Orion Minerals NL

ASX/JSE RELEASE: 15 November 2017

Prieska Zinc - Copper Project Achieves Positive Initial Metallurgical Test Work Results

- **Initial phase of test work confirms Prieska deposit is amenable to concentration by froth flotation to produce saleable concentrate products.**
- **Test work indicates potential to match or exceed historic mine metallurgical performance.**
- **Deep Sulphide Target achieved rougher recoveries exceeding 89% for copper and 93% for zinc, for a differential flotation flowsheet aimed at producing separate copper and zinc concentrates.**
- **+105 Level Target (Open Pit) achieved recoveries exceeding 89% for copper and 91% for zinc, in a combined bulk cleaner concentrate.**

Orion Minerals NL (**ASX/JSE: ORN**) (**Orion** or **the Company**) is pleased to announce that the initial phase of metallurgical test work at the Prieska Zinc-Copper (**Prieska**) Project in South Africa, has yielded positive results that demonstrate the potential for Prieska to produce high quality marketable zinc and copper concentrates (summarised in Table 1 below).

Test Description		Test Head Grade		Total Recovered to Concentrate			Combined Tails		
		Cu (%)	Zn(%)	Mass (%)	Cu Rec. (%)	Zn Rec. (%)	Mass (%)	Cu (%)	Zn(%)
Cu Rich Deeps	Rougher	2.41	2.79	37	93.5	93.4	63	0.25	0.29
Zn-Rich Deep	Rougher	1.47	6.48	34	94.1	96.9	66	0.13	0.30
Zn-Rich Supergene	Rougher-Cleaner	1.53	8.87	17	92.0	92.8	83	0.19	0.94

Test Description		Copper Concentrate				Zinc Concentrate			
		Cu Rec. (%)	Cu Grade (%)	Zn Rec. (%)	Zn Grade (%)	Cu Rec. (%)	Cu Grade (%)	Zn Rec. (%)	Zn Grade (%)
Cu Rich Deeps	Rougher	89.5	12.0	22.2	3.4	4.0	0.5	71.2	10.3
Zn-Rich Deep	Rougher	88.9	8.6	10.4	4.4	5.2	0.4	86.6	30.5
Zn-Rich Supergene	Rougher-Cleaner	-	-	-	-	89.7	8.0	91.2	47.2

Table 1: Summary of Initial Metallurgical Test Work Results.

The results confirm that the remaining Prieska mineralisation, intersected to date, also responds well to metal concentration by froth flotation and recoveries, such that matching or exceeding historical performance may be expected. All samples tested achieved greater than 92% copper and zinc recoveries into rougher concentrates, which are the products of the first stage of froth flotation. Mass pulls to rougher concentrates ranging between 27% and 37% demonstrated the materials' amenability to concentration.

Optimised rougher flotation conditions to produce differentiated copper and zinc concentrates from the Deep Sulphide Target have also been determined, as have preliminary rougher conditions to produce a bulk copper and zinc concentrate from the shallow +105 Level Target (Open Pit). Historical rougher flotation conditions have been improved on, through a combination of varying reagent dosages and the use of supplementary modern reagents. The resultant rougher products are well-suited for upgrading in cleaner circuits to produce saleable products. Cleaner flotation test work is continuing.

The initial test work is being undertaken to verify the amenability to recovery and concentration using froth flotation, of both the remaining massive sulphide mineralisation and the supergene mineralisation that is being targeted for first production using open pit mining. Froth flotation was used successfully when the Prieska Copper Mine operated between 1971 and 1991. During that period, some 45.6 Mt of ore was processed to produce 428kt of copper and 1.01Mt of zinc as high quality concentrates[1]. Mine records show that a life-of-mine metal recovery of 85% for Cu and 84% for Zn was achieved (refer to Figure 1 for historical metallurgical performance of Prieska Mine)[2].

