



Orion Minerals

ASX/JSE RELEASE: 31 October 2019

Quarterly Activities Report For Period Ended 30 September 2019

HIGHLIGHTS

- **Prieska Project water treatment trials, optimisation studies and operational readiness activities are well advanced:**
 - Positive water treatment and mine dewatering field trials indicate the potential to improve on project execution timelines.
 - Process plant value engineering works confirm SAG milling has the potential to further simplify the process flowsheet and reduce the process plant footprint with commensurate reduction in capital and operating costs
 - Enterprise optimisation process commissioned, targeting improvements in project financial performance over and above an already robust Foundation Phase mining plan.
 - Key supply contracts negotiations under way in preparation for project construction approval.
- **Prieska near-mine exploration:**
 - Soil samples collected over 14 of the 17 priority areas selected from the Airborne Electro Magnetic (SkyTEM™) survey covering the near-mine prospecting rights.
- **Regional exploration program advancing:**
 - Soil sampling and mapping progressing well with soil sampling grids completed in three areas.
- **Australia - Fraser Range drilling in progress:**
 - Independence Group commenced drilling on Cu-Ni and Cu-Zn targets on the Orion – Independence Group Joint Venture tenements.
 - Drilling at the North West Passage Prospect intersected gabbronorite with veins and blebby pyhrotite with disseminated chalcopyrite.
- **Corporate:**
 - Subsequent to Quarter end, commitments received for \$6.4M Share placement to sophisticated and professional investors at \$0.025 per Share and a Share Purchase Plan was announced to provide eligible shareholders with the opportunity to subscribe for new Shares in Orion at the same issue price as Shares issued under the Placement.

Operations Report

Orion Minerals Limited (**Company** or **Orion**) strives to achieve a sustainable balance between intense operational effort and a strong focus on social responsibility.

Health and Safety, Environmental Management and Community Engagement

Health and Safety

One lost-time injury was reported during the Quarter across all sites. An employee at the Prieska Copper-Zinc Project (**Prieska Project**) sustained a laceration to a finger whilst manually carrying a drill rod for use in the main decline. Subsequent to the accident, a mechanical pipe-handling device has been manufactured and put into use to minimise manual handling of drill rods.

The hours worked for the Quarter and financial year to date are shown below.

Table 1: Hours worked at the Areachap Projects (South Africa).

Category of Work	Hours Worked	
	Quarter	Financial Year to Date
Exploration	13,869	13,869
Mine Re-Entry	3,469	3,469
Contractors	368	368
Total	17,706	17,706

The Lost-Time Injury Frequency Rate (**LTIFR**) per 200,000 hours worked is 3.56 for the Quarter and 3.56 for the financial year to date.

Environmental Management

Work continued on securing the approvals required in order to undertake mining operations within the Square Kilometre Array Radio Telescope Project (**SKA**) area, where the Prieska Project is located. A key requirement before approvals are granted is developing the Electromagnetic Capability plan (**EMC**).

An EMC Committee has been formed to undertake this work stream. The EMC Committee consists of representatives from Orion, the South African Astronomy Management Authority (**AMA**) and Interference Testing Consultants (**ITC**) who are acting as the Company's technical consultants. The EMC Committee is overseeing the gathering of EMC-related specifications for all equipment planned to be used on site and with the supervision of EMC testing of such equipment where required. Based on the outcomes of these investigations, mitigation measures will be designed and implemented to ensure electromagnetic emission levels from mining operations remain below the limits set by the SKA authorities.

Community and Stakeholder Engagement

The inaugural meeting of the Orion Siyathemba Stakeholder Engagement Forum (**OSSEF**) was held in Prieska on 18 July 2019. The OSSEF is the platform for representative community interest groups to keep apprised of the developments at the Prieska Project. The inaugural meeting was well attended, with a full complement of participants representing the local communities, various local government departments, Company management, employees and shareholders.

In anticipation of the upcoming construction and operational phases of the Prieska Project, the Company collaborated with the Department of Economic Development and Tourism (DEDAT) in Kimberley and the Northern Cape Rural TVET College, Centre for Enterprise Rapid Incubation (CFE) on a variety of

development initiatives aimed to support and promote Small Medium and Micro Enterprises (SMMEs) in the Siyathemba Municipality.

Premises were arranged by the Company at the local municipal offices in Marydale and Niekerkshoop, to provide community liaison services to these geographically remote areas via satellite links. These premises will provide the remote communities with ready-access for submitting job applications, registration of local businesses and business initiatives on the nation-wide procurement portal, SCNet, and to facilitate general communication.

Engagement with the community in the town of Vanwyksvlei, approximately 60km south-west of Copperton was successfully initiated during the Quarter. Vanwyksvlei falls outside the Siyathemba Municipality, however, due to the proximity of the town to the Prieska Project, its population of approximately 2,000 residents are considered part of the near-mine community. An Orion representative attended a stakeholder meeting and a Services Expo during September 2019, where an Orion stand was set up to collect resumes, assist with local vendor registrations and provide information about the Prieska Project and other Company news.

The Spatial Planning and Land Use Management Act (SPLUMA) application process for the proposed residential development in Prieska continued, with the engagement of an environmental consultancy group to undertake the environmental impact assessment.

Tenement Overview

During the Quarter, the Company continued work on its highly prospective South African projects, including focusing on optimisation works, following the completion of the Prieska Project Bankable Feasibility Study (BFS) in June 2019 and soil sampling at the near-mine prospects and regional project, Kantiempaan. In the Fraser Range, the Company's joint venture partner, Independence Group NL (ASX: IGO), began a drill program, as follow-up testing from geophysical surveys that identified a number of targets.

Exploration and Mine Development

Areachap Belt Projects (South Africa)

Prieska Copper-Zinc Project

Project Overview

The Prieska Project continues to be the focus of the Company's activities and is now at an advanced stage, with a maiden Ore Reserve estimate and a BFS recently completed (refer ASX release 26 June 2019). Post-BFS activities undertaken during the Quarter, included a focus on optimisation studies and preparing for mine construction and securing project funding, with the intention to have the requisite licences to operate the mine in place by year-end 2019 so that project construction can commence during 2020 subject to funding availability.

Prieska Project Bankable Feasibility Study

Post-Bankable Feasibility Study (BFS) Works

Several optimisation studies are underway following the completion of mine feasibility studies and the release of the BFS Report in June 2019. Key studies in progress include (refer ASX release 31 October 2019):

- water treatment trials investigating supplementary means of dealing with the water to be pumped out from the underground workings so that the dewatering timeline can be reduced;
- value engineering of the ore processing plant designs and layouts to improve operability and reduce capital and operating costs; and
- mine-to-market enterprise optimisation of the Foundation Phase mining plan, to holistically assess the key value drivers of the project and ensure that the best business scenario is the one taken to execution.

Pilot-Scale Dewatering Field Trials

The BFS plan assumes the dewatering of approximately 8.7M cubic metres of accumulated mine water, into a lined surface dam, before any mining can take place. The mine is flooded to within 320m of the surface, (Figure 1).

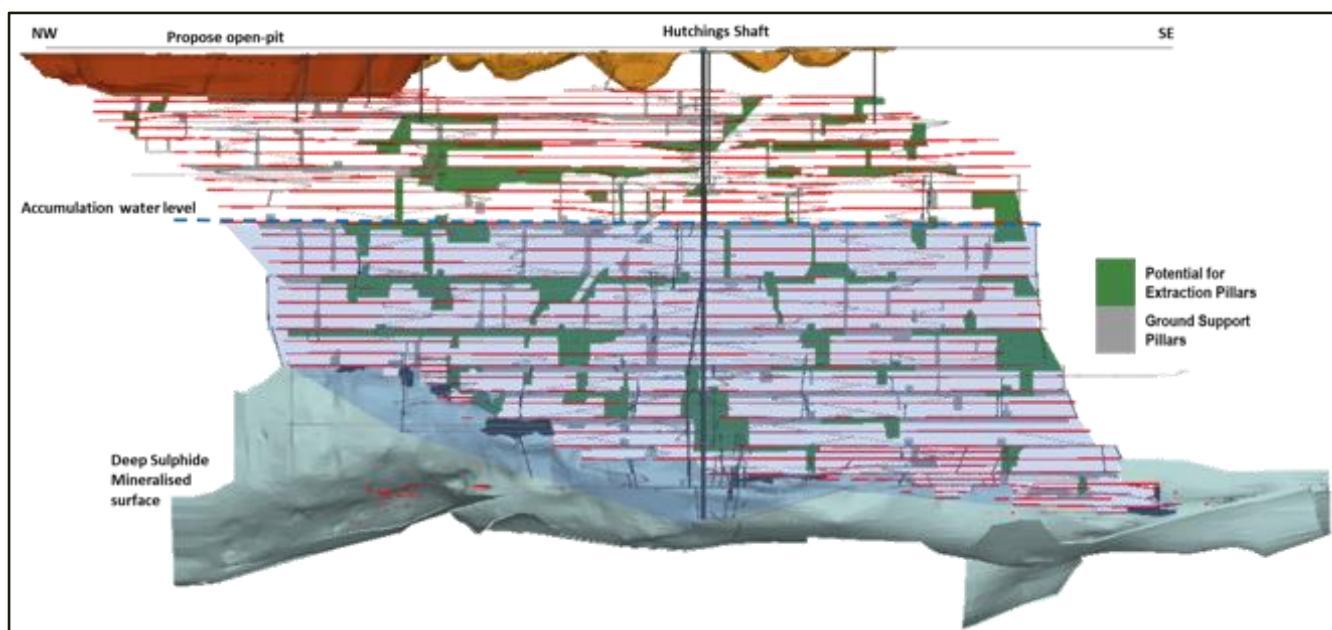


Figure 1: Long-section view of the Prieska Project underground workings showing the accumulated water level.

