Orion Minerals

## ASX/JSE RELEASE: 25 October 2018

# Quarterly Activities Report For Period Ended 30 September 2018

# **HIGHLIGHTS**

## • Resource drilling at the Prieska Zinc-Copper Project continues to deliver positive results:

- 86 massive-sulphide intersections in Deep Sulphide Target confirm historical results.
- Resource drilling of the south-eastern continuation of the Deep Sulphide Target on the Vardocube Prospecting Right continued.
- Updated JORC Mineral Resource estimate scheduled for December 2018.
- Mine Feasibility Studies reach significant milestones:
  - Preliminary mine design layout and schedule completed, together with selection of underground mining fleet.
  - Follow-up locked-cycle metallurgical test work on the Deep Sulphide Target completed, confirming targeted recoveries and production of saleable zinc and copper concentrates.
  - Significant progress with power and water supply agreements, product logistics and marketing and permitting.

## • Near-mine exploration program commenced:

- Ground EM survey on Bartotrax Prospecting Right indicates conductor along strike of known Annex mineralisation.
- o Drill testing of EM conductor commenced.
- Repli Trading Prospecting Right (Doonies Pan) granted.
- Regional exploration program continues:
  - Drill testing of Fixed-Loop Time-Domain Electromagnetic targets (FLTDEM) started and is ongoing on the Namaqua-Disawell Prospecting Rights.
  - Drilling at the Rok Optel Prospect intersected several zones of Ni-Cu-PGE mineralised stringer and massive sulphides.
  - Two down-hole electromagnetic surveys (**DHEM**) completed on the Rok Optel Prospect with highly-conductive off-hole bodies detected in both surveys.
  - o Field mapping over SkyTEM™ anomalies continued.
  - Five FLTDEM surveys completed over the Masiqhame Prospecting Right.
  - FLTDEM surveys outline two highly-prospective drill targets on Boksputs in the Masiqhame Prospecting Right.
- Safety, environment and community engagement:
  - o Zero lost-time injuries for 131,351 man-hours worked at the Prieska Project.
- \$18M capital raising initiatives completed during the Quarter:
  - \$11.25M raised via placements to sophisticated and professional investors at \$0.037 per Share, conducted via two tranches. Tranche 1 Shares were issued during the June 2018 Quarter raising \$3.4M and Tranche 2 Shares were issued during the Quarter raising \$7.9M.

- \$0.25M raised via placement of Shares at \$0.037 per Share to the Company's Chairman, Mr Denis Waddell.
- Tembo Capital confirmed its continued support of Orion through subscribing for \$6.4M in Shares, at an issue price of \$0.037 per Share, with the subscription amount reducing the amount repayable to Tembo Capital under the Loan Facility.

# **Operations Report**

Orion Minerals Limited (**Company or Orion**) strives to achieve a sustainable balance of intense operations with a strong focus on social responsibility.

# Health and Safety, Environmental Management and Community Engagement

## Health and Safety

No lost-time injuries were reported during the Quarter.

At the Prieska Zinc-Copper Project (**Prieska Project**), which includes underground activity, the Lost-Time Injury Frequency Rate (LTIFR) per 200,000 man-hours worked was zero for the Quarter and for the financial year to date. One medical treatment case with a drill operator took place during the Quarter.

Catogory of Work	Hours Worked			
Culegoly of work	Quarter	Financial Year to Date		
Exploration	128,971	128,971		
Mine Re-Entry	2,380	2,380		
Total	131,351	131,351		

A National Safety Day – in line with the safety initiative being promoted by the Minerals Council of South Africa – took place at the Prieska Project site during the Quarter. The event was attended by 200 people, including the Company's staff as well as contracted employees of Precision Capital Development Services (Pty) Ltd (**PCDS**), Discovery Drilling (Pty) Ltd (**Discovery Drilling**) and the UMS Group (Shaft Sinkers).

The day focused on two key sections from the Mine Health and Safety Act, namely that safety is everyone's responsibility and an employee's right to leave a dangerous work-place. Each company gave a presentation on safety topics relevant to their respective work-streams. DRA Projects South Africa (Pty) Ltd (**DRA**) also took part in the safety day, with a similar event held at its Cape Town offices.

## **Environmental Management**

Representatives from the Department of Mineral Resources were invited for a project familiarisation visit. An environmental inspection was carried out and the need to improve on hydrocarbon management was identified. Codes of practices were updated and amended as necessary.

One environmental incident took place in the Quarter, which was an oil spill from an exploration drill rig. Approximately 30 litres of oil discharged from a leaking hose on a night shift. The contaminated soil was treated and removed in accordance with hydrocarbon management procedures.

## **Community Engagement**

Engagement with the Siyathemba Municipal Council, in terms of the Memorandum of Understanding and the Steercom, continued during the Quarter with particular focus on the following:

- Water infrastructure: A Memorandum of Understanding has been signed with the Siyathemba Municipality to secure a long-term water supply for the Prieska Project in return for a commitment by the Company to upgrade the municipal waterworks to meet the Project's requirements. This arrangement will also benefit the community as a whole. A Steercom Water Infrastructure Sub-Committee has been formed to draft a supply agreement in time for the conclusion of the Company's Bankable Feasibility Study (BFS).
- **Residential development:** A Steercom Residential Development Sub-Committee has been established to ensure that the Company's accommodation requirements are integrated with the Siyathemba Municipality residential development strategy.
- Environment: The Company has been instrumental in reinvigorating the "Prieska Greening Committee", which aims to improve the physical environment and therefore the living conditions for Prieska residents. A non-profit company has been registered (Prieska Greening NPC) and the Company is facilitating the provision of legal assistance to formulate a Memorandum of Incorporation (MOI) and a Service Level Agreement (SLA) between the Prieska Greening NPC and the Siyathemba Municipality, which together will provide the framework through which the greening objectives are achieved. In the meantime, the greening initiative was initiated with the Company's active involvement, through successful Arbor Week activities during September 2018. These included the planting of shade and fruit trees and the establishment of backyard vegetable gardens for indigent members of the community.

In August 2018, the Company arranged an educational seminar for small, medium and micro-sized enterprises (SMME) and non-governmental organisations (**NGO**) in Prieska. Presenters included the Department of Economic Development and Tourism (DEDAT), South African Revenue Services (SARS) and the Industrial Development Corporation (IDC).

The event was well attended with more than 70 representatives from the Prieska business and NGO communities. The Company plans to continuously facilitate local enterprise education and development.

In order to support the stimulation of economic growth through enterprise development, the Company continued to encourage potential local suppliers of goods and services to register online via the Supply Chain Network (SCNet) portal. At the time of reporting, over 80 businesses were registered on this portal, of which more than 50 are located in the Siyathemba area.

The Company will utilise this portal to assess the capabilities of local enterprises to fulfil the future requirements of the mine.

