpiles is ongoing and is expected to be completed by January 2025.

Channel sampling of development drives has provided a second reference for development grade, with samples analysed in the same manner as samples of blasted development drive material. On surface, underground material from both the 99m Level supergene sulphide development (23,300t) as well as the 143m Level draw point material (1,500t) has been stockpiled according to metallurgical classification.

Trial Mining

Operational and geotechnical learnings from the trial mining have been incorporated into the DFS. After evaluating different options, the most suitable mining method has been fixed at Longitudinal Long-hole Open Stopping for the upper-level supergene sulphide crown pillar Mineral Resource. The supergene sulphide mine schedule is being optimised for the supply of ~20kt/month of run-of-mine (**ROM**) material to the froth-flotation plant.

Early Production Concentrator Plant Design for PCZM Supergene Ore

The supergene sulphide test work was completed at Maelgwyn Mineral Services Africa (Maelgwyn) and Brisbane Metallurgical Laboratory (BML) during the Quarter. This test work has informed a decision to select a concentrator process that a bulk sulphide concentrate containing both copper and zinc is the optimum solution for the small tonnage of supergene resource. The bulk concentrate has achieved acceptable indicative offtake offers from reputable metal traders

The Supergene mining schedule will be matched with a 20kt/m ROM feed stand-alone concentrator plant. Commercial options are being discussed with process engineering groups to have a plant fully operational within 12 months after commencing supergene mining. The mining ramp-up schedule is being aligned with the plant ramp-up schedule to ensure availability of an adequately sized stockpile ahead of commissioning, in order to accelerate the achievement of design throughput, recoveries and concentrate grade.



Figure 1: 20kt per month Bulk Flotation Plant.

Brisbane Metallurgical Laboratories has produced a bulk concentrate sample for prospective off-takers to assess.

Human Resources

During the Quarter, the process of reviewing the training registration database was initiated. This database was created to reflect the host community interest in participating in Orion's mine specific training and development opportunities. Future training and development programs will be guided by the registrations received, together with individuals who have previously participated in the Introduction to Mining Course and undergone occupational assessments.

A detailed DFS labour review process was initiated, where staffing principles are identified in line with the planned mining schedule. In support of the planned labour, a recruitment strategy has been implemented to identify, source and/or develop the skills required.

OKIEP COPPER PROJECT (OCP)

Definitive Feasibility Study

Work on the review and updating of the Definitive Feasibility Study (DFS) for the Flat Mines Project continued throughout the December 2024 Quarter. Optimisation of the mine designs for Flat Mine North and East was integral for the DFS and this work was carried out during the Quarter. The outcomes of the DFS are expected to be released in February 2025.

The recommendations in the Geotechnical Report received in the previous Quarter permitted increased stope dimensions compared to those used in the previous design, leading to a redesign of the stope layouts with increased resource tonnage mined and reduced development in the FME deposit.

While the DFS currently underway focuses on immediately available JORC-compliant Mineral Resources from Flat Mines North (**FMN**), Flat Mines East (**FME**) and Flat Mines South (**FMS**), the long-term aspirational target is to restore the Okiep properties to their historical production levels of 20,000-50,000 tonnes of copper production per annum.

Flat Mines Confirmatory Drilling Program

During the Quarter, Orion reported final assay results from the confirmation diamond drilling program at the OCP's Flat Mines Area. The holes were specifically designed to best cover the areas that contribute most significantly to confirming the overall estimated Indicated Mineral Resource.

The initial diamond drilling program commenced in the Flat Mines Area of the OCP in February 2024, with a total of 11 diamond core drill holes drilled at FME, FMS and FMN comprising a total of approximately 5,800m. This total includes a non-directional deflection for each hole drilled to obtain samples for metallurgical test work.

Assay results from OFMND242 and OFMND243 completed at FMN and OFMSD078, OFMSD079 and OFMSD080 at FMS (refer ASX/JSE release 23 October 2024) are summarised in Table 2.

Drill hole OFMND242 intersected 14.00m at 2.70% Cu from 213.00m (Table 2). Historical hole FMN215 intersected 10.20m at 2.31% Cu from 226.60m and 11.70m at 1.89% Cu from 241.80m, approximately 11m away from the OFMND242 intersection. Historical hole FMN217 intersected 22.10m at 1.91% Cu from 234.40m, approximately 14m away from the OFMND242 intersection.

Drill hole OFMND243 intersected 36.30m at 1.11% Cu from 234.00m (Table 2). Historical hole FMN207 intersected 24.40m at 1.45% Cu from 255.30m, approximately 25m away from the OFMND243 intersection.

Drill hole OFMSD079 intersected 7.00m at 2.32% Cu from 501.00m and 14.80m at 2.58% Cu from 571.00m (Table 2). Historical hole FMS047 intersected 17.00m at 1.60% Cu from 514.20m and 16.39m at 2.19% Cu from 568.77m, approximately 16m away from the OFMSD079 intersection.

Drill hole OFMSD080 intersected 26.12m at 3.02% Cu from 535.00m and 24.95m at 4.14% Cu from 567.00m within a broader zone of 59.00m at 3.14% Cu from 533.00m (Table 2). This intersection is located approximately 40m down-dip from OFMSD077, which intersected 43.00m at 3.41% Cu from 527.00m.