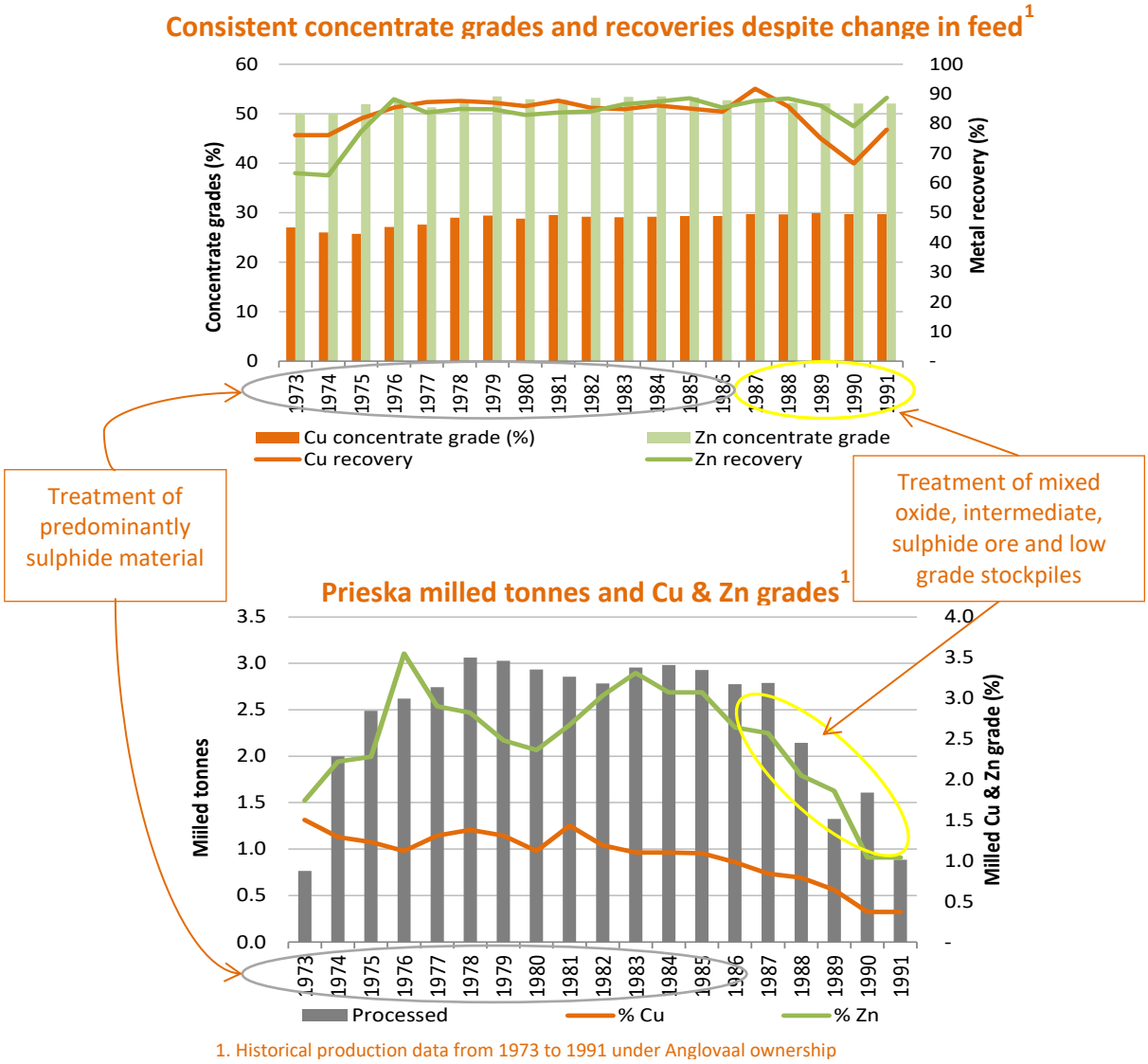


Figure 1: Prieska Mine historic production and metallurgical performance 1971 -1991.

Interviews with the Prieska Copper Mine's then-Concentrator Manager[3], who oversaw ore processing operations from 1986, revealed that supergene ore was blended with sulphide ore during the last four years of mine life and that good metal recoveries were achieved through careful management and reagent modification.

[1] Obtained from mine production records.
[2] Obtained from mine production records.
[3] Bryan Broekman, MBA, B.Sc. Eng. (Chemical), was the Senior Consulting Metallurgist for Anglovaal.

The ongoing test work aims at confirming that:

- all variants of hypogene and supergene sulphide mineralisation, intersected in drilling to date, are amenable to recovery and concentration using froth flotation;
- grade variation within the deposit, from high copper to high zinc grade mineralisation, does not negatively affect the flotation response;
- the Prieska mineralisation is amenable to modern, conventional flotation reagents; and
- flotation recoveries and concentrate grades may potentially be enhanced with finer grinding.