The BFS assumes the water is to be evaporated using mechanical evaporators, with no water discharged offsite. The rate at which the stored water can be evaporated is the limiting factor to how quickly mine dewatering can take place. The current plan assumes an 18-month timeline to setup and empty the mine of the accumulated water which would be pumped into a surface dam with a designed maximum capacity of 1M m³. A bank of evaporators will supplement natural evaporation to ensure evaporation matches the 1,200m³ per hour average dewatering rate that is planned. If some of the water can be discharged offsite, the project economics could significantly improve by reducing the time to dewater the mine and the required evaporation dam footprint.

Offsite water discharge, however, requires that the water be treated to achieve chemical concentrations prescribed by environmental regulations, even though the mine water has been shown to have a neutral pH and low levels of chemical contaminants, including no micro-biological contaminants at all.

The water treatment trials were commenced in July 2019 and aim to provide the engineering data to allow detailed design and costings of water treatment and discharge options, (refer ASX release 30 July 2019). The trials are being undertaken at a pilot scale in three phases which are due for completion before year-end 2019. A water treatment plant, designed specifically for the intended water treatment trials, has been constructed and established onsite (Figure 2).



Figure 2: Water treatment plant container and processing tanks at the Prieska Project site.

Phase 1 aims to confirm the technical feasibility of treating the shaft water, to a purity permitted for agricultural use, via a combination of chemical treatment, precipitation, filtration and reverse osmosis; Phase 2 aims to determine the range of water qualities that can viably be produced and Phase 3 involves completing the trade-off studies on the various available options, taking into account comparative project economics, environmental impact and regulations.

Phase 1 works are now well underway and showing encouraging results. The design intent of Phase 1 was to treat Prieska Project shaft water to a purity meeting South African National Standards (SANS 241:2015) drinking water standards using the combination of selected treatment processes. The process stages are water aeration (oxidation), lime softening and clarification, coarse filtration, ultrafiltration and finally reverse osmosis (Figure 3).

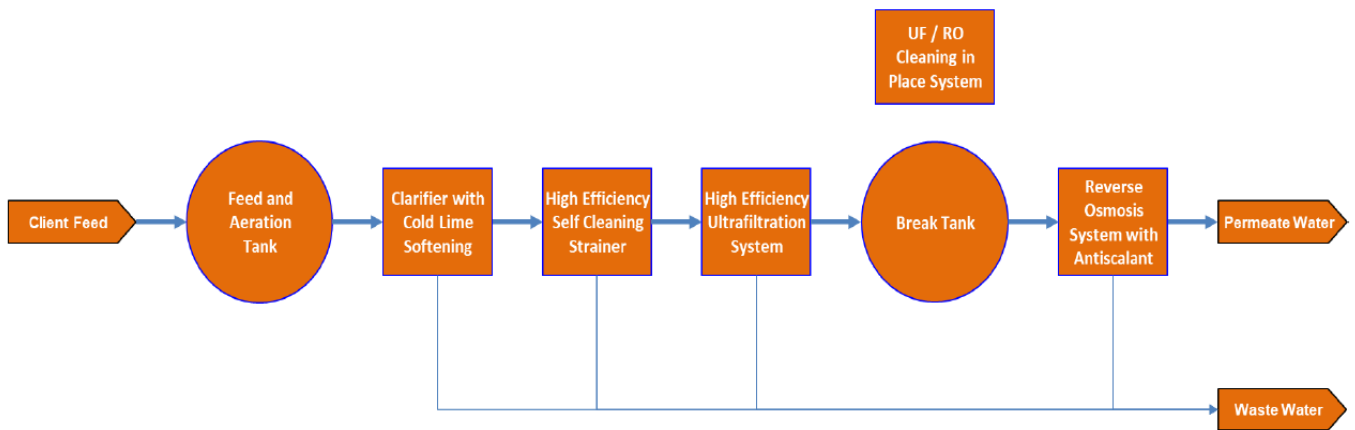


Figure 3: Water treatment plant process stages

Water treatment testing was performed over a two-week period using shaft water from 380m and 680m below surface and will continue with pumping at 780m and 880m. Preliminary results indicate that water treatment to SANS drinking water standards can be effectively achieved using the designed water treatment flowsheet (refer ASX release 31 October 2019). All process stages achieved their design intent,

with treated water recoveries of up to 78%. Reagent and power consumption rates were also determined as tabled below in Table 2.

Parameter	Reagent consumption	
Lime	600.0	g/m ³
Caustic	57.90	g/m ³
Hydrochloric acid	103.7	g/m ³
Power	4.50	kW/m ³

Table 2: Reagent and power consumption measured for the water treatment as a unit of feed water throughput over the two-week preliminary trial period.

Based on the work done to date, a preliminary cost comparison of a technically realistic water treatment scenario to the baseline evaporation plan, indicates that water treatment has potential merit, given there is scope to more easily increase the rate of pumping with an offsite discharge option and so reduce the time to dewater the mine, as well as reduce the size of surface water storage dams. Water treatment costs were determined to be in the same order of magnitude to evaporation, (refer ASX release 31 October 2019). Water treatment and discharge unit total costs were estimated to be AUD2.74 per m³ of water treated compared to AUD2.84 per m³ in the case of using mechanical evaporation, as shown in Table 3.

Parameter	Units	Water Treatment	Evaporation
Total Cost	AUDM	23.83	24.14
Capex	AUDM	15.00	21.45
Opex	AUDM	8.83	2.69
Unit Cost	AUD/m³	2.74	2.84

Table 3: Comparison of total costs for water treatment against evaporation for Prieska shaft water.

The next stage of the operation will use water sampled from different locations of the mine. Phase 2 and Phase 3 work streams await completion of Phases 1, with the work streams culminating in the selection of the optimal mix of water handling options by year-end 2019, to be incorporated into a refined mine operating plan.

Ore processing value engineering

Since completion of the BFS in June 2019, value engineering of the ore processing design has been in progress, (refer ASX release 30 July 2019). The value engineering exercise is:

- assessing semi-autogenous grinding (SAG) in the milling section as an alternative to ball milling;
- investigating improved plant layouts;
- rationalising the sizes, placement and uses of various plant buildings; and
- re-estimating efficient surge capacity allowances in line with the proposed refinements.

The use of SAG milling, rather than conventional ball milling as presently incorporated into the BFS, could simplify plant operability and significantly reduce upfront capital expenditure. The use of SAG milling removes the need for multi-stage crushing and screening of the rock ahead of milling (refer to Figure 4).

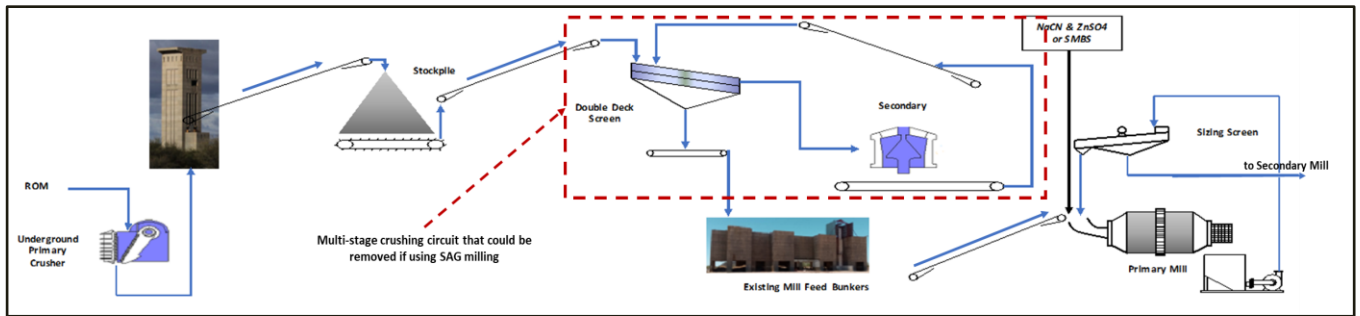


Figure 4: Current feasibility study ore processing design showing multi-stage crushing and screening section, removable if using SAG milling.