Assay results for the 11 Orion confirmation drill holes have been independently reviewed by Z Star Mineral Resource Consultants (**Z***) and, on analysis, Z* concluded that the addition of the Orion confirmation drill holes at FME, FMN and FMS would not result in a material change to the Mineral Resource estimate. Z* also concluded that the Orion drill holes further support the inclusion of the historical Newmont and GFSA drill hole data in the Mineral Resource estimates for FME, FMN and FMS (refer ASX/JSE release 28 August 2023). Almost all other drilling at the various prospects within the OCP was carried out by Newmont and GFSA in a similar time period to the drilling at FME, FMN and FMS.

Ongoing metallurgical test work includes XRF sorting, comminution, flotation optimisation and tailings characterisation. Detailed geotechnical assessment has been undertaken on all drill holes. New geotechnical information will be used for input to mine design.

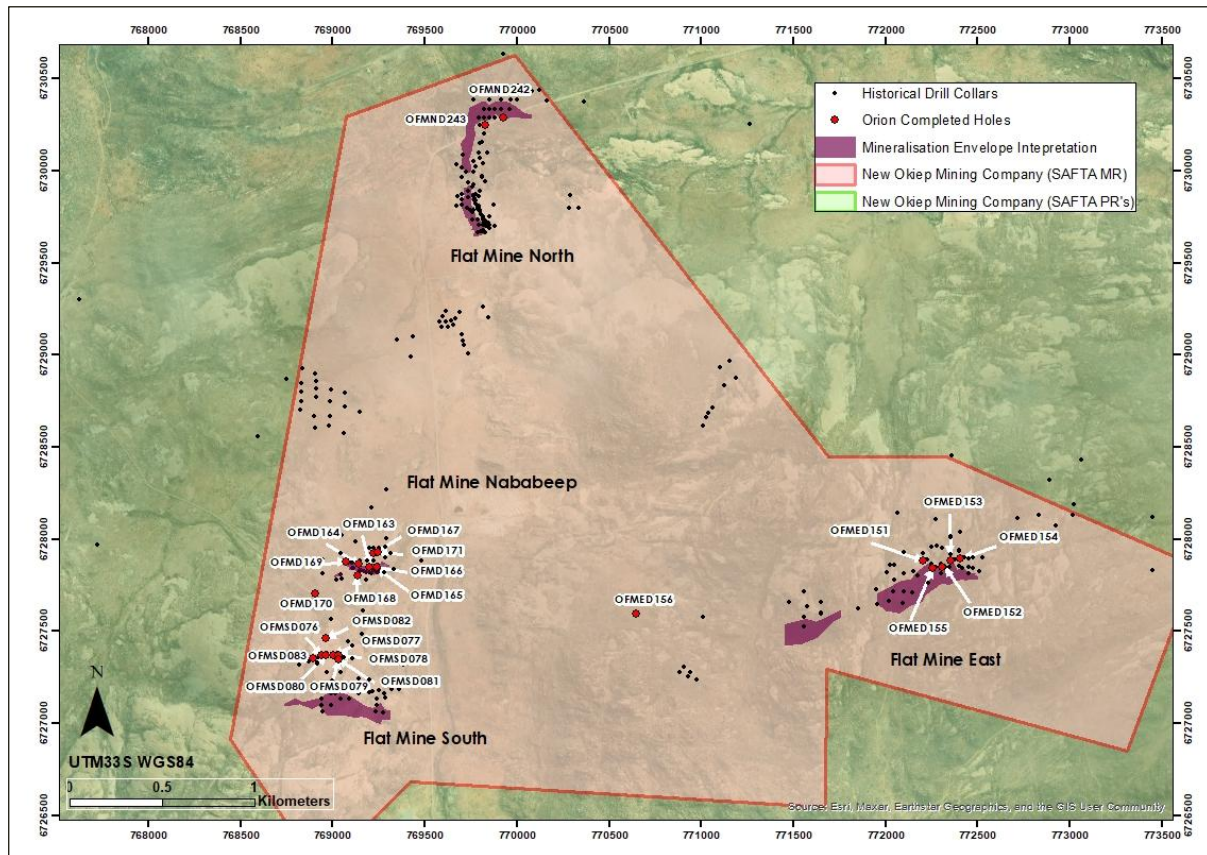


Figure 2: Plan showing historical and Orion drill holes, mineralisation envelope interpretations and extent of the Mining Right.

Significant widths of waste granitic material are included within the reported intersection widths, providing opportunities for upgrading of material through modern XRF ore sorting techniques to reject internal waste before milling. As part of the ore sorting test work, a RADOSTM “XRF core tray analyser” was brought to site to scan all available drill core, and the XRF scanning measurements were compared to assays returned for the core.

The RADOSTM scans show a very promising ability for the scanner to accurately recognise waste xenoliths within high or low-grade mineralised intrusives. This is anticipated to facilitate the ability to sort and reject the waste that would be included in bulk mining methods, allowing for optimum ore extraction at reduced cost. Sorting of blasted and crushed ore to produce a pre-concentrate before milling and flotation will have significant benefits in the reduction of capital and operating costs of the milling and concentrator plants.

Additional benefits in the form of reduced energy, water, reagent consumptions and reduced tailings storage requirements all combine to minimise the environmental impact of copper production.

