



Orion Minerals_{NL}

ASX/JSE RELEASE: 5 October 2017

Continued Positive Drilling Results From Prieska Zinc - Copper Project

- ▶ **Positive assay results from a further 4 diamond holes at Prieska Zinc-Copper Project successfully validate historical drill data and improve delineation of the mineralisation model by infilling historic intersections in the Deep Sulphide Target. OCOD046 has intersected 10.65m at 4.19% Zn, 0.80% Cu, 0.15g/t Au and 5.7g/t Ag from 1017m including 5.65m at 6.19% Zn, 1.16% Cu, 0.20g/t Au and 7.5g/t Ag from 1022m.**
- ▶ **OCOD072 intersected 5.35m at 5.14% Zn, 0.72% Cu, 0.22g/t Au and 6.3g/t Ag from 1102m.**
- ▶ **OCOD059_D1 intersected 11.15m at 3.42% Zn, 0.33% Cu, 0.15g/t Au and 9.7g/t Ag from 998m (including 4.32m at 5.08% Zn, 0.31% Cu, 0.22g/t Au and 15.9g/t Ag from 1004.83m), 9.8m at 7.96% Zn, 0.72% Cu, 0.13g/t Au and 5.45g/t Ag from 1024m and 4.46m at 5.06% Zn, 0.55% Cu, 0.10g/t Au and 8.4g/t Ag from 1041m.**
- ▶ **OCOD062_D1 intersected 2.07m at 5.33% Zn, 0.61% Cu, 0.28% Au and 7.6g/t Ag from 1108.45m.**
- ▶ **Orion's intensive drill program on the Deep Sulphide Target is on track to deliver a JORC compliant Mineral Resource estimate Q1 CY18.**

Orion Minerals NL (**ASX/JSE: ORN**) (**Orion** or **Company**) is pleased to announce that assay results of drill testing the Deep Sulphide Target at its Prieska Zinc-Copper (**Prieska**) Project in South Africa continues to deliver excellent intersections that infill and validate historic drill and modelled data.

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

"We are very encouraged by these new drilling results as they add key information in the area of historical drilling and access development and in a new area away from historical drilling. The new holes within the historically drilled area are providing strong validation for the historic results and the extensional results highlight the potential to increase the body of mineralisation. This, together with strong progress of engineering, environmental studies and the social and labour plan bodes well for the outcome of the bankable feasibility study currently underway."

Deep Sulphide Target Summary

Assays have been received for a further four holes drilled with the objective of validating historically defined mineralisation at the Deep Sulphide Target. The holes are shown on Figures 1 and 2 with results set out below:

- 10.65m at 4.19% Zn, 0.80% Cu, 0.15g/t Au and 5.7g/t Ag from 1017.00m, including 5.65m at 6.19% Zn, 1.16% Cu, 0.20g/t Au, 7.5g/t Ag from 1022.00m, and 2.30m at 4.14% Zn, 1.04% Cu, 0.33g/t Au and 5.4g/t Ag from 1031.70m (OCOD046);
- 5.35m at 5.14% Zn, 0.72% Cu, 0.22g/t Au and 6.3g/t Ag from 1101.70m (OCOD072);
- 2.07m at 5.33% Zn, 0.61% Cu, 0.28% Au and 7.6g/t Ag from 1108.45m (OCOD062_D1); and

- 11.15m at 3.42% Zn, 0.33% Cu, 0.15g/t Au and 9.7g/t Ag from 998.00m, including 4.32m at 5.08% Zn, 0.31% Cu, 0.22g/t Au and 15.9g/t Ag from 1004.83m, 9.8m at 7.96% Zn, 0.72% Cu, 0.13g/t Au and 5.45g/t Ag from 1023.60m, and 4.46m at 5.06% Zn, 0.55% Cu, 0.10g/t Au and 8.4g/t Ag from 1040.86m (OCOD059_D1).

OCOD046 intersected mineralisation immediately adjacent to an area where historic mine plans show mineralisation to be blocked out and accessed with preparatory development, but not stoped prior to the mine closing in 1991. The intersection of mineralisation in this area represents a key finding as it confirms the limited extent of previous mining, the tenor of accessed mineralisation in this area (Figure 3) and confirms strong geotechnical conditions.