The subsequent phase of metallurgical test work, now being commenced, further to successful conclusion of the initial test work phase, is directed at developing optimum cleaner conditions, comminution characterisation, variability assessments and other design test work required to formulate the most profitable processing design.

The metallurgical test work program is being undertaken as part of the mine feasibility study scheduled for completion in Q4 of 2018[4]. South African-based engineering firm, DRA Projects SA Pty Ltd (**DRA**), is the appointed lead consultant conducting the feasibility study, supported by several industry-recognised specialists to oversee key study disciplines. Test work is being performed by Mintek Laboratories in Johannesburg, South Africa.

Test Work Program

Detailed metallurgical test work will be conducted using diamond drill core samples obtained from mineralised intersections in 21 holes drilled across the mineralised zones of the Prieska deposit that are targeted for mining, (refer Figure 2 for location of metallurgical sample holes). These zones are generally demarcated into the near-surface supergene sulphide zones **(+105 Level Target** (Open Pit)) and the deeper hypogene sulphide zones Deep Sulphide Target., (refer Figure 3 for targeted mineralised zones). The +105 Level Target (Open Pit) is being considered for mining by open pit methods while the Deep Sulphide Target is being assessed for extraction by underground mining methods utilising the significant underground infrastructure remaining from the historic mine such as shafts and declines.

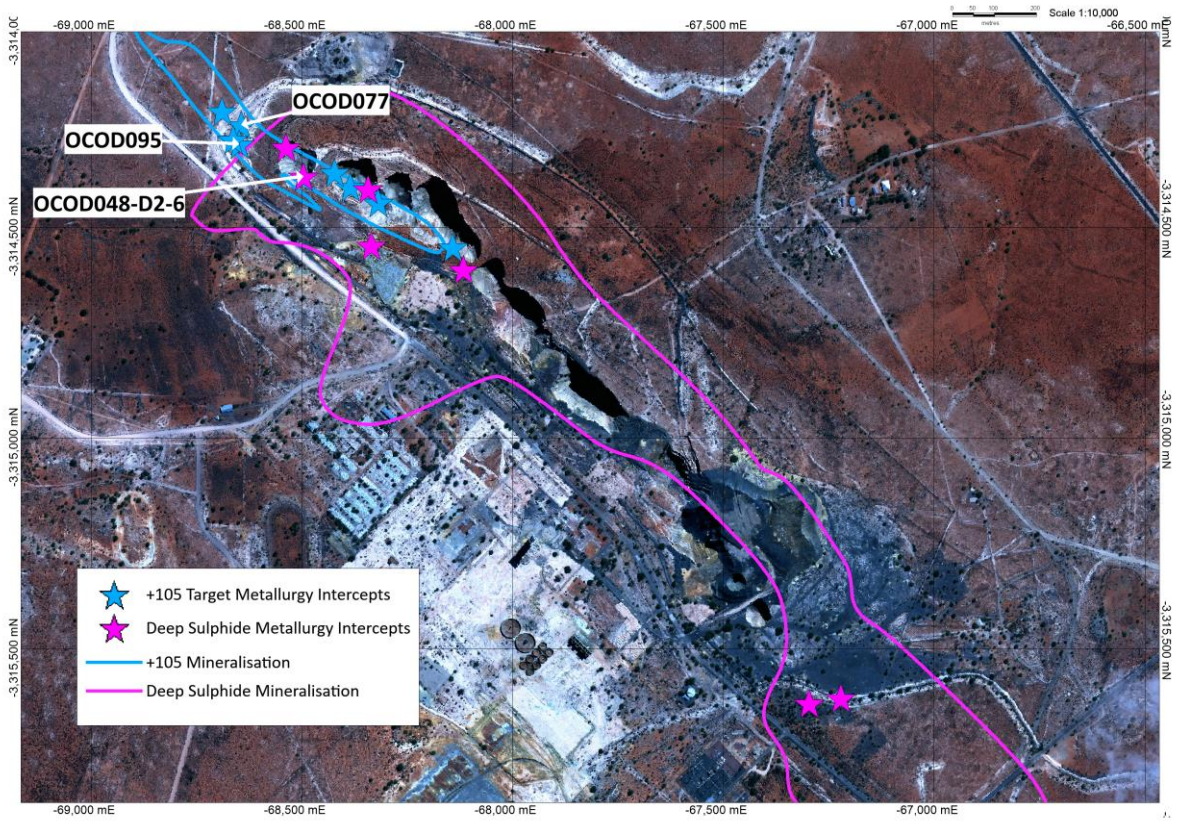


Figure 2: Plan view showing location of drill holes used to obtain samples for metallurgical test work, within Prieska mineralisation envelope.