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 were successfully completed (Figure 2). Significant assay results have been received for OFMSD082 and OFMSD083, while OFMSD081 intersected lower grade mineralisation but confirmed the continuation of the prospective ultramafic host unit (refer ASX/JSE release 17 December 2024).

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).

Importantly, the copper mineralisation in OFMSD083 is composed of sulphide mineralisation that is conducive to geophysical detection methods (Figure 3).



Figure 3: 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.

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, which intersected 59.00m at 3.14% Cu from 533.00m.

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

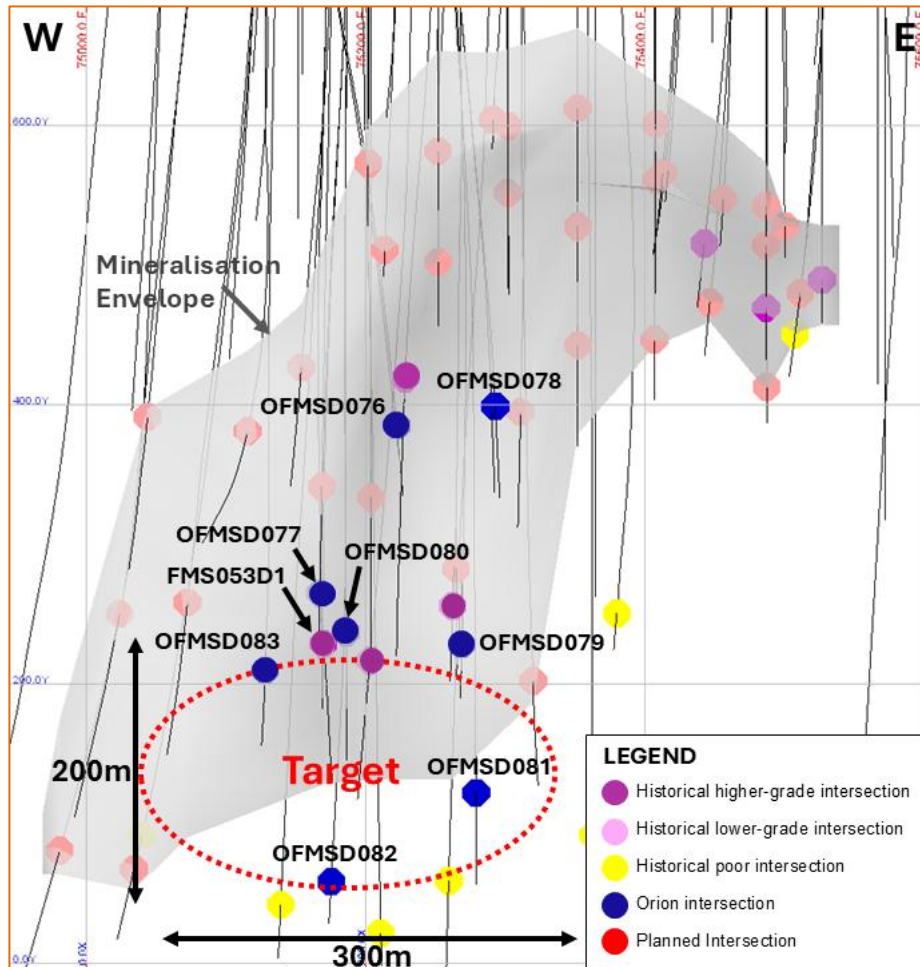


Figure 4: Long section of FMS down-dip drilling target.

Flat Mine NababEEP – Drilling Program

Drilling of eight confirmatory holes has been completed at Flat Mine NababEEP (**FMNb**), where an Inferred Mineral Resource of 1Mt at 1.4% Cu was previously reported (refer ASX/JSE release 29 March 2021). Original drilling over the main zone of mineralisation was carried out by Cape Copper Company in the 1940's, with 141Kt reported as being subsequently mined in the 1950's (refer ASX/JSE release 29 March 2021).

Orion drilling results at FMNb confirm shallow mineralisation over significant widths and include the following intercepts (refer ASX/JSE release 3 September 2024 and 17 December 2024):

- Drill hole OFMD164 intersected 20.69m at 1.82% Cu from 8.31m within a broader zone of elevated copper mineralisation of 45.69m at 1.26% Cu;
- Drill hole OFMD165 intersected 22.91m at 0.91% Cu from 3.09m;
- Drill hole OFMD167 intersected 7.80m at 5.08% Cu from 121.20m;
- Drill hole OFMD169 intersected 21.00m at 1.83% Cu from 16.00m; and
- Drill hole OFMD171 intersected 3.54m at 3.89% Cu from 107.00m.

Assay Results

Table 2 below is a summary of drill results to date for Flat Mine Area, including FMNb.

Table 2: Summary table of drill results to date for FME, FMS, FMN and FMNab prospects (a minimum cut-off of 0.7% Cu with maximum 3m internal waste allowed). Intersections and inclusions with grades mostly above 1% Cu are tabulated. The data was not capped. Note: widths are drill widths.