Drill hole OCOD068 intersected 23m of massive sulphides in the mentioned area. Assay results are awaited however the intersection again confirms the limits on historic mining and the good geotechnical conditions (Figure 4).

OCOD046 intersected mineralisation 20m away from historic hole F2001 (Figure 3). Both holes intersected two zones of mineralisation separated by 9.70m and 6.97m respectively.

The correlation between these holes is shown in table 1.

Hole number	Distance from OCOD46 (m)	Intersection length (m)	Zn%	Cu%	Au g/t	Ag g/t
OCOD046	0	10.65	4.19	0.80	0.15	5.7
OCOD046	0	2.30	4.14	1.04	0.33	5.4
F2001	20	8.47	4.42	0.72	No Assay	No Assay
F2001	20	6.39	4.45	0.52	No Assay	No Assay

Table 1. Comparison of the intersection made in OCOD046 with adjacent historical hole.

Drill hole OCOD059_D1 was drilled as a deflection from hole OCOD059 and intersected mineralisation 60m from OCOD059. While the parent hole OCOD059 only intersected two thin zones of mineralisation of 0.68m and 1.00m, OCOD059_D1 intersected 3 wide zones of high grade mineralisation:

- 11.15m at 3.42% Zn, 0.33% Cu, 0.15g/t Au and 9.7g/t Ag from 998.00m, including 4.32m at 5.08% Zn, 0.31% Cu, 0.21g/t Au and 15.9g/t Ag from 1004.83m;
- 9.8m at 7.96% Zn, 0.72% Cu, 0.13g/t Au and 5.5g/t Ag from 1023.60m;
- 4.46m at 5.06% Zn, 0.55% Cu, 0.10g/t Au and 8.4g/t Ag from 1040.86m.

More deflections will be drilled from OCOD059 as little drill information exists in the immediate area. Results from these deflections will be used to define mineralisation in an area south of the main mineralised zone as defined by historical drilling. The intersection of wide, high grade mineralisation in this area is very encouraging and has the potential to provide a significant tonnage upside to the bankable feasibility study currently underway.

Drill holes OCOD072 and OCOD062_D1 intersected mineralisation in the south eastern part of the Deep Sulphide target. OCOD072 intersected 5.35m at 5.14% Zn, 0.72% Cu, 0.22g/t Au and 6.3g/t Ag from 1101.70m. The hole was drilled as an infill hole and demonstrates the continuity of mineralisation in the south eastern part of the Deep Sulphide target. A deflection is currently being drilled to continue with the infill drilling process which is verifying historic results for use in Mineral Resource estimations (as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**)).