[4] Refer to ASX release 11 July 2017.

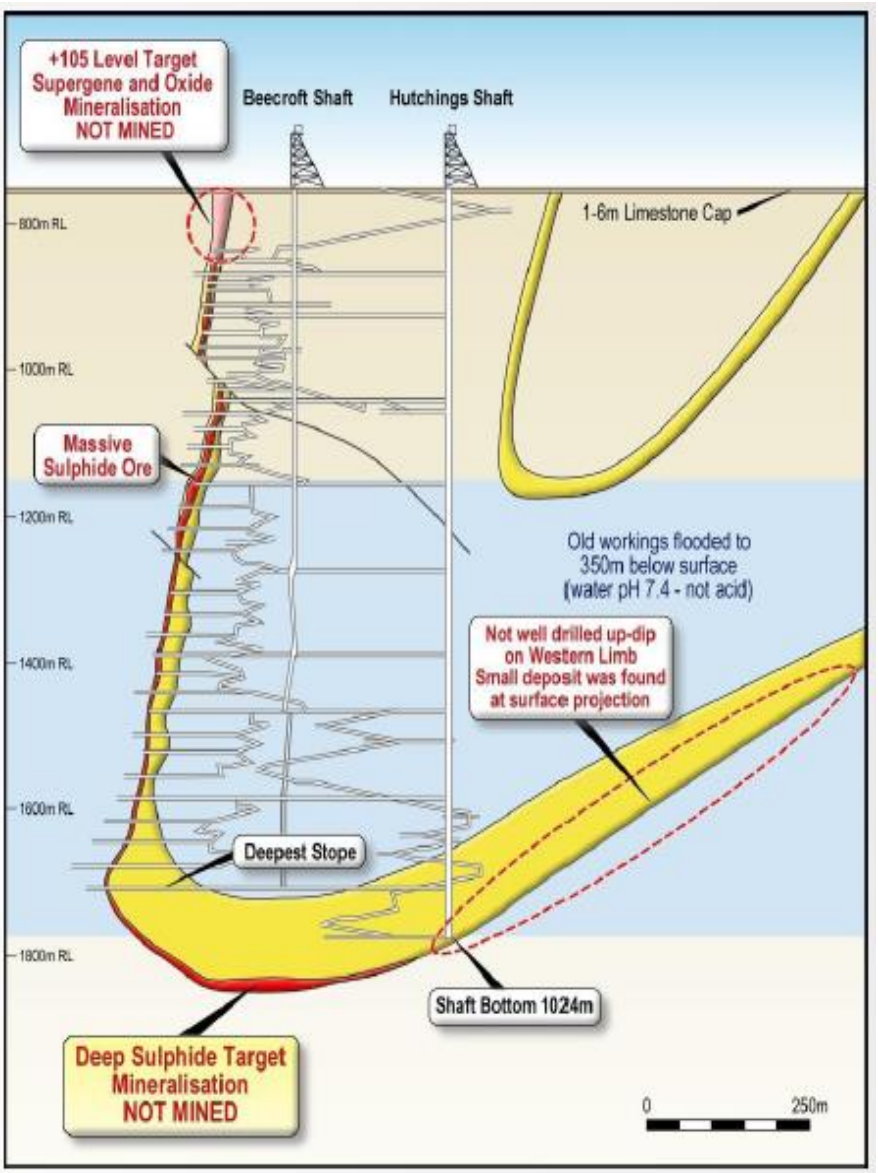


Figure 3: Cross-section of the Prieska deposit's targeted mineralisation.