Community members seeking future mine employment continued to submit their curricula vitae and expressions of interest at the community liaison office, and at the time of reporting the Company's database has reached over 550 curricula vitae.

Analysis of the local skills base commenced during the Quarter as an input into the human resource and skills development plan required for the BFS and to meet the SLP commitments.

In August, the Regional Manager and other senior members of the management team of the Northern Cape regional branch of the Department of Mineral Resources (**DMR**) visited the Prieska Project site. This was followed in September by a visit by DMR officials of both the regional branch and the Pretoria head office.

The Company is encouraged by the commitment by the DMR at all levels to actively engage with the Company to facilitate the progression of the Company's projects within the regulatory environment.

# **Exploration and Mine Development**

## Areachap Belt Projects (South Africa)

The Company continued an intensive drilling campaign at the Deep Sulphide Target of the Prieska Zinc-Copper Project (**Prieska Project**) during the Quarter, with the aim of upgrading the classification of Mineral Resources in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 edition) (**JORC Code**).

This, along with other key studies, will be used as the basis for the BFS, which the Company aims to complete in Q2 2019.

# Prieska Zinc-Copper Project

The Prieska Project remains the focus of the Company's activities and is at an advanced stage of Feasibility Studies.

## **Project Overview**

The Prieska Project covers un-mined dip and strike extensions from a historical underground mining operation. Mineralisation was delineated by extensive drilling undertaken by the previous owners. The Company has digitally captured, validated and modelled all relevant project drilling data available from hard-copy sources.

This work has enabled the Company to define targets for near-surface mineralisation comprising oxide, supergene and primary sulphide material to a depth of 100m which is potentially accessible via an initial open pit (+105 Level Target (Open Pit)). Targets are based on 182 historical drill intersections, which could be relied on for width and depth of mineralisation, while 88 historical drill holes provided information on the grade of mineralisation.

Since acquiring the Prieska Project in March 2017, 261 additional drill holes have been digitised from historical mine plans below the -680m level. While the data have shortcomings due to the loss of some historical records which prevents classification of Mineral Resources in accordance with the JORC Code (2012), the Company is encouraged by the in-fill and confirmatory drilling results to date.

By 30 September 2018, 87 mother and deflected holes for resource estimation, and 15 deflections for metallurgical test work, had been drilled in the Deep Sulphide Target.

## Deep Sulphide Target drilling

During the Quarter, the Company continued with an intensive Deep Sulphide Target drill program which was mainly focused in the areas of the south-eastern Vardocube Prospecting Right, and the north-western Repli Prospecting Right (Figure 1). A total of 84,959m of drilling has been completed on the Deep Sulphide Target as at the end of September 2018.

At the height of activity, 18 surface diamond drill rigs were in operation, 14 of which were drilling on the Vardocube extension of the Deep Sulphide resource (Figure 1). A total of 17,804m of diamond drilling was completed during this Quarter, of which 15,013m was drilled on the Vardocube Prospecting Right.

The Company's drill program aims to provide statistical validation of historical drill data available for the Deep Sulphide Target, as well as to in-fill data points required for optimal drill spacing to allow classification of the Mineral Resource in accordance with the JORC Code (2012). Drilling is also testing new targets and extending the known mineralisation outside of the historical drill grid.

Drilling results from 20 drill hole intersections targeting the Deep Sulphide Target were announced for this Quarter (Table 1 and Figures 2-5, refer ASX release 18 September 2018 and 15 October 2018). These results are consistent with previously reported intersections in the vicinity of these recent intersections.

By the end of September 2018, the Company had completed 85 mother and deflected holes and received assays from 69 intersections on the Deep Sulphide target (Figures 2-5).

Intersections in these holes were achieved at vertical depths of 880m to 1,220m and required 467 directional wedges to steer the drilling to pre-determined target points. At the end of the Quarter, analytical results from an additional 15 intersections were awaited while two holes were still in progress.



Figure 1: Longitudinal projection of the Prieska Project showing the Repli and Vardocube resource areas. The areas blocked in red are enlarged in Figures 2 and 4 and show the intersection points of the drill holes reported in this Quarter.



Figure 2: Longitudinal projection of the North-West Target area of the Prieska Project, showing the additional drill hole information included in the Prieska Project database and the Company's drill holes reported in this Quarter.



Figure 3: Plan showing drill hole collar positions in the North-West Target area of the Prieska Project, with the Company's drill-holes that have been completed shown as black circles, and drill holes still in progress as white circles. Drill holes reported in this Quarter are annotated, and results indicated in Table 1.



Figure 4: Longitudinal projection of the South-East Target area of the Prieska Project, showing the additional drill-hole information included in the Prieska Project database and the Company's drill holes reported in this Quarter.



Figure 5: Plan showing drill-hole collar positions in the South-East Target area of the Prieska Project, with the Company's drill-holes that have been completed shown as black circles, and drill-holes still in progress as white circles. Drill-holes reported in this Quarter are annotated, and results are shown in Table 1 below.

 Table 1: Drill-hole intersections reported from the Deep Sulphide Target for the September 2018 Quarter (refer ASX releases 18

 September and 15 October 2018). All intersections weighted by length and relative density.

	East	North	From	То	Length	Cu	Zn	Au	Ag
Drill hole	(WGS84 LO23)	(WGS84 LO23)	(m)	(m)	(m)	(%)	(%)	(g/t)	(g/t)
Repli									
	-67,254	-3,315,542	1128.45	1132.75	4.30	1.87	4.61	0.33	20
00000000	-67,254	-3,315,542	1166.75	1168.30	1.55	0.78	7.57	0.21	8
OCOD115_D1	-68,303	-3,314,265	979.55	980.95	1.40	2.31	1.78	0.19	20
OCOD116_D4	-68,313	-3,314,367	1021.91	1027.58	5.67	0.67	2.74	0.18	8
	-67,171	-3,315,571	1087.26	1096.55	9.29	1.13	7.70	0.26	11
	-67,171	3,315,571	1099.65	1103.40	3.75	3.05	1.10	0.51	28
OCOD120	-67,170	3,315,570	1105.40	1114.00	8.60	1.01	1.28	0.28	10
	-67,170	3,315,570	1131.50	1136.70	5.20	0.86	7.18	0.18	9
	-67,170	3,315,570	1137.70	1145.20	7.50	1.11	5.87	0.19	9
0000100.01	-67,145	-3,315,591	1084.30	1096.20	11.90	1.36	5.10	0.26	13
0000120_01	-67,144	-3,315,592	1099.00	1100.40	1.40	2.20	3.46	1.06	18