The plant and equipment comprising the current multi-stage crushing section of the plant contributes approximately AUD11M to the total plant capital cost of AUD109M (refer ASX release 26 June 2019). This represents a significant target for reducing capital expenditure without compromising overall plant recovery performance while the streamlined layout increases the plant's mechanical availability and reduces maintenance effort. A preliminary value engineering assessment using the BFS test work results was undertaken and this indicated that a SAG milling circuit, with a pebble crusher, no screening and a reduced length conveyor layout could be viable. This motivated further SAG milling test work and analyses, which were also advanced during the Quarter.

Approximately 400kg of samples suitable for SAG milling test work were collected from underground, (Table 4).

Description	Ore type	Quantity	Source
Sample 1A	Massive	100 kg	178m and 259m Levels
Sample 1B	Massive	100 kg	178m and 259m Levels
Sample 2A	Disseminated	100 kg	178m and 259m Levels
Sample 2B	Disseminated	100 kg	178m and 259m Levels

Table 4: Summary of samples collected

JKTech Drop-Weight (**JKDW**) test and the SMC tests were used to provide the ore specific parameters for use in the SAG mill simulations and evaluation. GeMet Geo-Metallurgical Services in Johannesburg, South Africa conducted the test work during September 2019. Results were then sent to JKTech in Queensland, Australia for the JKDW test analyses and to SMCT for SMC test analyses.

The results confirmed that the Prieska Project ore can be classified as soft and is amenable to milling via SAG milling. Due to the soft nature of the ore, high steel charge SAG milling will likely be the optimal design to ensure efficient and reliable operation. A SAG milling layout is being refined and advanced to final design with the development of associated capital and operating costs. This information will allow a comprehensive comparison to be made between SAG milling and the conventional ball milling option that is currently the basis of the BFS. This workstream is expected to be completed during Q4 2019.

Whittle Enterprise Optimisation

Whittle Consulting (Pty) Limited (**Whittle**) were engaged to undertake mine-to-market optimisation of the business plan that was formulated as part of the BFS, (refer ASX release 30 July 2019). Whittle use their proprietary enterprise optimisation process (WEO) which involves the detailed and accurate mapping and linking of the whole value chain, from the Mineral Resource inventory to the marketed product.

Thereafter, critical value drivers along the value chain are simultaneously varied, using specialised computer algorithms, until optimal permutations are identified.

Fundamental parameters such as cut-off grades, mining sequence, mining rates, targeted metal recoveries, mill throughput rates, targeted grind sizes, feed blends, product specifications, product logistics routes and variances in metal prices are all considered as one integrated system to derive a series of optimal business scenarios.

Whittle has a demonstrated track record of having dramatically improved base case plans, with previous projects having achieved in the order of 10% - 30% improvement in net present value (NPV) from their base cases.

Work is in progress and on track to prepare the base evaluation model that links the key value drivers and establishes a baseline scenario using the current BFS assumptions. Thereafter numerous permutations will be run and the practicality of implementing recommended changes concurrently assessed. This process of assessing WEO business scenarios is expected to be completed by November 2019, culminating in the selection of optimisations to be incorporated into an updated operating plan.

Consolidation of improvements into BFS

The outcomes from the value engineering and optimisation studies underway are intended to be incorporated into the mining plan to be compiled into an updated study report due for completion by Q1 2020.

Mining Right Applications

The Repli Trading No. 27 (Pty) Ltd (**Repli**) Environmental Authorisation was granted by the Department of Mineral Resources and Energy (**DMRE**) on 3 July 2019. No objections from registered Interested and Affected Parties were received by the Department. Following this, the Mining Right was granted on the 23 August 2019. Arrangements for the lodgement of the Rehabilitation Financial Guarantee amount are being concluded with the DMRE and execution of the Repli Mining Right will follow. The Repli Water Use Licence application is still in progress, with a final meeting with the Department of Water and Sanitation planned for November 2019, where signed design drawings on water handling facilities will be presented for approval.

The granting of the Vardocube Environmental Authorisation is imminent, and the Mining Right is anticipated to be received later in the December 2019 Quarter. No Water Use Licence is required for the Vardocube applications.

Infrastructure

Power Supply – As previously reported, Eskom has approved the Orion self-build upgrade to the Cuprum sub-station for the required 40 MVA power requirement for the Prieska Project. Orion is waiting on a formal reply (Budget Quote letter) from Eskom later in this Quarter around the financial terms for the planned power connection. An application for 15MVA of temporary power from the Cuprum sub-station which can be used during the Project's construction period prior to the 40MVA connection becoming available has been accepted by Eskom. This will eliminate the requirement for diesel generated power prior to the 40MVA coming on-line. Eskom are expected to decide on the Budget Quotes for both applications before year end 2019.

Deep Sulphide Resource

During the June 2019 Quarter a re-assessment of the Inferred Mineral Resources, estimated to be 10.2Mt at 1.14% Cu and 4.08% Zn, (and thus making up 36% of the estimated combined Indicated and Inferred Deep Sulphide Resource of 28.7Mt at 1.16%Cu and 3.77%Zn)¹, was undertaken to determine the most

¹ Mineral Resource reported in ASX release of 15 January 2019: "Prieska Total Resource Exceeds 30Mt @ 3.7% Zn and 1.2% Cu.

efficient way to upgrade these resources to an Indicated Mineral Resource level of confidence and a drilling program was formulated.

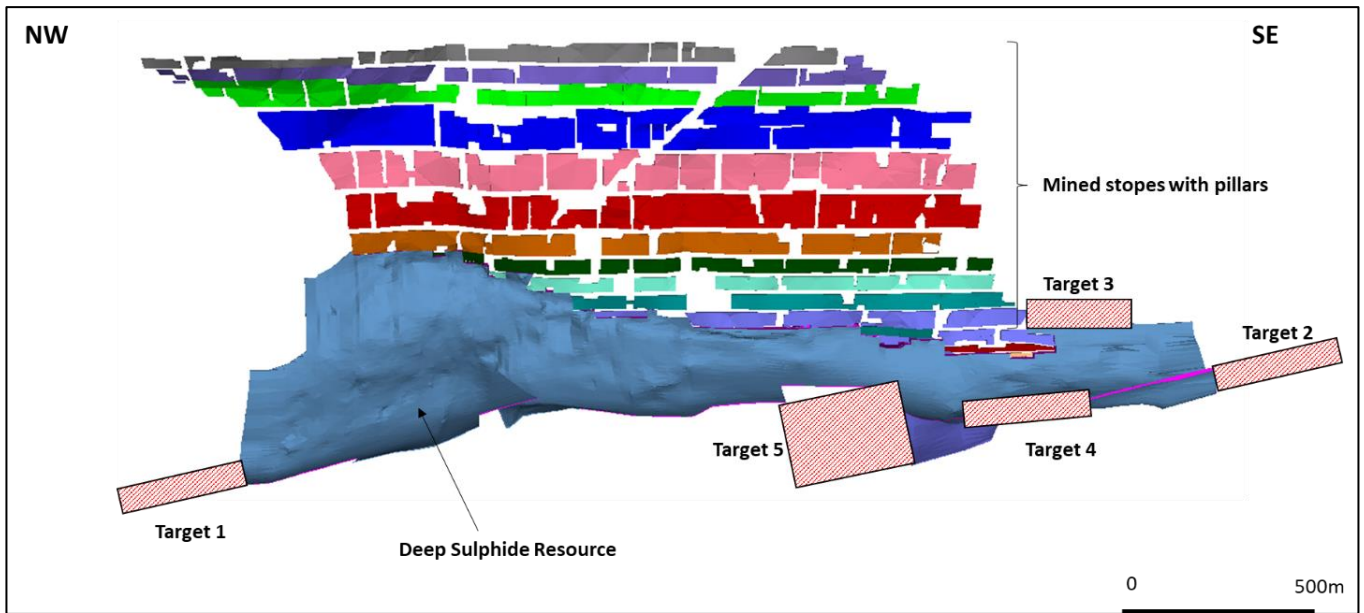


Figure 5: Longitudinal section of the Deep Sulphide Mineral Resource showing potential extensions to the Deep Sulphide Mineral Resource.

The drill plan designed to test areas within the Inferred Deep Sulphide Mineral Resource is currently being revised to convert more of the Inferred Deep Sulphide Mineral Resource into the higher confidence Indicated category. Drilling is to test areas within the Inferred Mineral Resource included in the mine plan and will take minimum mining widths and cut-off grades into consideration and include drilling possible extensions of the deposit (Figures 5 and 6). Both drilling from surface and drilling from underground platforms are considered in the plan.

Following Updated Open Pit Resource" available to the public on www.orionminerals.com.au/investors/market-news. 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 15 January 2019 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 materially changed.