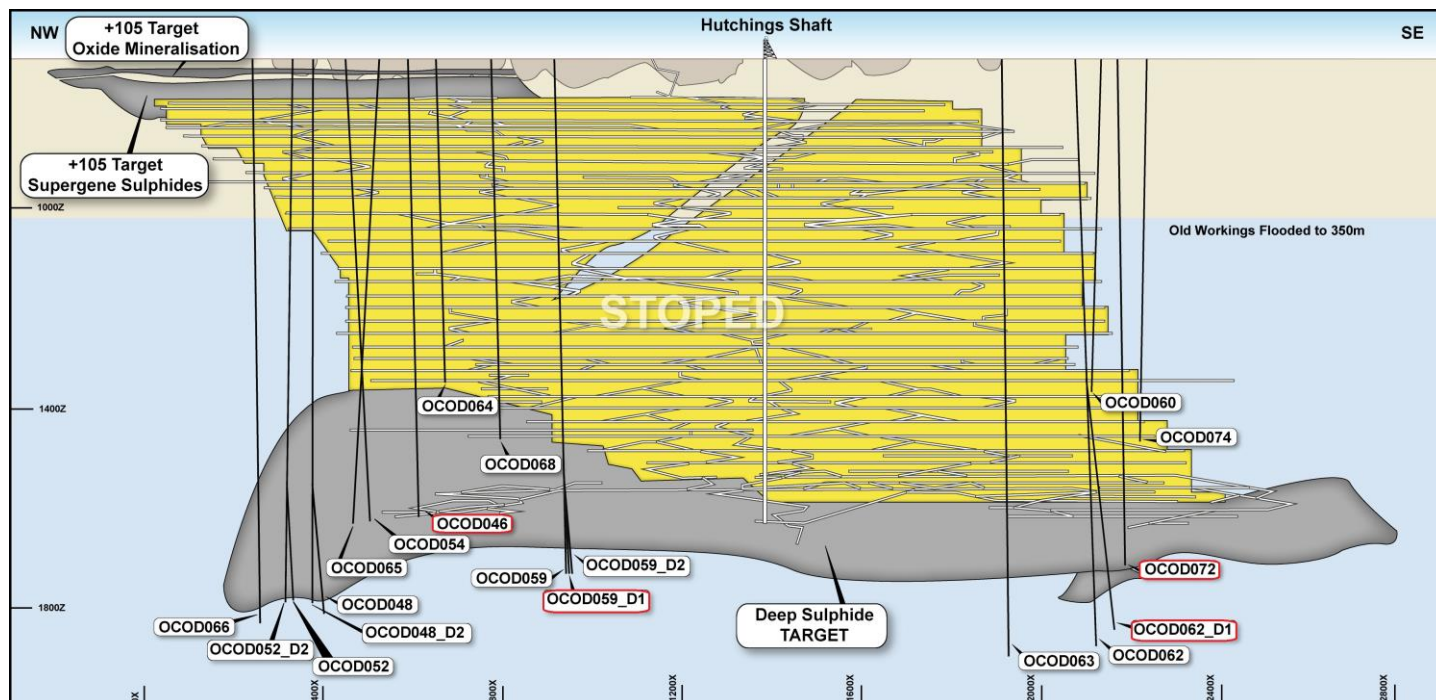


Figure 1: Longitudinal projection showing Orion drilling at the Prieska Project with the reported hole numbers circled in red.