	East	North	From	То	Length	Cu	Zn	Αu	Ag
Drill hole	(WGS84 LO23)	(WGS84 LO23)	(m)	(m)	(m)	(%)	(%)	(g/t)	(g/t)
	-67,143	-3,315,593	1115.70	1127.75	12.05	1.40	5.40	0.32	13
	-67,143	-3,315,594	1128.75	1130.90	2.15	0.27	6.53	0.10	4
Vardocube									
OCOD121	-67,160	-3,315,681	1099.95	1104.15	4.20	1.72	4.99	0.37	22
OCOD122	-67,068	-3,315,656	1075.01	1078.04	3.03	1.98	6.11	0.19	14
OCOD122_D5	-67,048	-3,315,642	1065.00	1068.52	3.52	0.60	3.73	0.18	7
OCOD123	-67,110	-3,315,697	1089.00	1095.35	6.35	1.12	8.31	0.19	10
OCOD123_D2	-67,133	-3,315,720	1096.70	1100.28	3.58	1.90	5.38	0.30	17
OCOD124	-67,015	-3,315,739	1080.20	1083.50	3.30	0.76	5.27	0.11	8
OCOD125	-66,943	-3,315,728	1061.00	1065.00	4.00	0.62	4.40	0.12	8
OCOD125_D2	-67,048	-3,315,642	1074.22	1076.80	2.58	0.50	2.58	0.11	6
OCOD128	-66,984	-3,315,788	1081.50	1084.05	2.55	1.28	6.69	0.16	9
OCOD128_D1	-67,005	-3,315,809	1089.00	1090.00	1.00	2.62	2.79	0.78	30
OCOD130	-66,919	-3,315,793	1060.30	1062.30	2.00	0.50	3.36	0.11	14
OCOD131_D1	-67,012	-3,315,665	1054.75	1065.00	10.25	1.03	3.84	0.23	16
000133	-66,956	-3,315,902	1086.00	1088.08	2.08	1.41	5.13	0.39	12
	-66,956	-3,315,902	1111.34	1112.35	1.01	2.00	2.66	0.14	17
OCOD135	-66,874	-3,315,886	1071.50	1076.10	4.60	0.42	5.49	0.40	17
OCOD137	-66,842	-3,315,927	1065.95	1069.00	3.05	0.72	1.92	0.16	6

## Mineral Resource Database

Verification of historical drill-hole data continued during the Quarter, and all 193 holes in the area below the mined-out stopes have now been verified for analytical data. Verification of the drill-hole traces is in progress with 107 out of a total of 193 holes having been verified to date. Once the verification process is completed, the geological database will be corrected with errors detected.

The full migration from the old Access database to the new Geobank database was completed during the Quarter, with the new Geobank database being continuously updated as new information is received.

## **Feasibility Studies**

## Mine Design

A preliminary mine design layout and schedule incorporating various paste back-fill cycles was completed during the Quarter. This work is being reviewed and possible optimisation steps are in the process of being identified that will be incorporated into an updated mine production schedule that will be produced following completion of the next update of the Deep Sulphide Target Mineral Resource model in early December 2018.

Based on this initial mining schedule, underground mining fleet selection has been completed.

The associated ventilation design has been completed and it is likely that a bulk air-cooling system will be required during the mid-summer months. The cooling unit would likely be a 3.2MW power rating and will be installed at the secondary (Beecroft) down-cast ventilation shaft.

Following a trade-off study completed in the Quarter, a rail haulage system is the current preferred means of rock handling on the 957-metre level. This would take blasted rock from the mining sections where load-haul dump units (**LHD**) and trucks would tip into ore-passes feeding the rail haulage level. The rail system would transport rock back to the shaft tips and crusher for hoisting to surface.

## Ore processing investigations

Test-work undertaken during the Quarter focused on replacing the sodium cyanide (**NaCN**) reagent with sodium meta-bisulphite (**SMBS**). NaCN is used as a zinc depressant in the copper flotation stream. The removal of NaCN from the process reagent stream will eliminate the potential environmental issues involved with handling NaCN and remove CN from the tailings stream. A CN detoxification plant will also not be required.

The tests are aimed at proving that SMBS will deliver the same performance characteristics as the NaCN. Three plant feed blends have been prepared and the first test stream has been completed and has shown positive results.

Follow-up locked-cycle metallurgical testing was completed on the Deep Sulphide Target to produce final copper and zinc concentrates. Results from the test program confirm the metallurgical continuity with the up-dip area of the mineralised zone. Excellent recoveries of both copper and zinc into separate, high-quality concentrates were achieved.

The total metal recoveries ranged from 80% to 94% for zinc and 80% to 86% for copper into separated concentrates. The metal grades of the concentrates produced ranged between 45% and 54% zinc and between 20% and 26% copper in the respective products. Gold and silver are collected in the copper concentrates, at levels that would qualify them as valuable by-products.

Results are consistent with expectations for bench-scale test work, which has limited stabilisation time and is therefore expected to show lower values than for steady-state plant operating conditions.

A number of metallurgical samples have been prepared from the exploration drilling that has taken place in the Vardocube Prospect section of the Resource over the last few months. The samples have been used for variability testing to further support the depth of knowledge on the flotation characteristics across the entire Resource. Test results to date are supporting the recovery and concentrate grade data achieved from the Repli Prospect section test-work.

## <u>Infrastructure</u>

**Power Supply** – The design and costing of a 132kV feeder bay has been completed by the Company's electrical engineering consultant which will be incorporated into the Eskom Cuprum sub-station adjacent to the mine. The design and construction methodology will be presented to the Eskom Technical Evaluation Forum (**TEF**) and, once the anticipated approval is received, construction of the installation can commence as part of early works.

The feeder bay will deliver power to a 132kV to 11kV sub-station to be built within the mine boundary area. This sub-station design has also been completed to a BFS level for inclusion into the Prieska Project's capital estimate. Once approval has been received from the TEF, detailed engineering design will commence on the mine sub-station, after which construction can begin also as part of early works.

**Water Supply** – A Memorandum of Understanding was signed with the Siyathemba Municipality regarding the Company's access to long-term water supply from the Prieska Water Works. Principles for financing the planned upgrades to the pumping infrastructure, involving both the Municipality and the Company, have been described in the agreement and indicative water tariffs have been stated.

The Prieska Project water-balance calculation is nearing completion which will determine the volume of water needed for the planned mining operation and the extent of the upgrades required at the Water Works.

The pipeline carrying water to the Prieska Project site will also undergo various upgrades and the assessment of the scale of the work has already been completed.

#### Product Logistics and Marketing

Investigations into trucking, rail and shipping options for the concentrate logistics are continuing. Once concentrate is trucked from site, the two rail-head options previously identified – namely Kimberley (300km from site) and Groveput (48km from site) – are both still under consideration. Discussions are continuing with Transnet, the National Rail and Ports Authority, on the viability of re-equipping the Groveput rail siding and further information is required around the expected cost of the upgrade before a decision can be made.