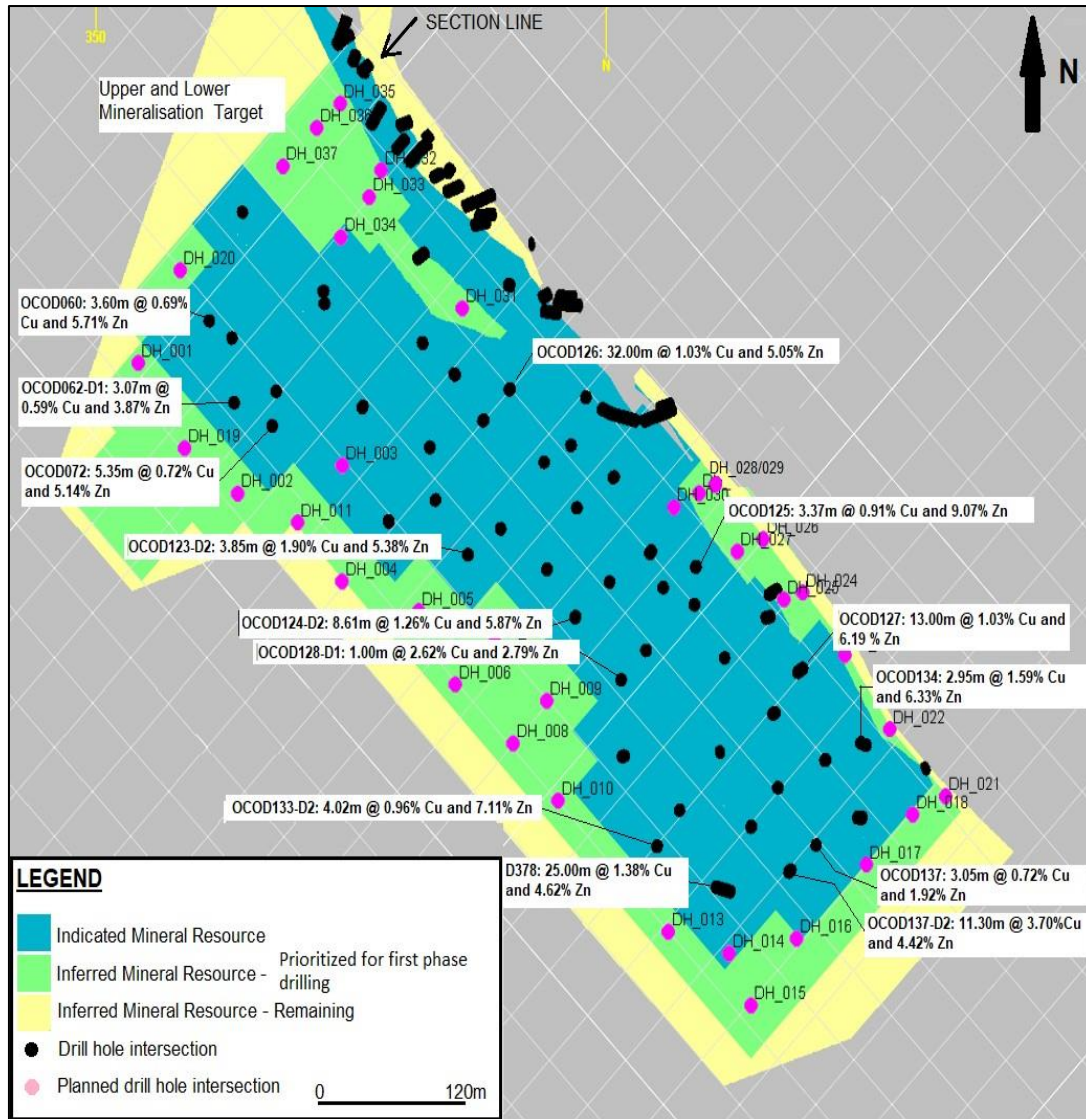


Figure 6: Plan-view showing planned drill holes and Orion drill results around the edges of the Indicated Resource in the south-eastern section of the Deep Sulphide Resource.

Near-Mine Projects

The near-mine projects are those projects within prospecting rights held by Repli, Repli (Doonies Pan), Vardocube and Bartotrax (Figure 9). Volcanic Massive Sulphide (**VMS**) deposits worldwide tend to occur in clusters, and apart from the giant Prieska Deposit, five smaller deposits occur on the near-mine project areas. These include Annex, explored by Anglovaal between 1969 and 1981, three deposits on Doonies Pan (Kielder) explored by Newmont South Africa between 1976 and 1979, referred to as the PK1, PK3 and PK6 Deposits and the recently discovered Ayoba mineralisation (Figure 7).

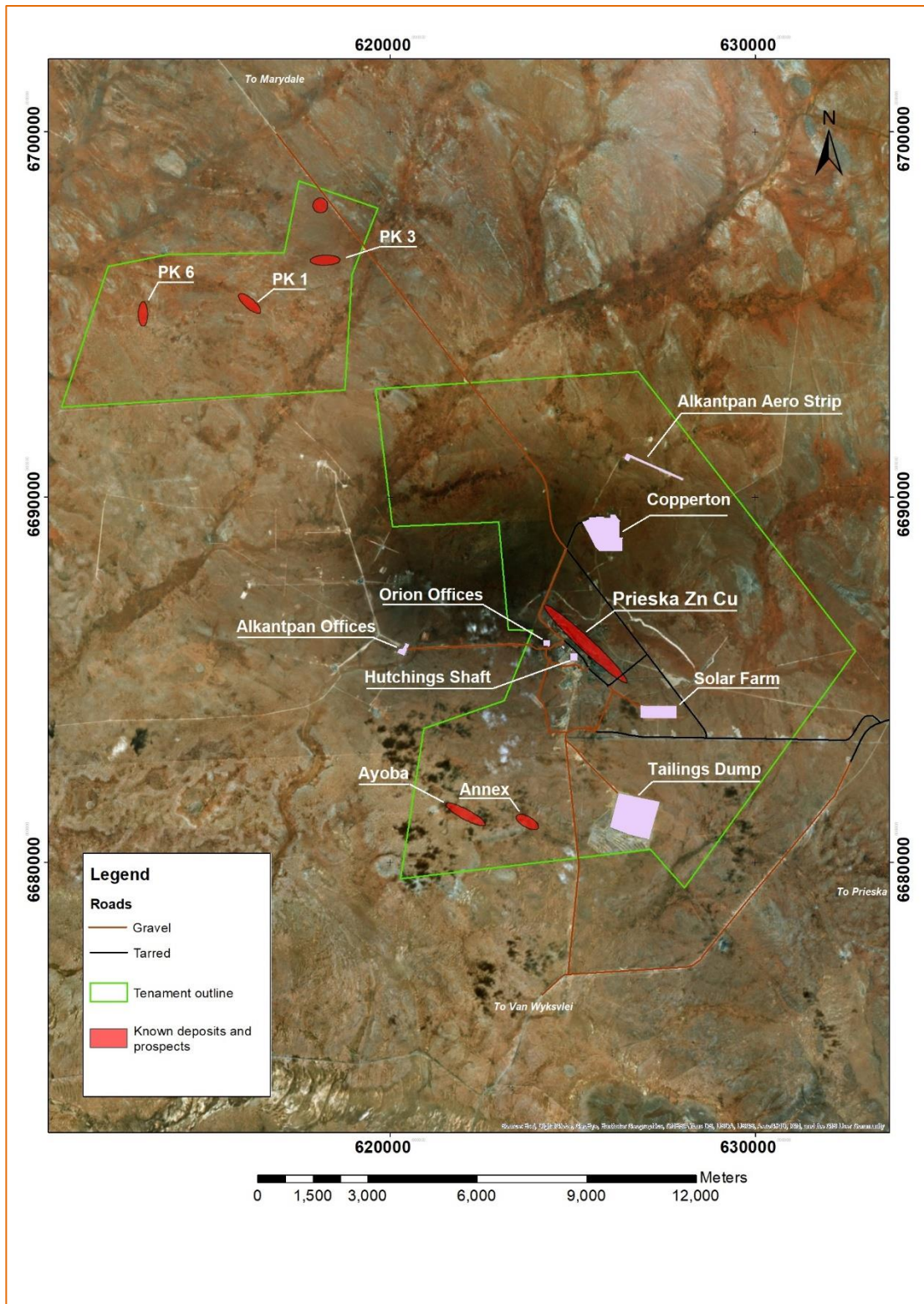


Figure 7: Surface plan showing the prospecting rights over and adjacent to the Prieska Project, and the location of the Annex, Kielder (PK1, PK3 and PK6) deposits and Ayoba Prospect.

Several Airborne Electro Magnetic or SkyTEM™ (AEM) anomalies were identified for follow-up work (refer ASX release 25 February 2019). Soil sampling and geological mapping over the AEM anomalies is in progress.

Soil Sampling

During the Quarter, soil samples were collected (Figure 11). The samples are screened to -80 micron and analysed using a handheld XRF analyser. Sample results will be reported once received from the lab and reviewed by the Company. They will be incorporated in the prioritisation of the AEM anomalies prior to ground Time Domain Electromagnetic surveys and diamond drilling. Fourteen of the seventeen AEM anomalies identified for follow-up have now been covered by soil sampling and geological mapping bringing the total number of samples collected on the Near Mine Prospecting Rights to three thousand nine hundred and ninety-four.