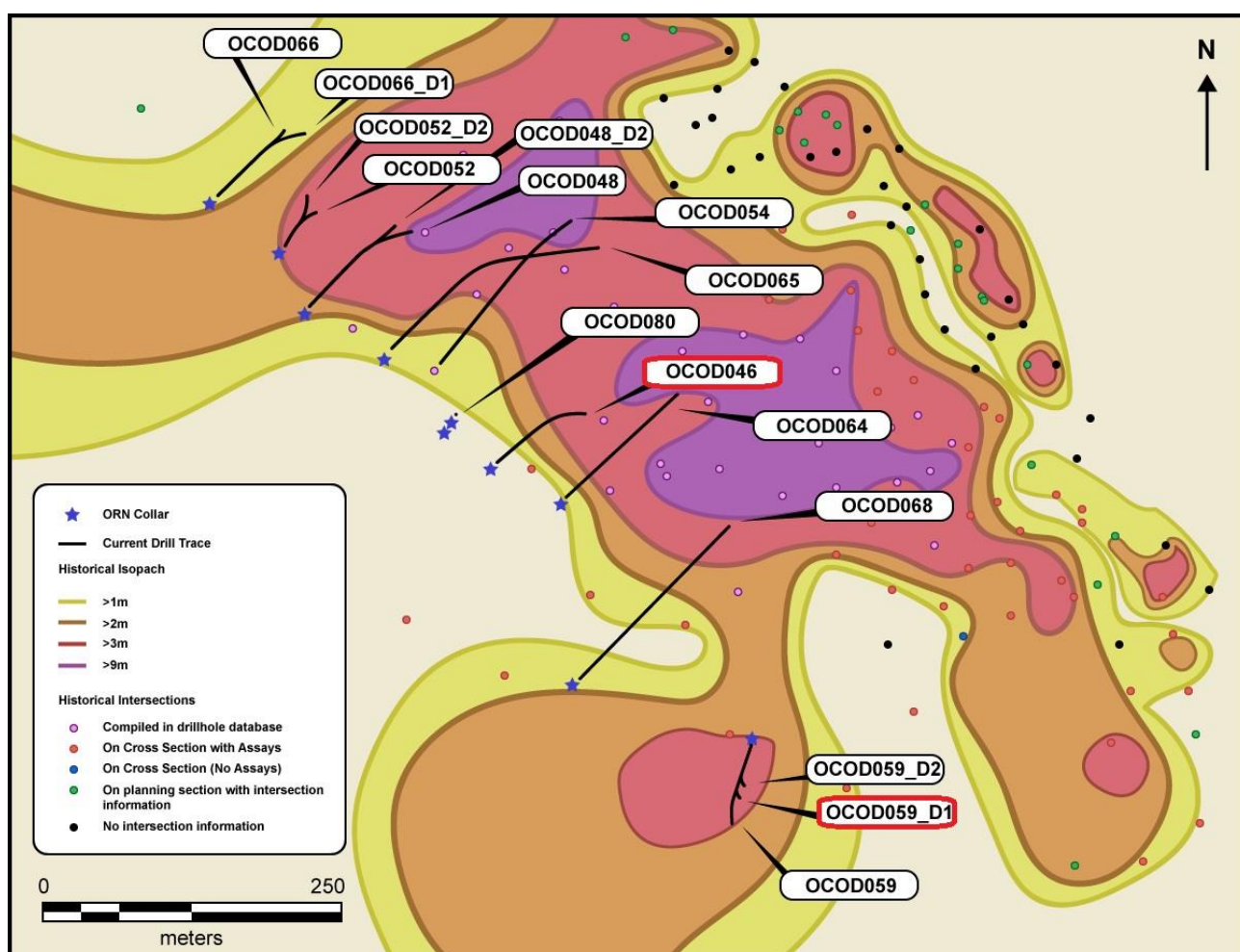


Figure 2: Plan view showing drilling underway at NW area of Deep Sulphide Target at the Prieska Project along with historical intersection data (refer Appendix 1). Reported holes circled in red.

All significant intersections from surface drilling at the Deep Sulphide Target have been released in ASX releases of 19 September 2017, 6 September 2017, 27 July 2017 and 17 July 2017 with historical drilling detailed in ASX release of 18 November 2015. New significant intersections are included as Appendix 1. All intersections quoted for the Deep Sulphide Target are length and specific gravity weighted, following the procedure detailed in Appendix 2.