In-land transport for concentrate handling is now being assessed in detail. The trucking roster for dispatching of concentrates from site to market, as well as expected operating costs for the various transporting options to preferred ports, have now been determined. Discussions are advancing with Transnet and are indicating which port option would suite the volumes, delivery schedules and customer locations for the Prieska concentrates.

After previously considering Coega (near Port Elizabeth) and Cape Town, as preferred ports, Transnet has suggested that Richards' Bay and Durban should also be short-listed. These talks are continuing as the details and costs regarding these additional ports are being finalised.

Transportable Moisture Content (**TML**) tests are currently underway which will determine the moisture characteristics of the Prieska concentrates. These results will assist in determining the drying capacity to be installed in the processing plant to meet shipping TML requirements. Moisture content will also be a factor when finalising marketing arrangements with smelter customers.

The total elemental content of the zinc and copper concentrates likely to be produced from the Prieska Project have been received. Based on these results it has been confirmed that the concentrates are clean, with low to non-existent levels of deleterious elements likely to attract penalty charges from smelters, such as cadmium, mercury, bismuth and arsenic. Specialist consultants have been co-opted to advise the Company on viable concentrate marketing options, as part of the advanced stages of the BFS.

## Mining Right Application

The application for the Repli Mining Right for the Prieska Project was submitted to the DMR in April 2018. The Environmental Impact Assessment (**EIA**) and Environmental Management Program (**EMP**) which is part of this application were submitted in September 2018, concluding the submission process. The environmental licence is anticipated to be granted during Q1 2019, after which the Mining Right approval is expected later in the same quarter.

The Mining Right for the Vardocube section of the Prieska Project was also submitted during the September 2018 Quarter. The accompanying draft (environmental) Scoping Report will then be submitted during November 2018 and, after allowing for the public participation timeframe, the final EIA and EMP will be submitted in May 2019. Based on these dates, the anticipated granting of the Vardocube Environmental Licence is expected during Q3 2019.

#### Regional Exploration (South Africa)

## Overview of Regional Activity

The Company maintains a substantial and prospective land-holding in the Areachap Belt (Figure 6), and exploration programs on regional Volcanogenic Massive Sulphide (VMS) and Ni-Cu-Co-PGE projects have been accelerated during this Quarter. 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 as "clusters" associated with volcanic spreading centres, with four such centres having been identified in the Areachap Belt. The Company is currently prospecting for VMS deposits on its Near Mine Projects and the Masiqhame Prospecting Rights (Figure 6). These prospecting rights include the bulk of the Copperton and Boksputs Volcanic Centres. The Near Mine Projects include the Prieska Project as well as the adjacent areas of the Repli, Vardocube and Bartotrax Prospecting Rights. In addition to the giant Prieska Deposit, four smaller deposits referred to as Annex, K1, K3 and K6 are located in the Near Mine Project area (Figure 7). The Kantienpan and Boksputs Zinc-Copper Deposits are currently the two most prominent deposits on the Masiqhame Prospecting Right.

Similarly, world-class nickel deposits tend to also occur in clusters both on prospect and regional scales. 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 other associated mineral occurrences are known to exist on the Namaqua-Disawell Prospecting Rights (Figure 6). 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). These intrusive complexes are generally small, complex-shaped bodies that may host a disproportionate quantity of sulphide mineralisation relative to their size. Conduit style mineralisation is currently the top priority global target for magmatic Ni-Cu-PGE sulphide exploration.



Figure 6: 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.

EM geophysical methods are the primary tool for discovery of massive magmatic Ni-Cu-Co-PGE deposits. Due to the complexity of these intrusions, an innovative approach to exploration is required to resolve the locations of the best mineralisation. This entails usage of airborne, ground, and down-hole surveying systems. Regional exploration on the Near Mine, Masiqhame and Namaqua-Disawell Prospecting Rights continued, with diamond drilling, Fixed-Loop Time Domain Electromagnetic (**FLTDEM**) surveys and field mapping currently underway.

Modern electromagnetic (**EM**) methods have advanced a great deal since the last systematic exploration took place in the Areachap Belt, and the Company stands to benefit from its approach in using the latest EM techniques in its regional exploration program.

The Company completed an extensive airborne electromagnetic (**AEM** or **SkyTEM™**) and magnetic survey over a large portion of the Masiqhame and Namaqua-Disawell Prospecting Rights during the March 2018 Quarter (Q1 CY2018) (refer ASX release 1 February 2018). FLTDEM surveying over selected AEM anomalies commenced during the previous quarter and is ongoing.

The equipment being used is a best-in-class EM receiver manufactured in Perth, Western Australia, by Electromagnetic Technologies. The current source is a custom-built Time Domain Electromagnetic (**TDEM**) transmitter, capable of transmitting 140 Amps into a 1km by 1km aluminium wire loop. This current source is coupled with military-grade fluxgate sensors. Readings are taken every 50 to100m on grid lines spaced 200m apart. A total of 11 loops – five on the Masiqhame, one on the Disawell and five on the Bartotrax Prospecting Right – were completed during this Quarter, with 814 stations surveyed for the Quarter.

## Near-Mine Exploration

The Near Mine Project is defined by prospecting rights held by Repli, Repli (Doonies Pan), Vardocube and Bartotrax (Figure 7). Apart from the giant Prieska Deposit, four smaller deposits occur on the Near Mine Project. These include Annex, explored by Anglovaal between 1969 and 1981, and three deposits on Kielder (Doonies Pan), referred to as the K1, K3 and K6 deposits, and explored by Newmont SA between 1976 and 1979. Exploration targets currently defined on the Near Mine Project area include the north-western and south-eastern strike extent of the Prieska Deposit, the western and eastern strike extent of the Annex Deposit and the Magazine Antiform (Figure 8). A SkyTEM<sup>TM</sup> and magnetic survey is scheduled for November 2018 over the Near Mine Project area.



Figure 7: Surface plan showing the prospecting rights over and adjacent to the Prieska Project, and the location of the Annex and Kielder (Doonies Pan) Deposits.



Figure 8: Geological plan showing Near Mine prospective horizons and the location of an EM conductor to the west of the Annex Deposit.

## Annex Copper Deposit

Annex, located approximately 6km south of the Prieska Project, was discovered by Anglovaal Limited in 1969. Anglovaal's historical diamond drilling at Annex followed up on conductors detected by airborne Input EM surveys, and succeeded in delineating mineralisation underneath a 35m-thick Dwyka tillite cap (Figures 9 and 10).

Mineralisation was identified over a strike length of 1,000m and drilled down to 550m below surface. The deposit remains open in depth down-plunge.