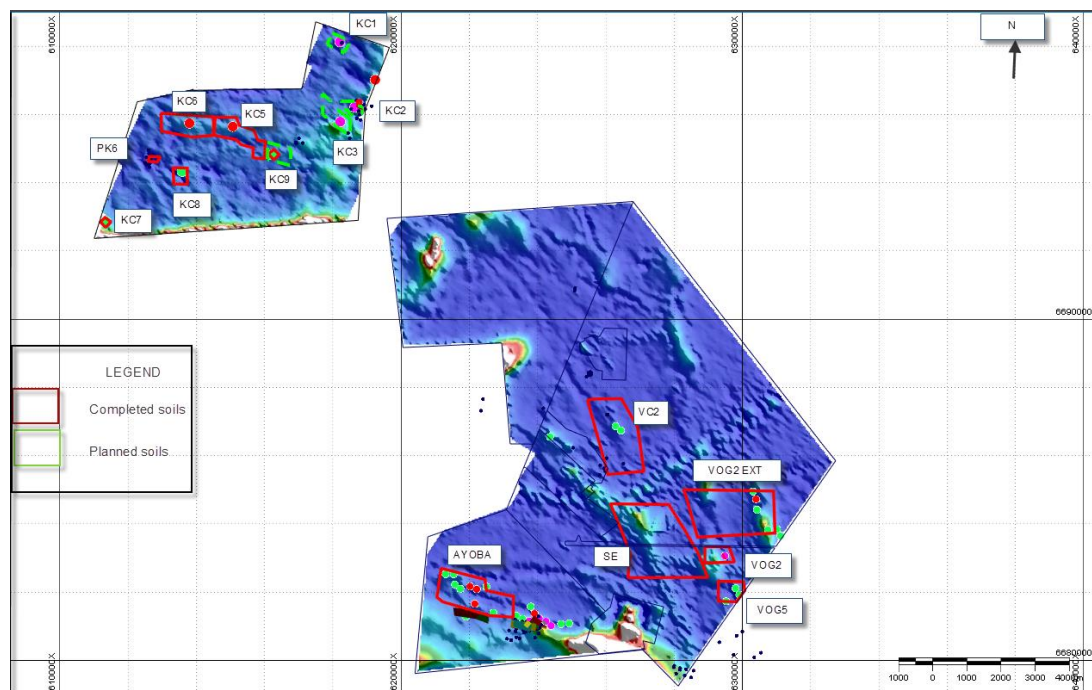


Figure 8: Aeromagnetic maps covering the Near Mine Prospecting Rights with soil sample surveys completed and in progress plotted.

Regional Exploration (South Africa)

Overview of Regional Activity

The Company maintains a substantial and prospective land holding in the Areachap Belt (Figure 9). The Areachap Belt is analogous to other Proterozoic mobile belts hosting major VMS and magmatic Ni-Cu-Co-PGE deposits.

VMS deposits almost always occur in clusters or “districts” associated with volcanic spreading centres, with four such centres having been identified in the Areachap Belt. In addition to the Near Mine Project, the Company is also prospecting for VMS deposits on the Masiqhame Prospecting Right (Figure 9). The Kantiapan and Boksputs Zinc-Copper Deposits are the two most prominent known VMS deposits on the Masiqhame Prospecting Right.

Similarly, world-class nickel deposits tend to also occur in clusters both on prospect and regional scale. Within these intrusive centres, a small number of the intrusions tend to host the best mineralisation depending upon the intrusion magma-flow dynamics and timing of magmatic sulphide immiscibility and transport. Several mafic intrusive bodies with nickel and associated metals are known on the Namaqua Disawell Prospecting Rights (Figure 9). The setting of mineralisation has been confirmed to be analogous to other orogenic-hosted, deep-seated magma conduit complexes such as Kabanga (Tanzania), Nova (Australia), Ntaka Hill (Tanzania), Akelikongo (Uganda), and Limoeiro (Brazil). Conduit style mineralisation is currently the top priority global target for magmatic Ni-Cu-PGE sulphide exploration.

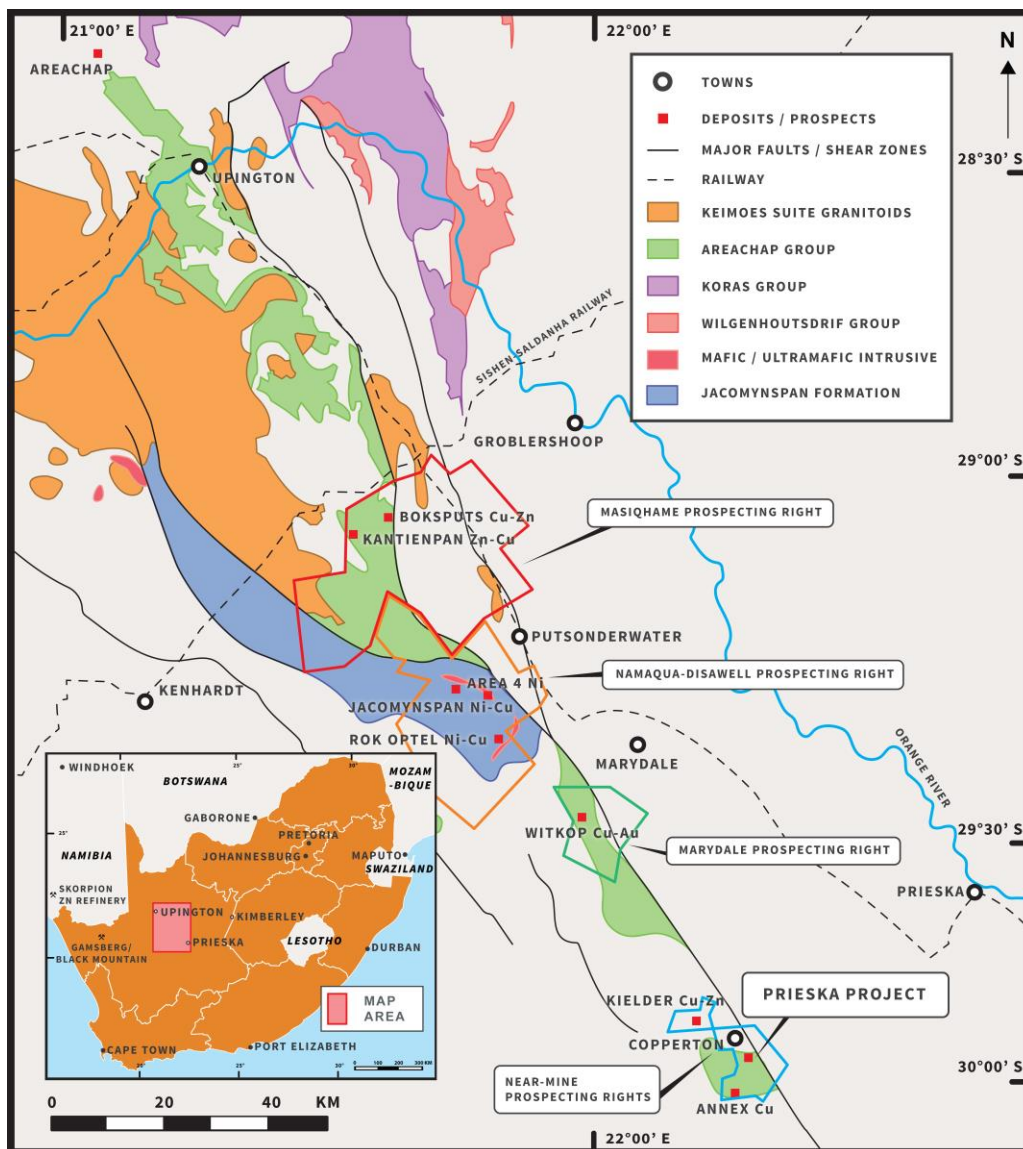


Figure 9: Regional geology map of the Areachap Belt showing prospecting rights held by, or currently under option to, the Company, and noted mineral occurrences as per published data from South African Council for Geoscience.

Namaqua Disawell Project Area

Overview

The Jacomynspan Deposit (Figure 9) was discovered by Anglo American Prospecting Services (**AAPS**) in 1971. Resource-definition drilling was carried out to a depth of 900m over 1.3km strike distance by AAPS, with disseminated nickel-sulphide mineralisation having been intersected with widths varying between 30 to 70m (refer ASX release 14 July 2016). Two other Ni-Cu deposits, Area 4 and Rok Optel, were investigated during the 1970s by AAPS, Newmont, Phelps Dodge and Hoch Metals. Subsequent and prior to the Company obtaining the prospecting and mining rights, various companies including Anglovaal, Glencor, Gold Fields and Namaqua Nickel explored the area. African Nickel and the Company conducted AEM surveys over the Prospecting Right (refer ASX release 1 February 2018).