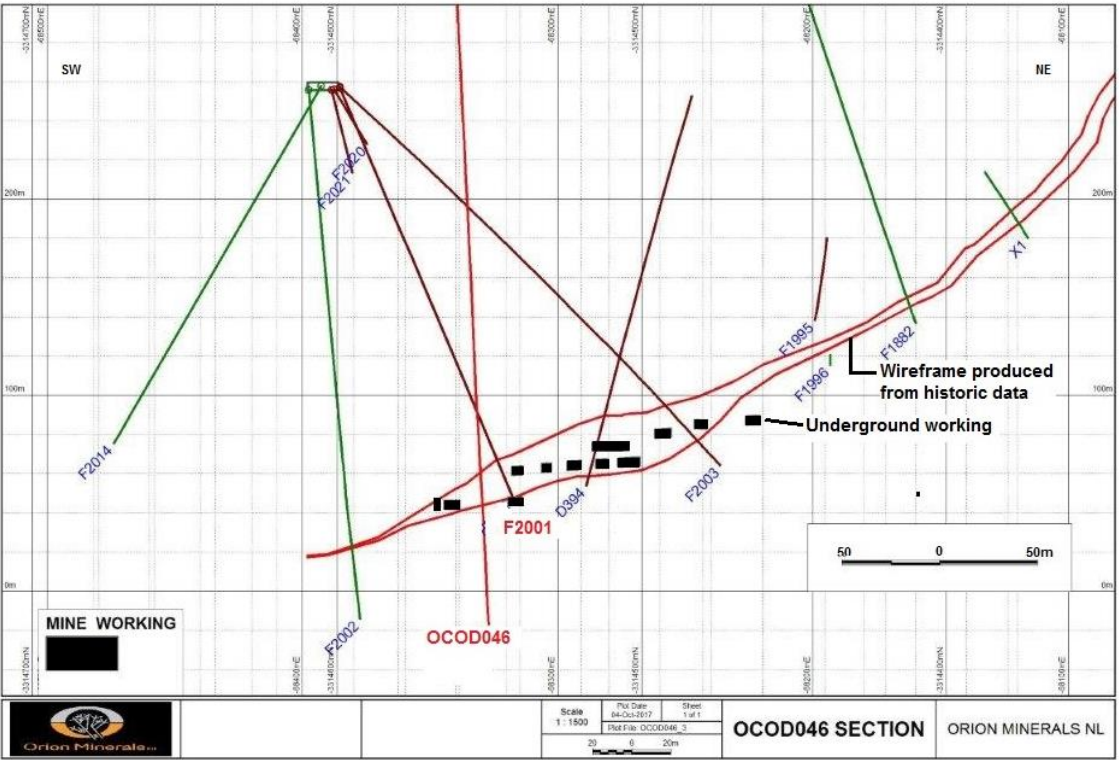


Figure 3: Cross - section through drill hole OCOD046

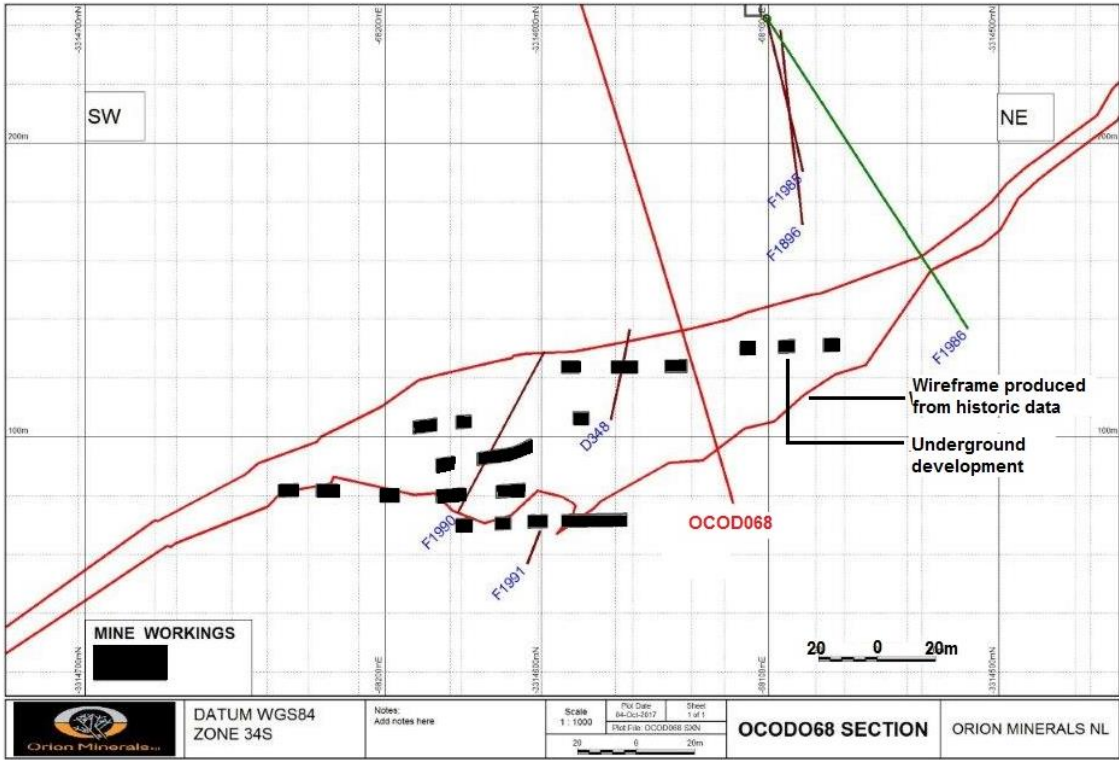
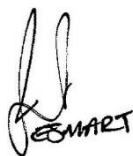


Figure 4: Cross - section through drill hole OCOD068.



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Competent Persons Statement

The information in this report that relates to Orion's Exploration Results at the Prieska Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Mr Errol Smart, Orion Minerals Managing Director. Mr Smart (PrSciNat) is registered with the South African Council for Natural Scientific Professionals, a Recognised Overseas Professional Organisation (ROPO) for JORC purposes and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Smart consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. The Exploration Results are based on standard industry practises for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in Appendix 2.