Significant intersections from historical drilling by Anglovaal at Annex (Figures 9 and 10) include:

- 3.87m at 1.91% Cu and 0.49% Zn in VAX 19;
- 4.28m at 2.88% Cu and 0.34% Zn in VAX 26;
- 2.65m at 1.44% Cu and 0.33% Zn in VAX 27;
- 4.08m at 1.14% Cu and 0.41% Zn in VAX 29;
- 4.11m at 2.17% Cu and 0.54% Zn in VAX 32; and





Figure 9: Anglovaal drilling (1969 – 1981) and trace of the sub- outcrop of sulphide mineralisation at Annex (Source: Anglovaal Exploration report).



Figure 10: Longitudinal section and grade-contoured drill intersections for copper at Annex (Source: Anglovaal Exploration report).

Younger stratigraphic cover and general poor outcrop renders interpretation of the geological setting of the Annex Deposit problematic, but the current understanding indicates repetition of the Prieska mineralised stratigraphy over a north-west – south-east trending set of folds (Figure 11).



Figure 11: Geological section through the Annex and Prieska Deposits. Section line indicated on Figure 8.

## Annex – Exploration Program

The Company completed ground EM surveying to explore for possible strike and depth extensions of the Annex Deposit on the 18 September 2018, with four loops of FLTDEM surveys having been completed. An EM conductor, ANN5, detected approximately 1,000m west along strike of the Annex Deposit is currently being drill tested (refer Figure 8).

Drilling started in September 2018 utilising two diamond drill rigs with a total of 170.55m having been drilled during the Quarter. Hole OAXD001, started on the 24 September 2018, is planned to intersect the Annex Deposit to verify historical drill data and to obtain samples of the host rock and mineralisation. Drill-hole OAXD002, planned to test the FLTDEM anomaly ANN5, commenced on the 28 September 2018. Drilling is currently ongoing.

# Magmatic Ni-Cu-Co-PGE

During the Quarter, litho-geochemical results from Rok Optel, Area 4, and two new intrusions identified on Jacomynspan Portion 1 confirmed that all the intrusions show comparable geochemical signatures and have therefore been interpreted to belong to the same suite of intrusions (Figure 12).

This has subsequently been termed the Jacomynspan Intrusive Suite.

The Jacomynspan Intrusive Suite shares many characteristics to that of other late-tectonic intrusions emplaced into complex, long-lived orogenic margins globally. These include complex, moderate to deep-seated, late-stage, post-peak deformation magma emplacement histories, indicative of a long-lived conduit system showing indications of a multi-phase mineralisation history resulting in good potential for the formation of massive sulphide deposits.

The Jacomynspan intrusion is a rotated sill composed primarily of melanorite, pyroxenite, and harzburgite that hosts magmatic sulphide mineralisation throughout its extent. A parallel, massive non-mineralised harzburgite sill in the structural footwall extends to the east of the Jacomynspan sill.

Within the Jacomynspan sill, cross-cutting relationships are present between the pyroxenite and harzburgite units, indicating that the harzburgite was emplaced during a later phase of magmatic activity. The best mineralisation in terms of metal grade and tenor is hosted by net-textured sulphidic harzburgites. The pyroxenite unit is also mineralised throughout but has lower tenor mineralisation as compared to the harzburgite unit. The sulphide mineralisation is interpreted to have been derived from primary magmatic processes that, although intimately related, reflect varying conditions within the flowing magma conduit.

The Jacomynspan Deposit was first identified by Anglo American Prospecting Services (**AAPS**) with drilling carried out along a 4km strike length. Resource drilling was carried out to a depth of 900m over 1.3km of the strike by AAPS. Disseminated nickel-sulphide mineralisation was intersected with widths varying between 30 to 70m (refer ASX release 14 July 2016).

The Company believes a substantial exploration opportunity exists within the project area to search for higher-grade, massive and semi-massive accumulations of nickel-bearing sulphides, analogous to the Kabanga Deposit (Tanzania) and the Nova-Bollinger Deposit (Fraser Range Province of Western Australia).

During the Quarter, the focus has been "Phase 1" drill-testing of the Rok Optel intrusion. The following work was completed:

• Completion of two diamond drill-holes (OROD001 and OROD002) and commencement of drillhole OROD003 at the Rok Optel Prospect. A total of 1,179m was drilled during the Quarter. Assay results were received for drill hole OROD001 (refer ASX release 10 September 2018).

- A focused field mapping program at Rok Optel to assess the validity of the Newmont mapping data and to characterise, contextualise and understand the geology.
- Down-hole Transient Electromagnetic surveys (DHTDEM) of drill-holes OROD001 and OROD002.
- Geophysical modelling of the DHTDEM data and identification of new plates.
- Regional field mapping, litho-geochemical sampling and interpretation of new data.
- Derivation of a working structural model of the Rok Optel intrusion for interpretative and predictive purposes.

Ongoing work includes:

- Drill testing of DHTDEM conductors.
- Compilation and ongoing interpretation of the Rok Optel drill-hole data, including lithology, mineralogy, structural data, location and style of mineralisation.



Figure 12: Locality Map showing SkyTEM<sup>™</sup> anomalies followed up on the Disawell Prospecting Right.

## **Rok Optel Prospect**

The Rok Optel Prospect was discovered during the early 1970's and was initially explored by Phelps Dodge and Hochmetals SWA. Hochmetals completed mapping, Induced Polarisation (**IP**) geophysics, and drilled six holes (2,117m), three of which intersected magmatic sulphide mineralisation.

Newmont SA entered into the project during 1974, undertaking field mapping, soil geochemistry, magnetics, IP, and diamond drilling. Drilling included deepening of Hochmetals's DDH001 hole, and drilling a new hole (591.95m). The remaining core from the Hochmetals campaign was re-logged and assayed. Newmont exited the project during 1977.

Newmont interpreted the intrusion to be a mafic dyke emplaced parallel to the gneiss foliation, striking north to north-north-east and dipping 65-75° to the west (Gresse, 1977). Magmatic mineralisation is located at several horizons, as disseminated, coarse patches, and massive stringers associated with coarse-grained feldspathic amphibolite. It was noted that the mineralisation plunges to the south at 20°.

## Fixed Loop EM surveys

The conductors on Rok Optel have conductivities greater than 3000 Siemens. The position of the Rok Optel conductors relative to historical drill-holes are shown in Figure 13 and the details of the modelled plates in Table 2. Most historical drill holes testing historic IP and magnetic targets did not intersect the zones of highest conductance detected in the Company's recent surveys. The historical drilling intersected zones of lower conductance on the edges of the newly modelled plates (Figures 13 and 14).

Historical drill hole PUD003 intersected 23.12m at 0.32% Ni and 0.28% Cu from 294m including 5.92m at 0.46% Ni and 0.35% Cu from 303m and 1.8m at 0.58% Ni and 0.60% Cu from 306m (Figure 14) (refer ASX release 29 May 2018).