The Company followed up a number of AEM anomalies with ground Time Domain Electromagnetic surveys and prioritised the Rok Optel and Area 4 prospects for follow-up work (refer ASX release 3 July 2018). The Company drilled four diamond drill holes at Rok Optel while the Area 4 targets still remain to be tested (refer ASX release 24 October 2018).

Soil Sampling

Soil sampling covering the area between Rok Optel and Area 4 was completed during the Quarter bringing the total number of soil samples collected to date on the Disawell Prospecting Right to 1670 samples (Figure 10).

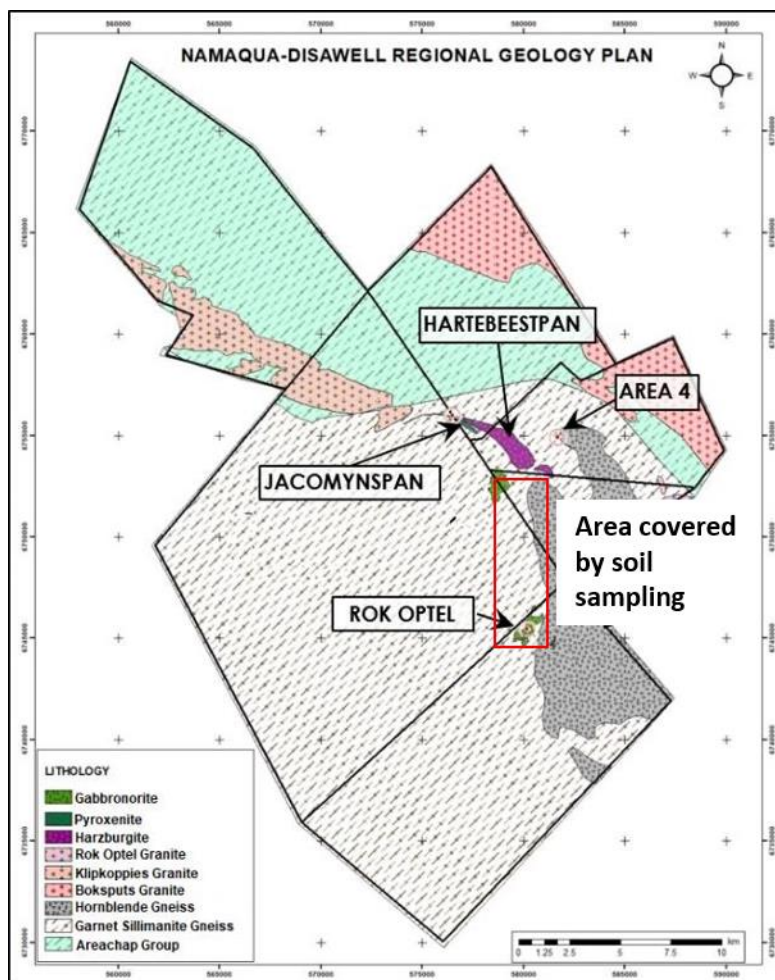


Figure 10: Simplified geology map of the Namaqua – Disawell Prospecting Rights showing the localities of known Ni-Cu prospects and soil sampling conducted during the Quarter.

Masiqhame Project Area

Contiguous to the north of the Namaqua-Disawell Project, this project is defined in terms of the Masiqhame tenement holding and includes the Kantienpan and Bokspits Zn-Cu VMS deposits (Figure 9). With its known VMS deposits, numerous Cu-Zn mineral occurrences and regional geological setting, the area offers potential for new VMS Cu-Zn and magmatic Ni-sulphide discoveries. It is common for VMS districts to have small Cu-Zn deposits clustering close to a large deposit where on the Masiqhame Prospecting Right, the larger deposit is still to be discovered.

Soil sampling and mapping were undertaken during the Quarter. A total of 1598 soil samples were collected over the prospective horizons on the Bokspits project (Figure 11). Along the strike of the Kantienpan Deposit and following the interpreted paleo-seafloor setting 280 infill soil samples were collected (Figure 12). The total number of soil samples collected to date amounts to 3409. Results from the samples taken will be reported on once received from the lab and reviewed by the Company.

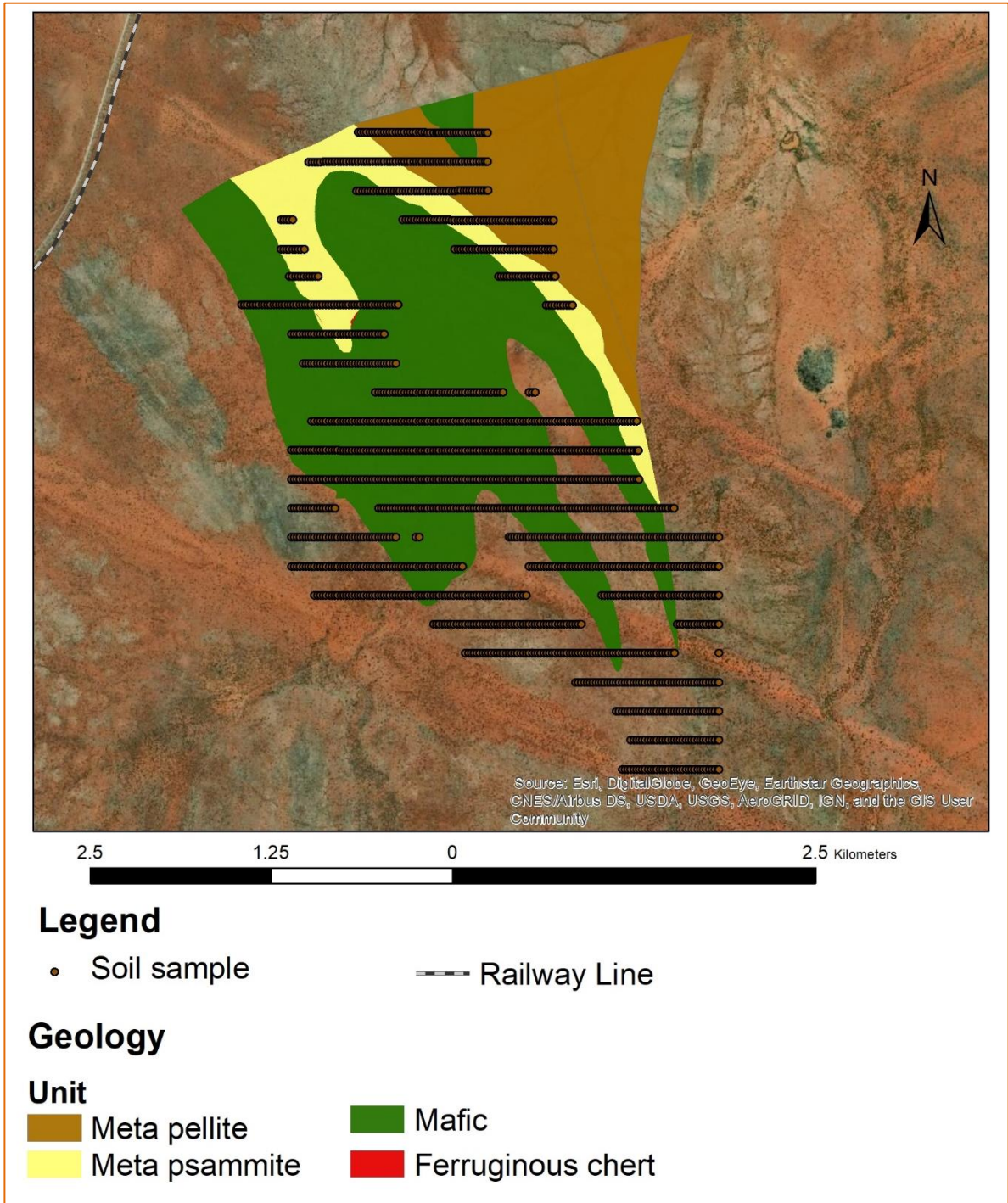


Figure 11: Soil samples collected in the Bokspits Area.