Area	Hole ID	Mineralisation				
		Notes	From (m)	To (m)	Interval (m)	% Cu
Flat Mine East	OFMED151		260.00	285.22	25.22	0.97
		Including	275.00	285.22	10.22	1.35
	OFMED152		194.00	202.00	8.00	1.59
			215.00	238.00	23.00	1.45
	OFMED153		231.00	280.35	49.35	5.05
		Including	231.00	250.00	19.00	2.14
		Including	253.84	256.25	2.41	1.82
		Including	258.69	280.35	21.66	9.41
		Including	258.69	266.78	8.09	8.18
		Including	269.77	280.35	10.58	12.99
	OFMED154		185.00	194.27	9.27	3.01
			248.00	263.00	15.00	4.80
	OFMED155		214.00	235.00	21.00	1.12
			246.00	264.00	18.00	1.44
Flat Mine South	OFMSD076		430.00	439.00	9.00	0.70
			446.00	448.00	2.00	1.19
			454.00	460.00	6.00	0.90
	OFMSD077		527.00	570.00	43.00	3.41
		Including	549.50	570.00	20.50	4.99
			330.00	336.00	6.00	0.93
			388.00	391.00	3.00	0.82
	OFMSD078		425.00	428.00	3.00	1.06
			432.00	435.00	3.00	0.84
			501.00	508.00	7.00	2.32
			515.00	520.00	5.00	1.00
	OFMSD079		571.00	585.80	14.80	2.58
			592.00	596.00	4.00	2.45
			533.00	592.00	59.00	3.14
		including	535.00	561.12	26.12	3.02
	OFMSD080	including	567.05	592.00	24.95	4.14
			668.00	669.00	1.00	0.82
			676.00	677.00	1.00	0.75
	OFMSD081		742.48	748.00	5.52	1.86
	OFMSD082		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

Area	Hole ID	Mineralisation				
		Notes	From (m)	To (m)	Interval (m)	% Cu
Flat Mine North	OFMND242		213.00	227.00	14.00	2.70
	OFMND243		234.00	270.30	36.30	1.11
		including	234.60	257.66	23.06	1.23
Flat Mine Ndbabeep	OFMD163		34.00	38.00	4.00	1.40
	OFMD164		42.00	44.00	2.00	1.54
			8.31	29.00	20.69	1.82
			33.00	38.00	5.00	1.37
			46.00	54.00	8.00	1.42
	OFMD165		3.09	26.00	22.91	0.91
		including	3.09	15.00	11.91	1.12
		including	18.00	26.00	8.00	0.88
	OFMD166		12.70	18.70	6.00	1.22
	OFMD167		121.20	129.00	7.80	5.08
	OFMD168		45.93	54.45	8.52	1.06
	OFMD169		16.00	37.00	21.00	1.83
		including	17.00	30.00	13.00	2.33
	OFMD171		107.00	110.54	3.54	3.89

Geophysical Exploration Program

Detailed geophysical surveys were progressed during the Quarter over the deposits in the Flat Mines Area, applying magnetic, gravity and electrical methods to assist in ranking 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 to be undertaken down to depths of 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.

A steeply dipping SkyTEM™ conductivity anomaly has been modelled, extending from near surface to depths exceeding 800m at Flat Mine South. The form and setting of this anomaly is analogous to that of the famous Carolusberg Deeps, the largest known deposit in the Okiep district, presenting a compelling exploration target. The Carolusberg Deeps deposit delivered 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 stratigraphically above the Springbok Formation at 900-950m depth below surface is considered the highest potential for hosting high-tonnage mineralised intrusive.

TSF Design Approved

The design and use of a partially lined TSF, necessary for the storage of flotation tailings from the processing plant after the recovery of copper in a sulphide concentrate, is approved in terms of the water use licence.

The available sites for TSF construction are limited by the terrain in the area and required innovative design to meet the stringent environmental requirements of the DWS applicable to long-term waste disposal sites.

The TSF embankment will be constructed using development rock waste and ore-sorter discard rock, hence all tailings and waste rock are planned to be stored in a single location.

A detailed hydrogeological study indicates that, over time, the ground water quality downstream of the facility is expected to improve compared to current water quality values, which have been impaired to some extent by prior mining activities in the area.

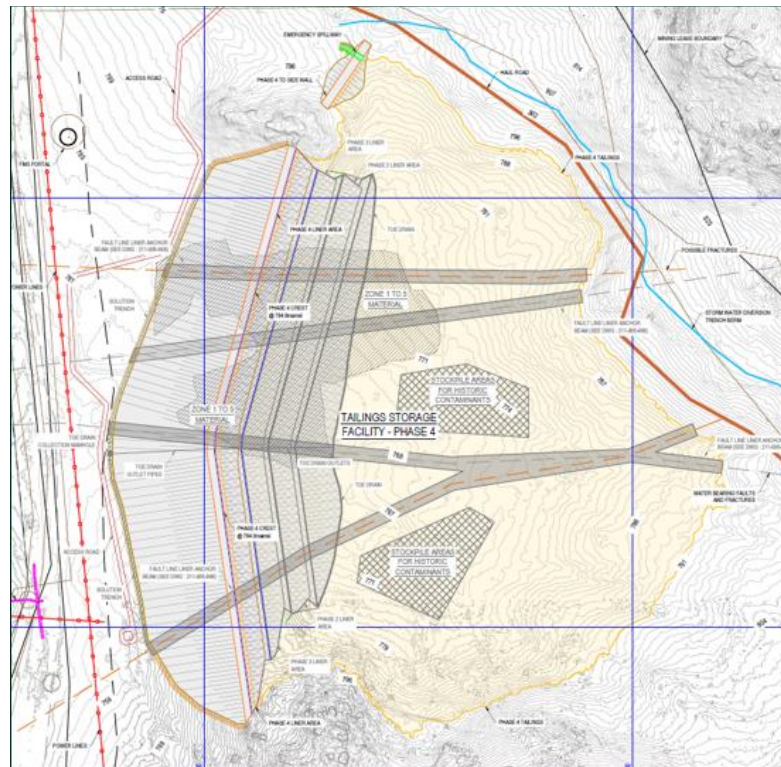


Figure 5: General arrangement of ultimate TSF footprint.