Figure 13: Plan showing grids, EM conductors and all drill holes on the Rok Optel Prospect.



Figure 14: Cross Section through historic holes PUD002 and PUD003 showing the drill hole traces and mineralisation relative to the Company's modelled conductive plates.

Table 2: FLTDEM pla	te parameters for	<b>Rok Optel Prospect</b>
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Target	Loop	Plate Dimensions (m)	Plate Conductance (Siemens)	Approximate Plate Depth (m)
		475 x 90	2050	230
Rok Optel	ROK1	475 x 90	2500	250
		475 x 85	3600	280
		475 x 100	1250	200
	ROK2	500 x 95	1700	225
		475 x 85	2900	275
		130 x 300	850	275
	ROK3	135 x 250	950	300
		120 x 275	1250	300
		100 x 330	5250	295
	ROK4	90 x 300	7200	310
		80 x 300	9400	320

## **Diamond Drilling**

The drill-hole status at 30 September 2018 is summarised in Table 3. OROD003, was subsequently completed at 532.13m.

#### Table 3: Rok Optel diamond drill status at 30 September 2018.

Drill Hole	X UTM34S	Y UTM34S	Elevation (m)	Final Depth (m)	Dip (degrees)	Azimuth (degrees)
OROD001	580,215	6,746,005	1,059	412.06	-60	120
OROD002	580,360	6,746,760	1,559	491.95	-65	090
OROD003	580,142	6,745,874	1,057	275.15	-70	102

Drill-hole OROD001 intersected sulphide-bearing mafic to ultramafic intrusive rocks over a down-hole width of 186.86m. The hole was completed at 412.06m. The drill-hole intersected multiple thin massivesulphide veinlets varying from 1 to 50mm in width displaying injection features and occurring in swarms or concentrated within sulphide mineralised zones.

Drill-hole OROD002 intersected a complex sequence of interfingering mafic to ultramatic sills from 25.73m to the end of hole at 491.95m. Sulphide mineralisation was intersected at several horizons in OROD002, including massive, injected stringers, coarse-blebs and patchy network styles, all of which are typical of conduit-style mineralisation.

At 30 September 2018, drill-hole OROD003 was at 275.15m within garnet gneiss with thin apophyses of intrusive rocks.

Assay data have been received from OROD001. The SG-weighted intersection data are tabulated in Table 4 for the elements of economic interest.

Drill Hole	Cut Off	From (m)	Width (m)	Ni (wt%)	Cu (wt%)	Co (wt%)	2PGE + Au (g/t)
OROD001	0.2% Ni	201.05	8.99	0.24	0.16	0.016	0.22
		292.09	7.29	0.28	0.11	0.013	0.66
	0.3% Ni	297.44	1.94	0.38	0.15	0.015	1.45
	0.5% Ni	201.05	1.22	0.45	0.57	0.047	0.16

Table 4: Mineralised intersections from OROD001 (refer ASX release 10 September 2018).

# Down-hole EM surveys (DHTDEM)

DHTDEM surveys were undertaken in drill-holes OROD001 and OROD002 to assess whether the intersected mineralisation could explain the surface EM plates, and whether other mineralisation is present adjacent to the holes. In both cases, the intersected mineralisation is expressed as an in-hole anomaly, but stronger off-hole anomalies with conductances of 10,500S (OROD001) and 16,000S (OROD002) were identified.

This is consistent with other sulphide mineralised intrusions at which multiple mineralised zones result in complex electromagnetic responses that are challenging to resolve until drill-hole control is achieved.

The modelled plates are illustrated in Figure 17. Drill-hole OROD003 is currently in progress to test the OROD001 off-hole conductor. Several zones of mineralisation have been intersected for which analyses are awaited.



#### Figure 15: Plan showing the DHTDEM plates at Rok Optel relative to the diamond drill holes.

#### **Regional Mapping and Geochemistry**

A two-week mapping program was undertaken at Rok Optel to characterise and understand the lithologies present and assess the quality of the historical data. It was found that the mapping is generally valid, but some positional errors are present.

This work has enabled better characterisation of the Jacomynspan Formation stratigraphy into eastern hornblende gneiss and western paragneiss. The target intrusions display different outcrop characteristics dependent upon host stratigraphy. Recognition of these characteristics has assisted in identifying outcrops of interest, resulting in the discovery of two new norite intrusions on Jacomynspan Portion 1.

Samples from all intrusions, including Jacomynspan, Area 4, Rok Optel main and subsidiary intrusions, and the Jacomynspan Portion 1 norites have been geochemically compared. All intrusions display very similar trace element characteristics and are therefore interpreted to be related. Six related intrusions have thus far been identified within a relatively small part of the project area.

## Area 4 Prospect

The Area 4 Prospect (**Area 4**) was surveyed using two grids, A4A and A4B (Figures 12 and 16). Seven plate models of conductance ranging from 350S to 2000S, with smaller dimensions characteristic of semi-massive to massive sulphide mineralisation within or on margins of disseminated sulphide mineralisation, have been modelled (Figure 18).

Drilling by previous companies targeting geochemical, magnetic and IP targets did not test the highlyconductive bodies detected by the Company using FLTDEM (Figures 18). The plates on Grid A4B lie within 100m of known Ni-Cu sulphide mineralisation intersected in historical drill-hole JAC007, which intersected 62.5m of sulphide mineralisation at 0.26% Ni and 0.17% Cu from 304m (Figure 19). No work was undertaken at Area 4 during the Quarter.



Figure 16: Plan showing EM conductors (black) and historic drill results on Area 4 overlain on an airborne magnetic image.



Figure 17: Section looking east through drill hole JAC007 showing the Ni-Cu sulphide intersection and newly detected FLTDEM conductors at Area 4.

## Planned work on the Ni-Cu-Co-PGE targets

The current diamond drill program is nearing completion. The data derived from the program will be comprehensively reviewed and interpreted to assess the potential of the intrusion to host massive mineralisation and outline the methodology to resolve details of the mineralised zones intersected.

## **Masiqhame Project**

## Overview

This project is defined in terms of the Masiqhame tenement holding and includes the Kantienpan, Boksputs and Van Wyk's Pan zinc copper mineral occurrences (Figure 18), showing regional potential for hosting VMS zinc-copper and nickel sulphide mineralisation.

#### SkyTEM™ anomalies associated with a paleo-sea floor setting

The airborne magnetic data obtained with the SkyTEM<sup>™</sup> surveys is superior to any regional airborne magnetic data previously available over the prospecting right and allowed for detailed regional geological interpretations (Figure 20). These interpretations were based on published data and field mapping in conjunction with aeromagnetic data. Using the Kantienpan and Boksputs areas as type localities, a paleo-seafloor setting was identified, and mapped out, using the magnetic data. VMS deposits form on, or close to, the seafloor and as such, the paleo-seafloor became a target horizon for discovering VMS deposits.