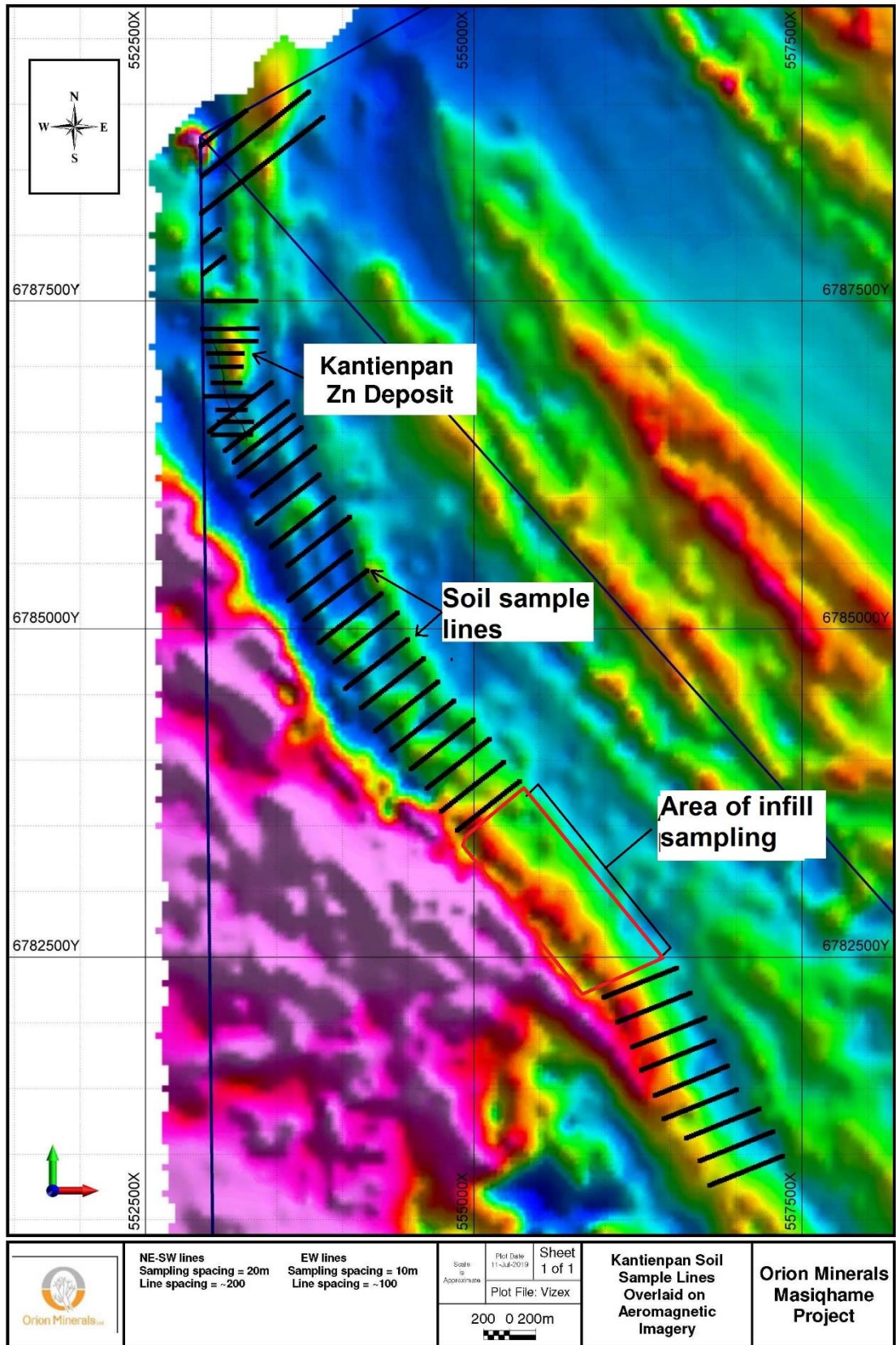


Figure 12: Aeromagnetic map showing area of infill soil sampling completed south of the Kantienpan Zinc Deposit.

Marydale Gold-Copper Project (Witkop)

In addition to the Prieska Project, the Company has exploration rights over the Marydale Gold-Copper Project located 60km north of the Prieska Project.

No field work was carried out during the Quarter on the Marydale Gold-Copper Project.

Australian Projects

Fraser Range – Nickel-Copper Projects (Western Australia)

Orion maintains a sizeable tenement package in the Fraser Range Province of Western Australia which Independence Group NL (ASX: IGO) is currently earning into via a Joint Venture Agreement (refer ASX release 10 March 2017).

Orion has been informed by IGO that drilling of two holes at the NW passage Cu-Ni target on tenement E39/1654 was completed. Hole 18AFD1001 drilled on the NW Passage Prospect intersected gabbronorite with narrow veins and blebby pyrrhotite and chalcopyrite (refer IGO ASX release 22 October 2019). A program has commenced to test high priority targets at the Pike Prospect on tenement E28/2367 where potential exists for both Ni-Cu Intrusive mineralisation and VMS Cu-Zn mineralisation.

Walhalla Gold and Polymetals Project (Victoria)

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

During the Quarter, the Company relinquished mining licence 5487. Following a moratorium period, Earth Resources Regulation granted an exemption over the area and the Company is in the process of re-applying for a mineral licence over the area of the previous mining licence. The Company's aim is to maintain tenure over this area and to protect the Company's gold mineral resources. The Company also has two existing exploration licence applications over prospective areas of Walhalla.

Tenement Table

Tenement	Project	Ownership Interest	Change in Quarter	Joint Venture Partner
South Africa				
NC30/5/1/1/2/10445PR	PCM	70.00% ¹	---	---
NC30/5/1/2/2/10244PR	Marydale	70.00%	---	---
NC30/5/1/1/2/11841PR	Vardocube	70.00%	---	---
NC30/5/1/1/2/11850PR	Bartotrax	70.00% ¹	---	---
NC30/5/1/1/2/20138MR	Prieska	70.00% ¹	Granted	---
NC30/5/1/1/2/11840MR	Donnies Pan	73.33%	---	---
NC30/5/1/1/2/10032MR	Namaqua-Disawell	18.50%	---	Namaqua Nickel Mining (Pty) Ltd
NC30/5/1/1/2/10938PR	Namaqua-Disawell	18.50%	---	Disawell (Pty) Ltd
NC30/5/1/1/2/11010PR	Namaqua-Disawell	18.50%	---	Disawell (Pty) Ltd
NC30/5/1/1/2/12292PR	Masiqhame	49.00%	---	Masiqhame 855 (Pty) Ltd
Western Australia				
E28/2367	Fraser Range	30%	---	Independence Group NL
E28/2378	Fraser Range	30%	---	Independence Group NL
E28/2462	Fraser Range	30%	---	Independence Group NL

Tenement	Project	Ownership Interest	Change in Quarter	Joint Venture Partner
E28/2596	Fraser Range	30%	---	Independence Group NL
E39/1653	Fraser Range	35%	---	Independence Group NL & Geological Resources Pty Ltd
E39/1654	Fraser Range	10%	---	Independence Group NL & NBX Pty Ltd
E69/2379	Fraser Range	10%	---	Independence Group NL & Ponton Minerals Pty Ltd
E69/2380	Fraser Range	10%	---	Independence Group NL & Ponton Minerals Pty Ltd
E69/2707	Fraser Range	10%	---	Independence Group NL & Ponton Minerals Pty Ltd
Victoria				
MIN5487	Walhalla	0%	Relinquished	---

(1) During the Quarter, the Company completed restructure of its BEE Partners in compliance with South Africa's Mining Charter III changes. The ownership percentage of certain licences reduced from 73.33% to 70.00%.

Corporate

Cash and Finance

Cash on hand at the end of the Quarter was \$0.6M. Subsequent to Quarter end, Orion announced a Share placement of \$6.4M at \$0.025 per Share and a Share Purchase Plan (see details below).

Capital Raising

Placement - \$6.4M

Subsequent to Quarter end, on 24 October 2019, the Company announced that it received commitments from investors to raise approximately \$5.5M by way of placement of fully paid ordinary shares (**Shares**) at \$0.025 per Share.

Following the announcement, the Company received additional commitments from investors, increasing the amount raised by the Company to \$6.4M, by way of the placement of 255M Shares at \$0.025 per Share (**Placement**).

As part of the Placement, Tembo Capital Mining Fund II LP and its affiliated entities (**Tembo Capital**), confirmed its continued support of Orion, through subscribing for \$2.5M in the Placement.

The Company intends to utilise proceeds raised from the Placement for BFS optimisation studies and early works at the Prieska Project, with the remainder earmarked for exploration on the Company's tenements in the Northern Cape of South Africa and working capital.

The Placement has been made to sophisticated investors, pursuant to Section 708A of the Corporations Act 2001. The issue of these Shares falls within the 15% capacity for issues of equity securities without shareholder approval afforded by ASX Listing Rule 7.1.

Placement - \$8M

In April 2019, the Company announced a pivotal \$8M capital raising underpinned by a group of high-profile South African investors as part of a proposed restructure of the Company's BEE equity participation at project level, achieving accelerated compliance with the ownership aspects of South African Mining Charter 3. The capital raising, conducted by way of placement, comprised the issue of 200.9M Shares at an issue price of \$0.04 per Share, together with one free attaching unlisted option for every two Shares issued (exercise price of \$0.05 and an expiry date of 31 October 2019). The placement included approximately \$4M placed to experienced BEE entrepreneurs, of which \$2M was placed to incoming BEE equity investors who will also invest at the Prieska Project level. Tembo Capital also confirmed its continued support of Orion through subscribing for \$2M in Tranche 1 of the placement.