Metallurgical Test Work

Feasibility testing of mineralised rock samples for the Okiep Copper Project continued at Rados, Maelgwyn South Africa, and Geolabs in Johannesburg.

Locked cycle flotation tests were completed on Flat Mines North using the flotation reagent recipe from Flat Mines East, achieving concentrate grades over 30% and copper recoveries above 90%. Mineralogical analysis was conducted on samples from these tests.

Comminution test work on samples from Flat Mines North was conducted at Geolabs Global Pty Ltd. The results confirmed high milling work indices exceeding 18 kWh/t, as observed in previous tests.

“Ore-sorting” test work on drill core samples from the recent drilling into the Flat Mines South deposit were conducted by RADOS using XRF sensor-based sorting technology.

METC Engineering updated the process plant design and engineering based on the new test work data, also revising the capital expenditure and operational expenditure estimates. The compilation of process data for the DFS report was completed.

Mine Planning

As reported above, the favourable geotechnical design parameters derived from the recent geotechnical data and analysis allowed for the incorporation of larger stope dimensions than those used in the 2023 mine design. In the interests of improved mining efficiency, stope strike and height dimensions were increased in the revised FME mine design, with a related reduction in waste development required to access the resources.

This additional mine design and scheduling work has resulted in the extension of the time required to complete the mining section of the DFS.

Infrastructure

Based on discussions with the Eskom network engineers, it has been concluded that the optimal solution for the project will be to receive bulk power at 66kV via the NK Municipal Network. The design and costing of the power supply for the project has been finalised on this basis.

The main source of process water supply for the project is treated effluent water from the Nababeep Sewage Works (Nababeep WWT). The refurbishment of this plant by the Namakhoi Municipality (**NKM**) commenced early in 2024 and was suspended due to poor performance by the appointed contractor. In November 2024, NKM management approached New Okiep Mining Company (**NOM**) for assistance in the refurbishment process, which is one of the SLP commitments made by the Company in the Mining Right Application.

NOM agreed to assist with the repairs to the plant biofilters and the cleaning of accumulated sludge from the Clarigesters. Significant progress has been made by the Company to accelerate the refurbishing of this plant, which is also vital to the success of the Flat Mines Project and the progress has been well received by the local community.



Photo 3: Images showing refurbishing works to the Biofilters and Clarigesters in progress.

Land Access and Permitting

Following site visits to the NOMC mining right by DMPR officials during the Quarter, an application for ministerial consent for the extension of the commencement date for mining operations to 31 December 2025 has been submitted to the DMPR in accordance with the terms of the mining right and the Mineral and Petroleum Resources Development Act (MPRDA).