Disclaimer

This release may include forward-looking statements. Such forward-looking statements may include, among other things, statements regarding targets, estimates and assumptions in respect of metal production and prices, operating costs and results, capital expenditures, mineral reserves and mineral resources and anticipated grades and recovery rates, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These forward-looking statements are based on management's expectations and beliefs concerning future events. Forward-looking statements inherently involve subjective judgement and analysis and are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Orion. Actual results and developments may vary materially from those expressed in this release. Given these uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. Orion makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect events or circumstances after the date of this release. All information in respect of Exploration Results and other technical information should be read in conjunction with Competent Person Statements in this release. To the maximum extent permitted by law, Orion and any of its related bodies corporate and affiliates and their officers, employees, agents, associates and advisers:

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Appendix 1: Table of intersections from Deep Sulphide Target drilling at the Prieska Project.

Drill hole	East (UTMz34S)	North (UTMz34S)	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
OCOD046	624610	6686251	1017.00	1027.65	10.65	0.80	4.19	0.15	5.72
			1031.70	1034.00	2.30	1.04	4.14	0.33	5.4
	including		1022.00	1027.65	5.65	1.16	6.19	0.20	7.5
OCOD059_D1	624824	6686282	998.00	1009.15	11.15	0.33	3.42	0.15	9.7
	including		1004.83	1009.15	4.32	0.31	5.08	0.22	15.9
			1023.60	1033.40	9.80	0.72	7.96	0.13	5.5
			1040.86	1045.32	4.46	0.55	5.06	0.10	8.42
OCOD062_D1	625647	6685275	1108.45	1110.52	2.07	0.61	5.33	0.28	7.60
OCOD072	625714	6685217	1101.70	1107.05	5.35	0.72	5.14	0.22	6.28

1. All significant intersections > 1m and >0.3% copper or > 0.5% zinc are quoted.
2. Holes prefixed with OCOD are drilled from surface, those with the prefix OCOU have been drilled from underground.
3. It is recommended that the supporting information contained in Appendix 2 is read in conjunction with these results.

Appendix 2: The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of Exploration Results for the Prieska Project.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> Diamond core cut at core yard and half core taken as sample. Diamond core sampled on 1m intervals where possible, sample lengths adjusted to ensure samples do not cross geological boundaries or other features. Drilling at the Deep Sulphide Target carried out aiming to define an approximate 100m x 100m pattern by use of "mother" holes and deflections from these holes. Drilling at the +105 Level Target carried out aiming to define an approximate 45m x 45m pattern. Percussion / reverse circulation pre collars (where used) sampled on a composite basis. Mineralised zones are drilled using core drilling. Sampling carried out under supervision using procedures outlined below including industry standard QA/QC. Samples submitted for analysis to ALS is pulverised in its entirety at ALS and split to obtain a 0.2g sample for digestion and analysis. Downhole EM survey carried out using standard techniques.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.). 	<ul style="list-style-type: none"> Diamond core drilling using NQ and BQ sized core. Pre collar drilled using percussion drilling on certain holes (above mineralisation).
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> All mineralised intersections are done with core drilling. Core stick-ups reflecting the depth of the drill hole are recorded at the rig at the end of each core run. A block with the depth of the hole written on it is placed in the core box at the end of each run. At the core yard, the length of core in the core box is measured for each run. The measured length of core is subtracted from the length of the run as recorded from the stick-up measured at the rig to determine the core lost. No grade variation with recovery noted.

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> All percussion holes are logged on 1m intervals using visual inspection of washed drill chips and both full. Core is logged by geology and recorded between geological contacts by qualified geologists. Qualitative logging of colour, grainsize, weathering, structural fabric, lithology, alteration type and sulphide mineralogy carried out. Quantitative estimate of sulphide mineralogy and quartz veining. Logs are recorded at the core yard and entered into digital templates at the project office.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> BQ and NQ core cut at core yard and half core taken as sample. Samples from percussion pre collars are collected by spear sampling. Sampling on site aims to generate a < 2kg sub sample to enable the entire sample to be pulverised without further splitting. Water is used in the dust depression proses during percussion drilling, resulting in wet chip samples. With core samples, the entire sample length is cut and sampled. Sample preparation is undertaken at ALS Laboratory Johannesburg, an ISO accredited laboratory. ALS utilises industry best practise for sample preparation for analysis involving drying of samples, crushing to <5mm if required and then pulverising so that +85% of the sample passes 75 microns. CRM's, blanks and replicates are inserted every 30 samples and analysed with each batch. Lab supplied CRM's, blanks and replicates are analysed with each batch. Specific gravity measurements are made over the full length of each individual sample on split core where possible. Where not possible due to crushed or broken core, a minimum of 80% of the core sample is used. The specific gravity is determined by measuring and subtracting the wet weight from the dry weight using an electronic density scale. Care is taken to clean and zero the scale between each weighing. The sample is first weighed in air and the weight recorded. The sample is then weighed, while completely submerged in clean water within a measuring beaker. The mass of beaker and water are deducted for net submerged weight and volume displacement read on measuring beaker. The sample is then removed and placed back into the core tray in the correct position and orientation. The procedure is repeated for each geological sample interval. The data is recorded in the Specific Gravity Data Sheet. The specific gravity is calculated for each sample using the formula:

Criteria	JORC Code explanation	Commentary
		$SG = \frac{\text{weight of sample}}{(\text{weight of sample in air minus the weight of the sample in water})}$
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> Samples from drilling were submitted to ALS Chemex in Johannesburg. Samples were analysed for base metals using a four acid digest and ICP-OES and for gold by fire assay with AAS finish. External quality assurance of the laboratory assays is monitored by the insertion of blanks, duplicates and certified reference materials (CRM) Coarse field duplicates consisting of a split sub-sample of the original crushed sample material. Three CRMs are alternated through the sample stream and where possible matched to the material being drilled. Two blanks are used (pulp and chips). No external laboratory checks have been carried out at this stage. Down hole EM surveys are carried out using a 3 component Digi-Atlantis probe and ultra high power transmitter. Loop size of 1800m x 600m are used with continuous measurements taken as the probe travels into the hole and out again. Surface TDEM surveys are carried out using a Supracon Jesse Beep squid sensor and ultra high power transmitter with a Smartem 24 receiver.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Orion's executive geologist is personally supervising the drilling and sampling along with a team of experienced geologists. The Managing Director and the executive geologist have reviewed the raw laboratory data and confirmed the calculation of the significant intersections. For the EM survey, data is collected on site and validated by a geophysical technician daily. Data (raw and processed) is sent to a consultant geophysicist for review and quality control.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> Collar data has been laid out using a handheld GPS and these coordinates are reported here. All of the Orion drill hole collars are surveyed by a qualified surveyor using a differential GPS which may result in minor adjustments to coordinate data. Downhole surveys are completed using a North-Seeking Gyro instrument. The historic mine survey data is in the old national Clarke 1880 coordinate system. All data is collected the surveyor is in Clarke 1880 and in UTM WGS84 Zone 34 (Southern Hemisphere). UTM WGS84 Zone 34 coordinates are reported above.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> At the Deep Sulphide Target drill holes aim to intersect mineralisation on approximately 100m x 100m spacing with infill drilling to be carried out in areas of interest as determined by results. At the +105 Level Target drill holes aim to intersect mineralisation on approximately 45m x 45m spacing with infill drilling to be carried out in areas of interest as determined by results. Variography studies were carried out on the historic data set for both Targets to determine the drill spacing for Mineral Resource estimates.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> Drilling is oriented perpendicular, or at a maximum achievable angle to, the attitude of the mineralisation. As a result most holes intersect the mineralisation at an acceptable angle. Where surface access or geotechnical conditions do not allow access to optimal drill collar positions, holes may be inclined. The intersections will be corrected once the mineralised zone is modelled in three dimensions and local attitude can be accurately determined. No sampling bias is anticipated as a result of hole orientations. EM surveys are completed in an orientation perpendicular to the interpreted or intersected mineralisation.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Chain of custody is managed by the Company. Samples were stored on site in a secure locked building and then freighted directly to the lab.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No audits or reviews have been carried out at this stage.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> The Prospecting Right is held by a subsidiary company of Agama Exploration and Mining (Pty) Ltd (Agama), which is a wholly owned subsidiary of Orion. As such, Orion effectively holds a 73.33% interest in the project. The Prospecting Right covers a strike of 2200m for the Deep Sulphide mineralisation out of a total interpreted strike of 2800m. The Prospecting Right covers the complete known strike of the +105 Level Target. All of the required shaft infrastructure and lateral access underground development is available within the Prospecting Right.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<p><u>Deep Sulphide Target</u></p> <ul style="list-style-type: none"> All exploration and life of mine drilling (V, D and F holes) was done by Anglovaal, resulting in a substantial amount of hard copy data from which the Company has been able to assess the prospectivity of the remaining mineralisation. The Anglovaal exploration resulted in the delineation and development of a large mine. <p><u>+105 Level Target</u></p> <ul style="list-style-type: none"> The 2012 drilling of the NW section of the +105 Level Target was carried out by the previous owners of the Subsidiary (Orion acquired the subsidiary in March 2017).