The placement occurred in two stages, being:

- Tranche 1 – In April 2019, the Company issued 117.23M Shares and 58.61M options, to raise \$4.69M, resulting from a receipt of funds from investors for Tranche 1 commitments; and
- Tranche 2 – During the Quarter and completed in September 2019, a total of 83.71M Shares and 41.85M options were issued, to raise \$3.34M.

Share Purchase Plan

In addition to the Placement announced on 24 October 2019, the Company also announced a share purchase plan (**SPP**) providing shareholders an opportunity to increase their shareholding in the Company as it continues to advance its Prieska Project development opportunity.

The Company is offering its shareholders with a registered address in Australia, South Africa or New Zealand and certain shareholders in United Kingdom, Singapore, Mauritius or British Virgin Islands as at 7:00pm (Melbourne time) on 23 October 2019 (**Eligible Shareholders**) the opportunity to purchase Shares under a SPP.

The SPP offer will give Eligible Shareholders the opportunity to participate in the Company's capital raising on substantially the same terms as the Company's Placement (issue price will be \$0.025 per Share) (refer above). Each Eligible Shareholder will be entitled to apply for parcels of new Shares from as little as \$2,000 up to a maximum of \$30,000 without incurring brokerage or transaction costs.

The Company will issue a maximum of 80M SPP Shares under the SPP at an issue price of \$0.025 per share (being the same issue price as Shares issued under the Placement (refer above)). The Company will raise up to \$2.0M from the issue of SPP Shares.

All SPP Shares will be quoted on either the ASX or JSE (for South African Eligible Shareholders) and will rank equally with other fully paid ordinary shares on issue. No shareholder approval is necessary in respect of the Shares issued under the terms of the SPP.

The SPP opened on 30 October 2019 and is expected to close at 7:00pm (Melbourne time) on 29 November 2019. The SPP booklet containing further details of the SPP and application forms was released to the ASX on 30 October 2019 are expected to be sent to shareholders shortly. Eligible Shareholders should read the SPP booklet before deciding whether to participate in the SPP.

Important Dates¹:

Record Date	7:00pm (Melbourne time) on 23 October 2019
Share Purchase Plan offer opens	30 October 2019
Share Purchase Plan offer closes	7:00pm (Melbourne time) on 29 November 2019
Share Purchase Plan allocation announcement and Scale-back (if any)	5 December 2019
Issue date	5 December 2019
Quotation of new Shares	6 December 2019
Dispatch of holding statements	6 December 2019

¹Orion may vary any of the above dates in its absolute discretion by lodging a revised timetable with the ASX.

BEE ownership re-structure

In April 2019, Orion entered into an Memorandum of Understanding (**MoU**) with each of the existing BEE participants (being the Mosiapo Family Trust (**Mosiapo**), Power Matla (Pty) Ltd (**Power Matla**) and African Exploration and Mining Finance Corporation (SOC) Ltd (**AEMFC**) in its South African subsidiaries (being Repli, Vardocube, Bartotrax (Pty) Limited (**Bartotrax**) and Rich Rewards Trading 437 (Pty) Limited

(Rich Rewards). In terms of those MoU, the existing BEE participants agreed to exchange their shares in Orion's South African subsidiaries for approximately 135M JSE-listed Orion Shares. At the same time, Orion entered into a Memorandum of Agreement with two BEE entrepreneurs, Black Star Minerals (Pty) Ltd (**Black Star**) and Kolobe Nala Investment Company (Pty) Ltd (**KNI**), in terms of which they agreed to acquire a 20% interest in Repli, as well as a 20% interest in Orion's ownership interest in its Jacomynspan Project.

In August 2019, Orion concluded a Revised Memorandum of Agreement with Black Star, KNI and Safika Resources (Pty) Ltd (**Safika**) in terms of which Safika joined Black Star and KNI as part of the BEE consortium which would acquire the 20% interest in Repli and the 20% interest in Orion's ownership interest in its Jacomynspan Project. On 11 September 2019, a major component of the BEE Restructure was implemented. In terms of these transactions, Mosiapoa and Power Matla exchanged their shares in Repli, Rich Rewards and Bartotrax (as applicable) for 48.48M and 37.58M Orion Shares, respectively, at a deemed issue price of \$0.0314 per Share. In a simultaneous transaction, Prieska Resources (Pty) Ltd (**Prieska Resources**), acquired an effective 20% interest in Repli for a purchase consideration of ZAR142.78M (~\$14.08M), with this acquisition being vendor financed by Orion. Prieska Resources is a BEE company whose shares are held by Black Star (17.31%), KNI (37.97%) and Safika (44.72%).

The vendor finance advanced by Orion to Prieska Resources comprises two parts, namely:

- a secured loan for ZAR10.14M plus interest at South African Prime Interest Rate, repayable within 12 months after the project finance for the Prieska Project is closed; and
- preference shares in Prieska Resources issued to Orion to the value of ZAR132.64M which are redeemable by Prieska Resources at any time prior to the 8th anniversary of their date of issue at an IRR of 12%, failing which any of the preference shares held by Orion remaining after the 8th anniversary, will be automatically converted pro rata into ordinary shares in Prieska Resources up to a maximum of 49% of the shares in Prieska Resources or, subject to compliance with South African laws, an equivalent number of shares directly in Repli.

Simultaneously with the acquisition by Prieska Resources, the Orion Siyathemba Community Trust (Prieska Community Trust) and the Orion Siyathemba Employees Trust (Prieska Employees Trust) each acquired an effective 5% interest in Repli. While this acquisition was for nominal consideration, in terms of prevailing Mining Charter 3 legislation, Orion and Prieska Resources will be entitled to recover the costs incurred on behalf of the two trusts in developing the Prieska Project from future project cash flows.

Of the remaining components of the BEE restructure, the proposed exchange of shares by Mosiapoa and AEMFC in Vardocube remains subject to the satisfaction of certain conditions precedent which are being progressed. The other component of the BEE restructure, being the acquisition by Prieska Resources of its 20% interest in Orion's ownership interest in its Jacomynspan project is also being progressed and is expected to be implemented in Q4 2019.

Convertible Notes

On 24 September 2019, the Company announced that it had received conversion notices from all Convertible Noteholders, requesting the conversion of the Convertible Notes held by them into Shares. A total of 232.69M Convertible Notes to the value of \$6.05M (each with a face value of \$0.026) were issued on 17 March 2017 to various sophisticated and professional investors (**Convertible Notes**), as part of a previously announced capital raising (refer ASX release 7 February 2017). The Company obtained Shareholder approval for the issue of the Convertible Notes on 13 March 2017. Key terms of the Convertible Notes are set out in the Company's ASX release dated 8 March 2017 and 25 January 2019. The Company issued 222.31M Shares to the Noteholders on conversion of the Convertible Notes, thereby reducing the Company's current liabilities by \$5.8M (as 10.38M Convertible Notes were converted into Shares in April 2019).

Anglo American sefa Mining Fund – Preference Share Redemption

On 4 March 2019, the Company announced it had reached agreement with the value-adding South African institutional investor, Anglo American sefa Mining Fund (**AASMF**) to redeem Preference Shares

held by AASMF in one of Orion's key project subsidiaries for shares in Orion. Under the agreement, AASMF agreed to the redemption of the Preference Shares, in exchange for Orion Shares, the ASX and JSE listed parent company of Repli (**Share Exchange Agreement**).

AASMF subscribed for 15.75M redeemable preference shares in Repli in November 2015 at a subscription price of ZAR1 per redeemable preference share (ZAR15.75M (~\$1.58M)) (**Preference Shares**) as part of a seed capital investment with the previous owners of the Prieska Project.

Under the terms of the Share Exchange Agreement and following the receipt of Orion shareholder approval at a general meeting held on 7 June 2019, on 7 July 2019, Repli, a 73.33% owned subsidiary of Orion, voluntarily redeemed the Preference Shares in consideration for Orion issuing the Shares to AASMF.

In satisfaction of the redemption amount payable by Repli to AASMF of ZAR25.05M (~\$2.05M), in connection with the voluntary redemption of the Preference Shares by Repli, on 5 July 2019, Orion issued 77.57M Shares to AASMF at a deemed issue price of \$0.0323 per Share.

Annual Financial Report

Orion recorded a loss of \$10.75M after tax for the June 2019 financial year. The result is driven primarily by exploration expenditure incurred of \$3.05M which, under Orion's deferred exploration, evaluation and development policy, did not qualify to be capitalised and was expensed and finance expenses of \$1.76M, principally related to the Tembo Capital Bridge Loan fees and interest of \$0.9M and Convertible Note interest of \$0.8M.

Net cash used in operating activities and investing activities totalled \$18.78M and included payments for exploration and evaluation of \$15.06M. Net cash from financing activities totalled \$15.45M.

Annual General Meeting

The Annual General Meeting of shareholders of the Company will be held at the offices of Clayton Utz, Level 27, QV. 1 Building, 250 St Georges Terrace, Perth, Western Australia on Thursday, 28 November 2019 commencing at 3:00 p.m. (Perth time).