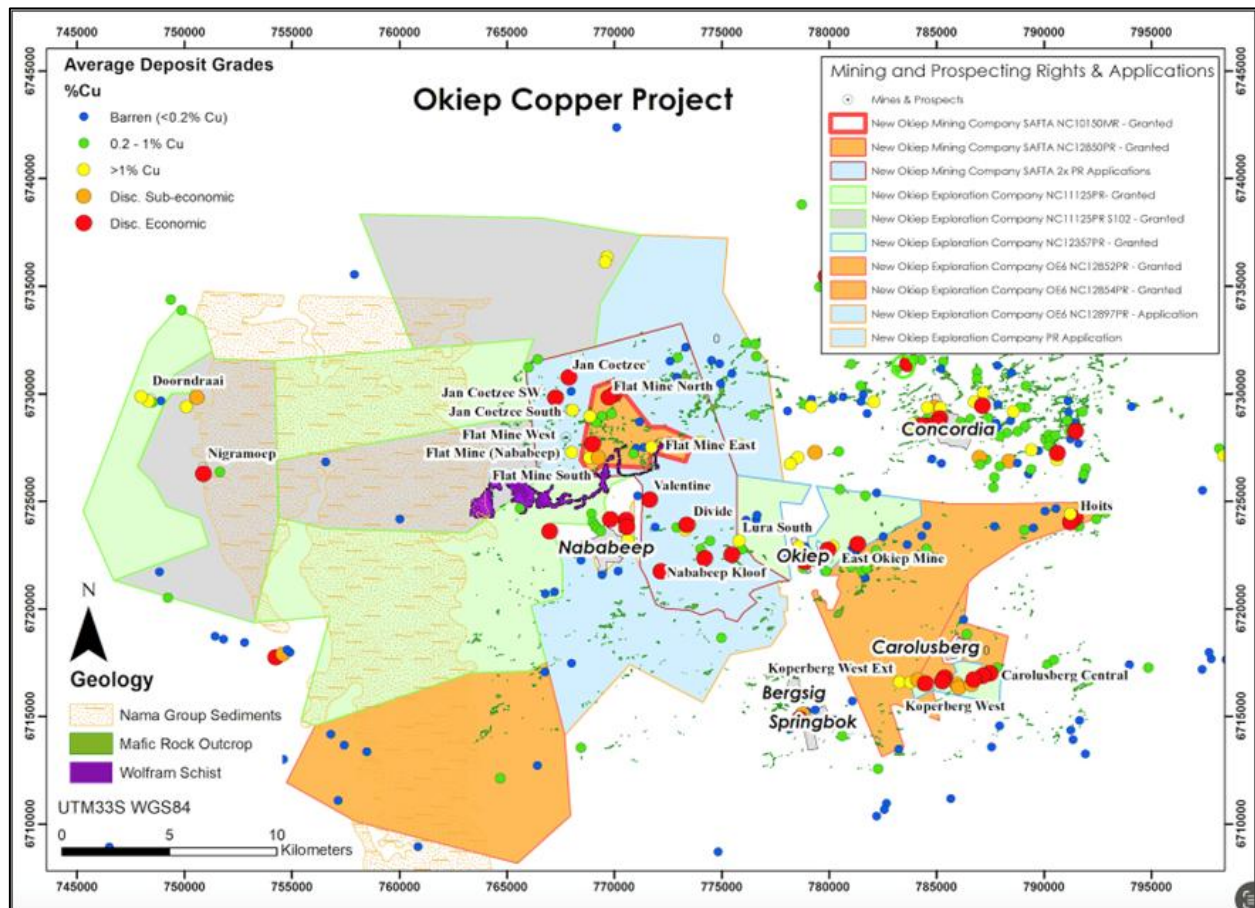


Figure 6: Grey shaded areas show three new S102 areas, orange areas show three newly granted prospecting rights.

JACOMYNSPAN Ni-Cu-Co-PGE PROJECT (JMP)

The JMP Nickel-Copper-PGE Project is Orion's third project alongside PCZM and OCP with potential to be a significant metals producer.

Orion sees compelling potential for a large-scale, near-surface bulk mining operation at Jacomynspan, with drilling confirming the presence of shallow sulphide nickel-copper-cobalt-PGE mineralisation within the ultramafic structure, commencing at a depth of around 85m vertically below the surface.

Planning continued for a trial mining exercise to generate a sufficient scale representative bulk sample of Jacomynspan ore to evaluate innovative metallurgical refining/battery pre-cursor production on a pilot scale.

JMP has a JORC-defined Mineral Resource of 65Mt at 0.28% Ni, 0.19% Cu, 0.02% Co, 0.2g/t 2PGE+Au using a cut-off of 0.2% Ni (refer ASX/JSE release 8 March 2018). The current Mineral Resource extends over less than 1km of strike of a series of outcropping intrusives where wide-spaced scout drilling by Anglovaal, Newmont, African Nickel (ANL) and Orion has revealed a combined 7km strike of identical mineralised outcropping or shallow sub-cropping ultramafic intrusive bodies.