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Copperton deposit is a Volcanogenic Massive Sulphide deposit. The deposit is contained in the Areachap Group, which also hosts the Boks Puts, Areachap, Kielder, Annex Vogelstruisbult and Kantienpan deposits. The historically mined section of the deposit is confined to a tabular, stratabound horizon in the northern limb of a refolded recumbent synform which plunges at approximately 45° to the southeast. It is hosted within deformed gneisses of the Copperton Formation, which have been dated at 1285 Ma and forms part of the Namaqualand Metamorphic Complex. The mineralised zone outcrop has a strike of 2400m, was oxidised and / or affected by leached and supergene enrichment to a depth of approximately 100m, and outcrops as a well-developed gossan. It has a dip of between 55° and 80° to the northeast at surface and a strike of 130° to the north. The width of the mineralised zone exceeds 35m in places but averages between 7m and 9m. The mineralised zone persists to a depth of 1100m (as deep as 1200m in one section) after which it is upturned. The +105 Level Target area comprises the oxide / supergene / mixed zone (and a zone of remnant primary sulphides) situated from above the upper limit of mining at approximately 100m depth up to surface.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth 	<ul style="list-style-type: none"> All Significant Intersections, location data and other drill hole information is tabulated in Appendix 1.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	
Data aggregation methods	<ul style="list-style-type: none"> • In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> • Significant Intersections for the Deep Sulphide Target are calculated by average of assays result > 0.3% copper or 0.5% zinc and weighted by the sample width and specific gravity of each sample. • Significant Intersections for the +105 Level Target are calculated by average of assays result > 0.3% copper or 0.5% zinc and weighted by the sample width of each sample only. • In general, the significant intersections correspond strongly to geological boundaries (massive sulphides) and are clearly distinguishable from country rock / surrounding samples. • No truncations have been applied at this stage for either Target.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> • All intersection widths quoted are down hole widths. • Most holes intersected the mineralisation perpendicular or at high angle to the attitude of the mineralisation. • The mineralisation has complex geometry and mineralisation widths need to be estimated based on interpretation of surrounding intercepts.
Diagrams	<ul style="list-style-type: none"> • Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	<ul style="list-style-type: none"> • Appropriate diagrams (plan, cross section and long section) are shown in the announcement text.
Balanced reporting	<ul style="list-style-type: none"> • Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> • All drill holes referred to in the announcement are listed in Appendix 1. All other drill holes, including those with no mineralisation, have been detailed in previous announcements as detailed in the text.
Other substantive exploration data	<ul style="list-style-type: none"> • Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	<ul style="list-style-type: none"> • Hardcopy maps are available for a range of other exploration data. This includes mine survey plans, geological maps, airborne magnetics, ground magnetics, electromagnetics, gravity and induced polarisation. All available exploration data has been viewed by the Competent Person. • The mine operated from 1972 to 1991 and is reported to have milled a total of 45.68 Mt of ore at a grade of 1.11% copper and 2.62% zinc, recovering 0.43 Mt of copper and 1.01 Mt of zinc. Detailed production and metallurgical results are available for the life of the mine. • In addition, 1.76 Mt of pyrite concentrates and 8,403 t of lead

Criteria	JORC Code explanation	Commentary
		<p>concentrates as well as amounts of silver and gold were recovered.</p> <ul style="list-style-type: none"> • Copper and zinc recoveries averaged 84.9% and 84.3% respectively during the life of the mine.
Further work	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Drilling is ongoing to test the Deep Sulphide Target. • Downhole and surface EM surveys are also in progress aimed at delineating targets away from the historically drilled areas.