The complete metallurgical test work program will consist of flotation scouting, flotation optimisation, comminution characterisation, variability assessments and advanced design work, to determine the most profitable process design. The results presented in this announcement form part of the flotation scouting stage of the whole program. Flotation scouting work is being conducted on drill core composite samples obtained from 3 of the 21 drill holes[5], with a total mass of approximately 130kg, (refer Figures 2 and 4 for sample sources).

This test work is aimed at demonstrating the potential for bulk and differential copper-zinc rougher flotation, as well as establishing the benefit of concentrate re-grind processes on core samples extracted from the following ore zones:

- +105 Level Target zone containing zinc-rich mineralisation;
- +105 Level Target zone containing copper-rich mineralisation (results pending);
- Deeps Sulphide Target zones containing zinc-rich mineralisation; and
- Deeps Sulphide Target zones containing copper-rich mineralisation.

Mineralised samples from the different zones are being processed through a laboratory bench-scale differential copper-zinc rougher flotation circuit, using chemical reagents currently available in the market. Rougher rate tests for each zone are performed using the flotation conditions that were successfully applied historically at

[5] Hole ID's OCOD077 and OCOD95 for the supergene samples and OCOD048-D2-6 for the Deeps samples.

Prieska Copper Mine. In addition to the rougher rate tests, a series of reagent optimisation tests and a single concentrate re-grind test have been performed to assess the benefit of concentrate re-grinding.

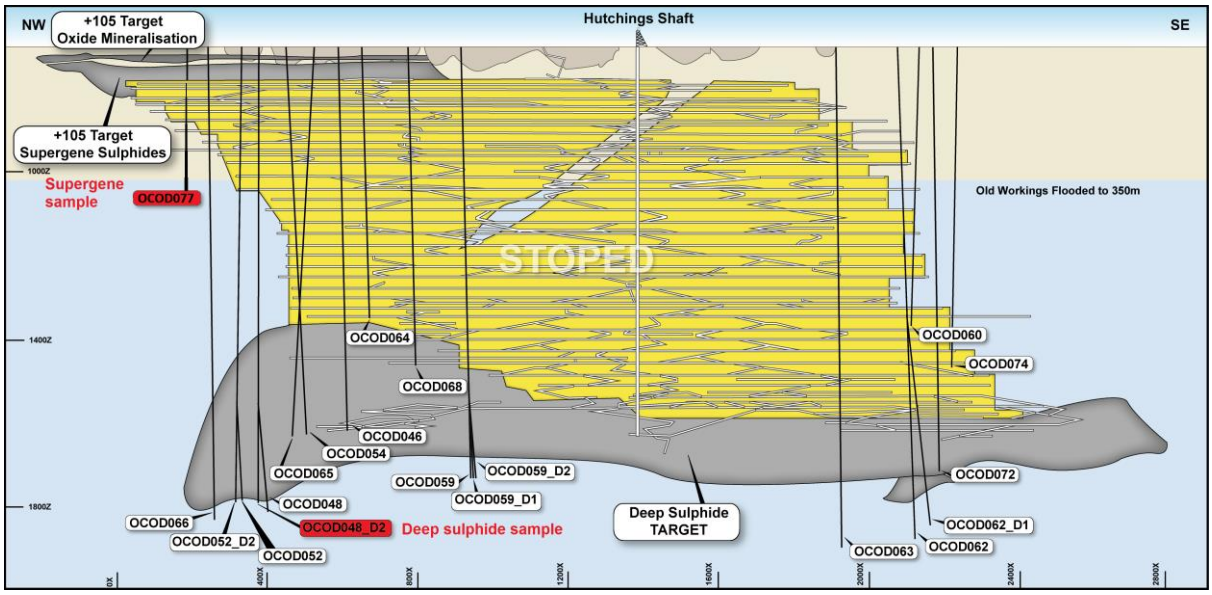


Figure 4: Longitudinal projection of the Prieska deposit showing the sample sources for the initial metallurgical test work.