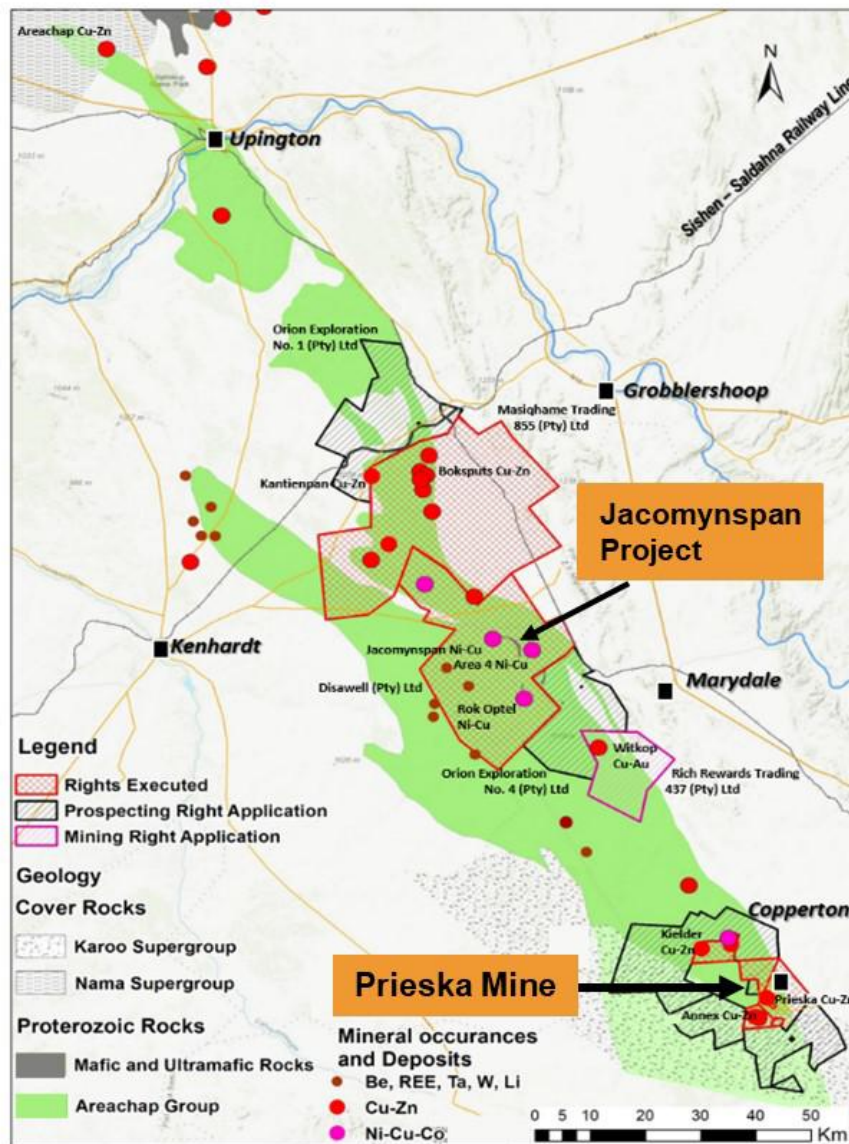


Figure 7: JMP and PCZM location map.

Metals Vapour Refining Project

Orion continued to review and evaluate the potential for application of Chloro and Carbonyl metal vapour refining to produce premium value chemical and electronic quality metal products.

Several technology development groups have been identified to work alongside the team involved in the project to date, with the objective of accelerating the development pathway.

Areachap Exploration

The Areachap Project is located in an under-explored belt of the same name, covering an area exceeding 175,000ha with multiple copper-zinc and nickel-copper-cobalt-PGE-gold intrusive targets within Orion's tenements. Multiple VMS-style copper-zinc and nickel-copper-cobalt-PGE-gold in ultramafic intrusive targets are known within the tenements, including numerous unexplored targets.

Chief among these are:

- The Kantienspan zinc-copper VMS project – where a substantial mineralised deposit has been identified through drill-testing with this project to be progressed to pre-feasibility level;

- The Witkop copper-gold project – where a preliminary assessment has been completed and discussions are underway regarding the potential development of the project;
- The Bokspuits copper-zinc VMS project – where additional follow-up exploration is required following geophysical investigation and preliminary drill-testing; and
- Orange River pegmatite swarm – where additional lithium, beryllium and Rare Earth Element (REE) mineralisation potential is being investigated in an area that traverses the Orion tenements.

Exploration activities in the Quarter included on-going review, processing and modelling of existing geophysical survey results, and the planning and design of detailed follow-up geophysical survey programs.

Australian Projects

Fraser Range – Nickel-Copper Projects (Western Australia)

The Fraser Range Project is a belt-scale project, highly prospective for high-value magmatic nickel-copper-cobalt sulphide discoveries. The project is a joint venture with ASX-listed IGO Limited, which is the dominant landholder in the Fraser Range and owns the Nova Operation, which is mining and processing the Nova-Bollinger nickel-copper-cobalt sulphide deposit discovered in 2015.

Orion maintains a tenement package in the Fraser Range under a joint venture with IGO. In terms of the joint venture, IGO is responsible for the exploration of all the tenements while Orion is free carried by IGO through to the first Pre-Feasibility Study. This allows Orion to maintain exposure to ongoing exploration and development of the project, without any ongoing financial commitment.

During the Quarter, tenements held within the JV with IGO which had been surrendered or voluntarily relinquished, were finalised with the West Australian Department of Mineral Resources. A write down of the carrying value of the Fraser Range Project by the Company was also completed.

The Moving Loop Electromagnetic (**MLEM**) survey at the Peninsula target area (E39/1653) was completed during the Quarter by IGO, with results received following Quarter end. The MLEM was testing a target anomaly imaged from a previous airborne electromagnetic survey. Work planned for the next Quarter on E39/1653 includes track rehabilitation.

Walhalla – Gold and Polymetals Project (Victoria)

While the Walhalla-Woods Point District is best known for gold mining, high-grade copper-nickel and PGE mineralisation also occurs within the belt. Both the gold and copper-nickel-PGE mineralisation within this district are hosted within dykes from the Woods Point Dyke Swarm, a series of ultramafic to felsic dykes occurring over a 75km long north-south belt.

No field or exploration work was carried out on the Walhalla Project during the Quarter.

Corporate

Cash and Finance

Cash on hand at the end of the Quarter was A\$6.35 million. Payments made to related parties and their associates during the Quarter was A\$164k for director fees and consulting fees as well as A\$(42)k (nett) to joint venture partners, as listed in Section 6 of the Company's Quarterly Cash Flow Report (Appendix 5B).

PCZM Project Funding

On 10 September 2024, the Group received final a draw down amount of A\$0.29 million from Triple Flag under the terms of the Triple Flag Early Funding Agreement (gross revenue return), and on 9 September 2024, an amount of ZAR19 million (~A\$1.56 million) was drawn down from the Industrial Development Corporation of South Africa Limited (**IDC**) Convertible Loan.

A summary of the material terms of the IDC Convertible Loan definitive agreement was provided in Appendix 1 of the Company's 8 February 2023 ASX/JSE release and a summary of the material terms of the Triple Flag definitive agreements was provided in Appendix 1 of the 13 December 2022 ASX/JSE release.

Okiep Copper Project – Settlement of Phases

With all conditions precedent satisfied, the Company proceeded with the implementation of the first phase of the acquisition of a controlling interest in the Okiep Copper Project on or about 7 May 2024 (refer ASX/JSE releases 17 April 2024 and 6 May 2024).