Geological setting, conductivity, coherency and size of SkyTEM<sup>TM</sup> anomalies were used as criteria to select VMS targets at Masiqhame and Disawell. Ten anomalies identified fall within the boundaries of the Masiqhame Prospecting Right (Figure 18).



Figure 18: Interpretive geological map of the Masiqhame Prospecting Right showing the inferred paleo-seafloor, known zinc-copper deposits/ occurrences and SkyTEM<sup>™</sup> anomalies.



Figure 19: Solid geological map of the Masiqhame area showing the SkyTEM<sup>™</sup> anomalies selected for follow-up. Anomaly features are summarised in the adjoining table. Final processing of the K2 and B2 anomaly data is pending.

Five FLTDEM surveys were completed between 8-24 July 2018 and 26 September to 3 October 2018 in the Boksputs area. Final modelling of plate models was received for three of these surveys (Table 5). Of the three conductors modelled, B1 and B4 offer priority follow-up drill targets (Figure 20, refer ASX release 24 September 2018). Mapping and structural interpretations over the B1 and B4 targets were completed and show the conductors to:

- Occur in a similar stratigraphic position to the VMS style mineralisation at Boksputs;
- Have favourable stratigraphic and structural settings with both anomalies occurring on a prospective contact between amphibolite and meta-psammite. Anomaly B4 occurs in a fold hinge, and is orientated parallel to the plunge direction;
- Have dimensions that show the causative bodies to be of relatively large volumes; and
- Be blind targets not tested before. It is doubtful whether IP surveys used in the 1970's could have detected a 500m deep conductor like B1, and no evidence could be found that conductors B1 and B4 were drill tested in the past.

The B4 conductor occurs in the same stratigraphic position as the Boksputs Deposit and appears to follow the plunge of a tight overturned synformal structure. The structural stratigraphic setting and spatial association with known mineralisation makes the B4 conductor a highly prospective VMS target (Figure 21).

The Company plans to follow-up both the B1 and B4 conductors with diamond drilling.

#### Table 5: Summary off the modelled conductors in the Boksputs area.

ID	Size	Depth	Conduc tance	Dip	Geology
B1	1000 X 1000m	500m	3000S	SW	Meta psammite / pellite and amphibolite. Minor exhalites present
В4	300 X 1000m plunge NW	350m	400S	60SW	Sand cover. Mag interpretation show associated fold closure
BS1	800 X 700m	<100m	40S	W	Meta volcano sedimentary package. Thin exhalite horizon present.



Figure 20: Geological map of the Boksputs area showing the distribution of EM conductors modelled from FLEM data.



Figure 21: Three-dimensional view looking south-east and showing the stratigraphic and structural setting of the B1 and B4 conductors at the Boksputs Prospect.

## Marydale Gold-Copper Project (Witkop)

This project is defined in terms of the Agama: Rich Rewards tenement holding and includes the known Marydale Gold-Copper Deposit.

In addition to the Prieska Project, the Agama transaction gives the Company exploration rights over the Marydale Gold-Copper Project located 60km north of the Prieska Project (refer Figure 6).

Past work by the Company includes an IP survey over 2.6km strike following the target horizon. The Company drilled two holes within the historical drill grid, that confirms the copper-gold mineralisation, and four holes on IP anomalies. Drilling showed the IP response to be caused by broad zones containing disseminated sulphides with low levels of copper and gold mineralisation.

The Company is currently busy reviewing the potential of the Marydale Gold-Copper Deposit. An approach predicting mineralisation to be stratabound was used in modelling of the deposit under the previous owners. The Company has since revised the interpretation of the control on the mineralisation to rather be shear hosted. This calls for reinterpretation of the data. Should the data indicate that the deposit is amenable to small scale mining, a mining permit application should be applied for.

## Connors Arc Epithermal Gold Project (Queensland)

During the Quarter, no work was undertaken at the Connors Arc Project due to the focus on fasttracking resource drilling and advancing the BFS at the Prieska Project. The Company announced on 2 May 2018 a binding sale agreement with Evolution Mining Limited for 100% interest sale of the Connors Arc Project (refer to the Corporate section for more information).

### 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 in to via a Joint Venture Agreement (**JVA**, refer ASX release 10 March 2017).

As stated in previous Quarterly Reports, IGO is completing a major regional scale interpretation of the geological framework of the Albany-Fraser Orogen based on first-pass aircore drilling (principally used to improve the understanding of the bedrock geology in the project area) and high-resolution geophysical data including a regional scale Spectrem airborne EM survey.

The regional scale work is also enabling areas with lower prospectivity, either due to the underlying geology or the depth of transported cover, to be identified and relinquished so that exploration can focus on the most prospective areas.

In addition to the regional scale surveys, a ground EM survey was completed on parts of the Orion tenements where VTEM and aircore geochemistry anomalism has previously been identified.

Under the JVA, IGO is responsible for all exploration on the tenements and provides regular updates to Orion of its activities and results arising from them. No material results were received during the Quarter.

#### Walhalla Gold and Polymetals Project (Victoria)

During the Quarter, the Company did not carry out any exploration activity on the Walhalla Project.

## **Tenement Schedule**

Tenement	Project	Ownership Interest	Change in Quarter	Joint Venture Partner
South Africa	·			
NC30/5/1/1/2/10445PR	РСМ	73.33%		
NC30/5/1/1/2/10138MR	РСМ	73.33%		
NC30/5/1/2/2/10244PR	Marydale	73.33%		
NC30/5/1/1/2/11841PR <sup>(1)</sup>	Vardocube	70.00%		
NC30/5/1/1/2/11850PR <sup>(1)</sup>	Bartotrax	74.00%		
NC30/5/1/1/2/10032MR <sup>(1)</sup>	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%		Namaqua Nickel Mining (Pty) Ltd
NC30/5/1/1/2/816PR	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
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

Tenement	Project	Ownership Interest	Change in Quarter	Joint Venture Partner
E69/2707	Fraser Range	10%		Independence Group NL & Ponton Minerals Pty Ltd
Queensland				
EPM19825	Connors Arc	0%	Sold 100% interest	
EPM25122	Connors Arc	0%	Sold 100% interest	
EPM25283	Connors Arc	0%	Sold 100% interest	
EPM25703	Connors Arc	0%	Sold 100% interest	
EPM25708	Connors Arc	0%	Sold 100% interest	
EPM25712	Connors Arc	0%	Sold 100% interest	
EPM25714	Connors Arc	0%	Sold 100% interest	
EPM25763	Connors Arc	0%	Sold 100% interest	
EPM25764	Connors Arc	0%	Sold 100% interest	
EPM25813	Connors Arc	0%	Sold 100% interest	
EPM26081	Connors Arc	0%	Sold 100% interest	
EPM26082	Connors Arc	0%	Sold 100% interest	
EPM26083	Connors Arc	0%	Sold 100% interest	
Victoria		·		-
MIN5487 <sup>(2)</sup>	Walhalla	100%		
EL5340	Walhalla	100%		
EL5348	Walhalla	100%		

(1) Execution of Mining Right pending.