Test Work Results

Based on metallurgical test results obtained to date, the following has been achieved, (Table 1 provides a summary of the results):

- the copper-rich material from the Deep Sulphide Target responded well to a differential rougher float, achieving 89.5% copper rougher recovery to the copper concentrate and 93.4% zinc rougher recovery to the combined copper and zinc concentrates, under optimal rougher flotation conditions;

- the zinc-rich material from the Deep Sulphide Target also responded well to a differential rougher float, achieving 88.9% copper rougher recovery to the copper concentrate and 96.9% zinc rougher recovery to the combined copper and zinc concentrates, under optimal rougher flotation conditions;

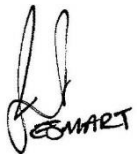
- the zinc-rich supergene material from the +105 Level Target responded well to a bulk flotation flowsheet, achieving 89.7% copper and 91.2% zinc recovery into a bulk concentrate after rougher flotation, regrind and cleaning. A marketable concentrate with a grade of 47% zinc and 8% copper was produced.

Follow-up Work

The positive results allow the test work program to progress to the next phase. This follow-on work entails conclusion of the scouting work on the copper-rich mineralised supergene zone of the +105 Level Target (Open Pit). Further, bulk flotation, differential flotation, cleaner flotation and concentrate regrind tests will be undertaken to determine the expected cleaner upgrade potential and ultimately expected concentrate grades for marketing assessments. Further comminution characterisation and variability assessments will also be conducted as part of the detailed variability test work program.

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

"The excellent flotation response of both the supergene and hypogene sulphides is encouraging and confirms that our design team is on track to improving on the already successful processing route that was historically used at the mine. We continue to develop the operational strategy and configuration to optimise returns from mining the open pit and deep sulphides, keeping in mind the Deep Sulphide Target will constitute the bulk of our life-of-mine plan."



Errol Smart
Managing Director and CEO

ENQUIRIES

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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.

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Appendix 1: The following table lists the drill holes used for collecting metallurgical test work samples.

Site ID	Target	Type	Hole Depth (m)	Core Size	Dip	Azimuth	UTM34S East	UTM34S North	RL	Sample Kg's
OCOD039	Supergene Sulphides	+105 MET	84.27	PQ	-90.00	0.00	624 352.21	6 686 623.29	1070.27	200
OCOD046-D1	Deep Sulphides	Deeps MET	1 068.05	NQ	-80.00	45.00	624610.5228	6686251.974	1067.74	52
OCOD046-D2-1	Deep Sulphides	Deeps MET	1 053.05	NQ	-80.00	45.00	624610.5228	6686251.974	1067.74	26
OCOD048-D2-6	Deep Sulphides	Deeps MET	1 103.92	NQ	-80.00	45.00	624452.2686	6686374.789	1067.74	65
OCOD048-D2-7	Deep Sulphides	Deeps MET	1 100.00	NQ	-80.00	45.00	624452.2686	6686374.789	1067.74	100
OCOD065-D1-4	Deep Sulphides	Deeps MET	1 052.72	NQ	-77.00	42.00	624529.4002	6686346.275	1068.03	80
OCOD065-D1-5	Deep Sulphides	Deeps MET	1 052.72	NQ	-77.00	42.00	624529.4002	6686346.275	1068.03	33
OCOD066-D2	Deep Sulphides	Deeps MET	1 102.14	NQ	-90.00	0.00	624350.0284	6686466.11	1068.30	200
OCOD066-D3	Deep Sulphides	Deeps MET	1 135.00	NQ	-90.00	0.00	624350.0284	6686466.11	1068.30	88
OCOD068-D1	Deep Sulphides	Deeps MET	1 029.12	NQ	-90.00	0.00	624691.2249	6686077.099	1069.71	59
OCOD072-D1	Deep Sulphides	Deeps MET	1 126.23	NQ	-90.00	0.00	625711.5987	6685214.405	1077.44	to dispatch
OCOD074-D1	Deep Sulphides	Deeps MET	1140*	NQ	-90.00	0.00	625815.084	6685218.764	1078.51	to dispatch
OCOD077	Supergene Sulphides	+105 MET	90.93	NQ	-90.00	0.00	624391.8018	6686581.717	1070.00	to dispatch
OCOD095	Supergene Sulphides	+105 MET	111.90	NQ	-60.00	110.00	624390.2269	6686548.743	1069.00	186
OCOD106	Oxide	+105 MET	33.47	HQ	-90.00	0.00	624366.4623	6686562.161	1067.00	to dispatch
OCOD106A	Oxide	+105 MET	45.47	HQ	-90.00	0.00	624366.4623	6686562.161	1067.00	to dispatch
OCOD108	Oxide	+105 MET	35.32	HQ	-30.00	225.00	624366.4623	6686562.161	1067.00	to dispatch
OCOU100	Supergene Sulphides	+105 MET	73.12	BX	30.00	30.00	624840.2933	6686234.947	972.00	to dispatch
OCOU102	Supergene Sulphides	+105 MET	60.2	BX	30.00	45.00	624662.8427	6686351.534	975.00	to dispatch
OCOU104	Supergene Sulphides	+105 MET	67.93	BX	30.00	360.00	624595.6721	6686390.886	975.00	to dispatch
OCOU109	Supergene Sulphides	+105 MET	70*	BX	30.00	45.00	624595.6721	6686390.886	975.00	to dispatch
* Planned depth - drilling in progress										