The Company anticipates completion of phases two and three of the acquisition, which are each subject to the granting of the relevant mineral rights (**Mineral Rights**) to Southern African Tantalum Mining (Pty) Ltd, Nababeep Copper Company (Pty) Ltd and Bulletrap Copper Co (Pty) Ltd (as the case may be) (each a **Target Entity**) and, if applicable, approval from the Minister of the Department of Mineral and Petroleum Resources (or his lawful delegate) in terms of the South African Mineral and Petroleum Resources Development Act, 2002 for the transfer of the relevant Mineral Right(s) from each Target Entity to the relevant Orion subsidiary (section 11 consent), in the coming months.

The Suspensive Conditions, including approval from the South African Takeover Regulation Panel, for the New Okiep Exploration Company (Pty) Ltd (**NOE**) and New Okiep Mining Company (Pty) Ltd (**NOM**) Historically Disadvantaged South African transactions have been fulfilled, and the Closing Date (as defined in the Black Economic Empowerment Entrepreneur Share (20%) Acquisition Agreement amongst Area Metals Holdings No 6 (Pty) Ltd, Landmark Capital Investments (Pty) Ltd, Ten To Twelve (Pty) Ltd, Blue Mountain Strategy (Pty) Ltd, NOE and NOM (refer ASX/JSE releases 17 April 2024 and 7 September 2022)) will be Monday, 3 February 2025.

Shares in Lieu of Non-Executive Director Fees

To preserve the Company's cash reserves, certain Company Non-Executive Directors have elected, subject to shareholder approval, to receive a proportion of their accrued Director fees in Shares in lieu of cash.

Each Director may at any time and at their election, alter the proportion of Director fees to be received in Director Fees Shares and such election shall apply from the date that the Company receives the election in writing from the Director. The Director Fees Shares shall be issued in arrears in respect of accrued Director fees, subject to shareholder approval at the relevant general meeting.

During the Quarter, following receipt of shareholder approval at the annual general meeting held on 20 November 2024, the Company issued 1.74 million Shares to Non-Executive Directors Mr Godfrey Gomwe, Ms Patience Mpofu and Mr Anthony Lennox. The Shares were issued at a deemed issue price of A\$0.014 per Share.

Annual General Meeting

The Annual General Meeting of Shareholders of Orion was held at the offices of Clayton Utz, Level 27, QV1 Building, 250 St Georges Terrace, Perth, Western Australia on Wednesday 20 November 2024. All resolutions put to Shareholders was passed by a poll.

Tenement Table

Tenement	Project	Ownership Interest	Change in Quarter	Joint Venture Partner
South Africa				
NC30/5/1/1/2/11850PR NC30/5/1/1/2/13528PR	Bartotrax	100%	---	---
NC30/5/1/2/2/10138MR	Prieska Copper Zinc Mine	70%	---	---
NC30/5/1/2/2/10146MR	Prieska Copper Zinc Mine	70%	---	---
NC30/5/1/1/2/12257PR	Prieska Near Mine-OE5	100%	---	---
NC30/5/1/1/2/12258PR	Prieska Near Mine-OE5	100%	---	---
NC30/5/1/1/2/12287PR	Prieska Near Mine-OE5	100%	---	---
NC30/5/1/1/2/12405PR	Prieska Near Mine-OE5	100%	---	---
NC30/5/1/1/2/11840PR NC30/5/1/1/2/13752PR	Doonies Pan	70%	---	---
NC30/5/1/2/2/10032MR	Namaqua-Disawell	25%	---	Namaqua Nickel Mining (Pty) Ltd
NC30/5/1/1/2/12216PR	Namaqua-Disawell	25%	---	Namaqua Nickel Mining (Pty) Ltd
NC30/5/1/1/2/13397PR	Namaqua-Disawell	25%	---	Disawell (Pty) Ltd
NC30/5/1/1/2/13398PR	Namaqua-Disawell	25%	---	Disawell (Pty) Ltd
NC30/5/1/1/2/12292PR	Masiqhame	50%	---	Masiqhame 855 (Pty) Ltd
NC30/5/1/1/2/12197PR	Bokspuits North	70%	---	---
NC30/5/1/1/2/11125PR NC30/5/1/1/2/13395PR	Okiep	100%	---	---
NC30/5/1/1/2/12357PR	Okiep	100%	---	---
NC30/5/1/1/2/12897PR	Okiep	100%	---	---
NC30/5/1/2/2/10150MR	Okiep	56.25%	---	Industrial Development Corporation of South Africa Limited (IDC)
NC30/5/1/1/2/12850PR	Okiep	56.25%	---	Industrial Development Corporation of South Africa Limited (IDC)
NC30/5/1/1/2/12755PR	Okiep	56.25%	Granted	Industrial Development Corporation of South Africa Limited (IDC)
NC30/5/1/1/2/12848PR	Okiep	56.25%	Granted	Industrial Development Corporation of South Africa Limited (IDC)
NC30/5/1/1/2/12852PR	Okiep	100%	---	---
NC30/5/1/1/2/12854PR	Okiep	100%	---	---
Western Australia				
E39/1653	Fraser Range	35%	---	IGO Limited & Geological Resources Pty Ltd
Victoria				
EL6069	Walhalla	100%	---	---
EL5042	Walhalla	100%	---	---

This Quarterly report is authorised by the Board.