(2) MIN 5487 has been sold to Centennial Mining Ltd.

# Corporate

## **Cash and Finance**

Cash on hand at the end of the Quarter was \$6.4M.

## Capital Raising

On 25 June 2018, the Company announced an \$11M capital raising at an issue price of \$0.037 per fully paid ordinary share (**Share**), to be conducted via a placement to sophisticated and professional investors (**Placement**). One of the members of the Company's Broad Based Black Economic Empowerment Partner in South Africa also subscribed for \$0.25M in Shares which will be included in Tranche 2 at an issue price of \$0.037 per Share.

The Placement was conducted via two stages, being:

- Tranche 1 91.6M Shares to raise \$3.39M were issued on 29 June 2018, using the Company's 15% placement capacity under ASX Listing Rule 7.1. The issue of Shares was subsequently ratified by shareholders at the Company's general meeting held on 3 August 2018; and
- Tranche 2 212.5M Shares to raise \$7.86M were issued on 15 August 2018 as approved by shareholders at the Company's general meeting held on 3 August 2018.

In addition to the placements, the Company also obtained shareholder approval at the general meeting held on 3 August 2018, to enable the Company's Chairman, Mr Denis Waddell, to subscribe for 6.8M Shares at 3.7 cents per Share to raise \$0.25M and for Tembo Capital (or nominee) to subscribe for 172.9M Shares at 3.7 cents per Share. On 23 August 2018, the Company issued:

- o 6.8M Shares at 3.7 cents per Share to Mr Denis Waddell (or nominee); and
- 172.9M Shares at a deemed issue price of 3.7 cents per Share to Tembo Capital (or nominee).

The 172.9M Shares issued to Tembo Capital were issued in consideration for reducing the amount repayable to Tembo Capital under the loan facility between the Company and Tembo Capital, pursuant to which Tembo Capital advanced \$6M in funds to Orion (excluding capitalised interest and fees) (refer below for further detail).

Proceeds from the Placement will be used principally to finalise the bankable feasibility study on the Company's flagship Prieska Project, which is scheduled to be completed in Q2 2019. Funds will also be used to continue exploration programs on the Company's highly prospective tenements located in the Northern Cape, South Africa and for working capital.

## <u>Tembo Capital</u>

In addition to the Placement, Tembo Capital Mining Fund II LP and its affiliated entities (**Tembo Capital**), confirmed its continued support of Orion through subscribing for \$6.4M in Shares, at an issue price of \$0.037 per Share, being the issue price for Shares issued under the Placement. The issue of Shares to Tembo Capital was approved by shareholders at the Company's general meeting held on 3 August 2018 and occurred on 23 August 2018 in two stages being:

- 102.7M Shares, resulting in Tembo Capital's shareholding increasing to 19.99%; and
- 70.2M Shares, resulting in Tembo Capital's shareholding increasing to 22.99%, in reliance on the 3% creep exemption available under item 9 of section 611 of the Corporations Act.

Orion announced on 18 August 2017 that it had entered into a loan facility agreement with Tembo Capital, pursuant to which Tembo Capital has advanced \$6M in funds to Orion (excluding capitalised interest and fees) (Loan Facility). The term of the Loan Facility has been extended from 30 September 2018 to 31 December 2018. At the end of the Quarter, \$6.0M had been drawn down against the Loan Facility (excluding capitalised interest and fees).

Orion agreed with Tembo Capital, that Tembo Capital's Share subscription be issued in consideration for reducing the amount re-payable to Tembo Capital under the Loan Facility at a deemed issue price of \$0.037 per Share, being the same issue price as the Shares being offered under the Placements. The balance of the Loan Facility (including accrued interest) following this repayment was reduced by \$6.4M (being the value of Shares subscribed for by Tembo Capital) to \$0.54M.

# Sale of Connors Arc Project

On 2 May 2018, the Company announced that it had entered into a binding sale agreement (**Agreement**) with Evolution Mining Limited (**Evolution**), for Evolution to acquire 100% of Orion's Connors Arc Project (**Tenements**) in Queensland. Consideration for the sale of the Tenements consists of \$2.5M cash and a 2% royalty on net smelter returns (**NSR**) from the sale of gold recovered and sold by Evolution from the Tenements to a value of \$5.0M.

Key terms of the Agreement are:

- Stage 1 Payment an initial \$1.5M cash payment, payable upon conditions typical for agreements of this nature being:
  - Orion obtaining indicative approval from the Queensland Government Department of Natural Resources, Mines and Energy (Department), for the transfer of the Tenements to Evolution; and
  - $\circ$   $\,$  the assignment to Evolution of the Tenements' native title agreements.

- Stage 2 Payment a further \$0.5M cash payment, payable to Orion upon approval by the Department for retention of the total area of three of the Tenements included in the Agreement until the renewal of the existing term of those Tenements;
- Stage 3 Payment a further \$0.5M cash payment, payable to Orion upon approval by the Department for renewal of two Tenements included in the Agreement and for retention of the total area of those Tenements for a period 12 months from the date of such renewal; and
- a 2% royalty on NSR from the sale of gold recovered and sold by Evolution from the Tenements to a value of \$5.0M.

The Company received payment for Stages 1 and 2, totalling \$2.0M cash in July 2018.

The sale of the non-core Tenements is consistent with Orion's decision to place greater focus on its flagship project, the Prieska Project and its highly prospective regional exploration projects within the Areachap Belt, including the advanced Jacomynspan Nickel-Copper-Cobalt Project.

## **Annual Financial Report**

The Company recorded a loss of \$8.9M after tax for the year ended 30 June 2018. The result was driven primarily by exploration expenditure incurred of \$2.4M which, under Orion's deferred exploration, evaluation and development policy, did not qualify to be capitalised and was expensed and finance expenses of \$2.0M, principally related to 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 \$22.0M and included payments for exploration and evaluation of \$17.7M. Net cash from financing activities totalled \$23.5M.

## Annual General Meeting

The Annual General Meeting of shareholders of the Company will be held at Clayton Utz, Level 27, QV. 1 Building, 250 St Georges Terrace, Perth, Western Australia on Thursday, 29 November 2018 commencing at 3:00 p.m. (Perth time).

## **General Meeting**

A General Meeting of shareholders of the Company was held on 3 August 2018 at RSM Australia Partners, 8 St Georges Terrace, Perth, Western Australia. All resolutions put to shareholders at the General Meeting were carried on a show of hands.