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	• *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.*	• Metallurgical samples taken from diamond half and full cores. • Diamond cores sampled on geological boundaries based on visual mineralisation. • Samples are submitted for analysis in their entirety.
Drilling techniques	• *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.).*	• Diamond core drilling using NQ and BQ sized core. • Pre-collar drilled using percussion drilling on certain holes (above mineralisation).
Drill sample recovery	• *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.*	• 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	• *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.*	• 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	• *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.*	• BQ and NQ core sampled in their entirety. • Sample preparation is undertaken at Mintek Johannesburg, an ISO accredited laboratory. Mintek utilises industry best practise for sample preparation for analysis from initial sampling and sub sampling at each stage of the test work process.
Quality of assay data and laboratory tests	• *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.*	• Samples from drilling were submitted to Mintek in Johannesburg for metallurgical test work. Samples taken during the test work process are dissolved in a strong alkali digest and analysing via ICP, a technique tailored for high grade Zn concentrates. Preliminary assaying using a hand-held XRF machine is also done.
Verification of sampling and assaying	• *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.*	• Orion's executive geologist is personally supervising the drilling and sampling along with a team of experienced geologists. • Senior management have reviewed the raw laboratory data and confirmed the calculation of the significant intersections.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used*	• Collar data has been laid out using a handheld GPS and these coordinates are reported here.

Criteria	JORC Code explanation	Commentary
	in Mineral Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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.
Data spacing and distribution	• *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.*	• 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	• *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.*	• 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	• *The measures taken to ensure sample security.*	• 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	• *The results of any audits or reviews of sampling techniques and data.*	• 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	• *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.*	• 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.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	<u>Deep Sulphide Target</u> • 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. <u>+105 Level Target</u> • 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	• *Deposit type, geological setting and style of mineralisation.*	• 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

Criteria	JORC Code explanation	Commentary
		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	• *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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• All location data and other drill hole information is tabulated in Appendix 1.
Data aggregation methods	• *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.*	• Not relevant as results presented are from metallurgical test work.
Relationship between mineralisation widths and intercept lengths	• *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').*	• 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	• *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.*	• Appropriate diagrams (plan, cross section and long section) are shown in the announcement text.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not*	• All drill hole results referred to in the announcement, are listed in

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	practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	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	• *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.*	• 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 concentrates as well as amounts of silver and gold were recovered. • Copper and zinc recoveries averaged 84.9% and 84.3% respectively during the life of the mine.
Further work and metallurgical test work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* • *Other exploration data, if meaningful and material, should be reported including (but not limited to) metallurgical test results.* • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* • *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the*	• 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. • Scouting metallurgical test work was undertaken using samples obtained from a range of lithological and spatial domains. Some 137kg of samples was obtained from 3 holes. Full representivity from samples will be achieved as part of the subsequent stages of metallurgical testwork. Variability of metallurgical characteristics across the targeted exploration area will be tested using a set of 21 drill holes. The placement of drill holes took into consideration the need to assess spacial, lithological, grade and degree of oxidation domains within the targeted mineralised zones. • The primary purpose of the metallurgical test work campaign is to verify that historically-applied ore processing techniques are still applicable to unmined extensions of the deposit. • Historical mine production records reported the amount of material milled and the resultant concentrates produced. • Historical ore processing techniques are well documented. • Interviews with personnel who supervised ore processing operations have been conducted. • The proposed metallurgical processes (froth flotation using standard reagent suites) are widely applied in the industry and were applied successfully when the Prieska Copper Mine operated previously.

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	degree to which such samples are considered representative of the orebody as a whole. • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	