Orion Gold NL

Strong New EM Conductor Identified at Kantienpan Zinc-Copper Deposit

Drilling of this compelling target to commence shortly

Highlights:

- **Strong, previously undetected conductor delineated below the extent of historical drilling, by high-powered fixed-loop ground electromagnetic surveying at the Kantienpan Zinc-Copper Deposit.**
- **The response from the new conductor KN1 is substantially stronger than the response from the previously drilled conductor, indicating either a higher proportion of sulphide material or a thicker unit of sulphide-bearing material.**
- **The KN1 conductor has been defined by both surface and down-hole surveying, resulting in a higher precision in its definition and modelling.**
- **Drilling will re-commence following completion of the survey, with holes planned to target this new conductor as well as to test strike and depth extensions to historical drill intersections.**

Orion Gold NL (**ASX: ORN**) is pleased to advise that it has identified a strong new electromagnetic (**EM**) conductor below the extent of historical drilling at the **Kantienpan Zinc-Copper deposit**, which forms part of Orion's portfolio of projects within the Areachap Belt in the Northern Cape province of South Africa (Figure 3).

The conductor was identified by an ongoing high-powered ground fixed loop electromagnetic (**HP_FLEM**) survey which is being carried out to trace extensions of the mineralisation intersected by both historical and Orion drilling (refer ASX Releases – 31 May 2016 and 29 September 2016).

A secondary aim of the survey is to determine if there are additional mineralised lenses in the footwall of the current known mineralisation, which is a common occurrence in volcanogenic massive sulphide (**VMS**) deposits such as Kantienpan. Concurrent down-hole EM and surface HP_FLEM are being employed to assist with depth penetration and precision, and the data is integrated to accurately model the conductors detected.

The Kantienpan Deposit lies within the prospecting right held by Masiqhame Trading 855 Pty Ltd (**Masiqhame**), in which Orion has exercised its option to acquire a 50% interest and under the option agreement can earn up to a 73% interest (refer ASX Release 29 September 2016).

The first loop in a planned 5-loop survey, has **defined a strong, late channel conductor in the northern portion of the deposit** (Figure 1) below the conductor imaged in historical EM surveying. The KN1 conductor is modelled to be substantially larger and highly conductive (~6000-8000S), being 3-4 times the conductance of the shallower, drilled, conductor (Figure 2), yet it was not detected in the previous survey due to limitations with the low-powered, historic system used at the time.

ASX Code: **ORN**

Issued Capital:

Ordinary Shares: 484M

Options: 85M

Directors:

Denis Waddell
Chairman

Errol Smart
Managing Director, CEO

Bill Oliver
Technical Director

Alexander Haller
Non-Executive Director

Management:

Martin Bouwmeester
Company Secretary &
Business Development Manager

Suite 2
64 Thomas Street
West Perth WA 6005
ABN 76 098 939 274

T: +61 8 9485 2685
E: info@oriongold.com.au

W: www.oriongold.com.au

Relative conductance within a VMS horizon may be an important indicator of sulphide species and metal tenor and/or width of massive sulphide mineralisation. High conductance targets present priority targets for follow up by drilling.

Detection of the previously unknown, deeper KN1 conductor, by using modern geophysical methods, also highlights the potential for the discovery of new targets as well as blind extensions/repetitions of mineralisation in the extensive VMS belt now consolidated by Orion in the Areachap Belt.

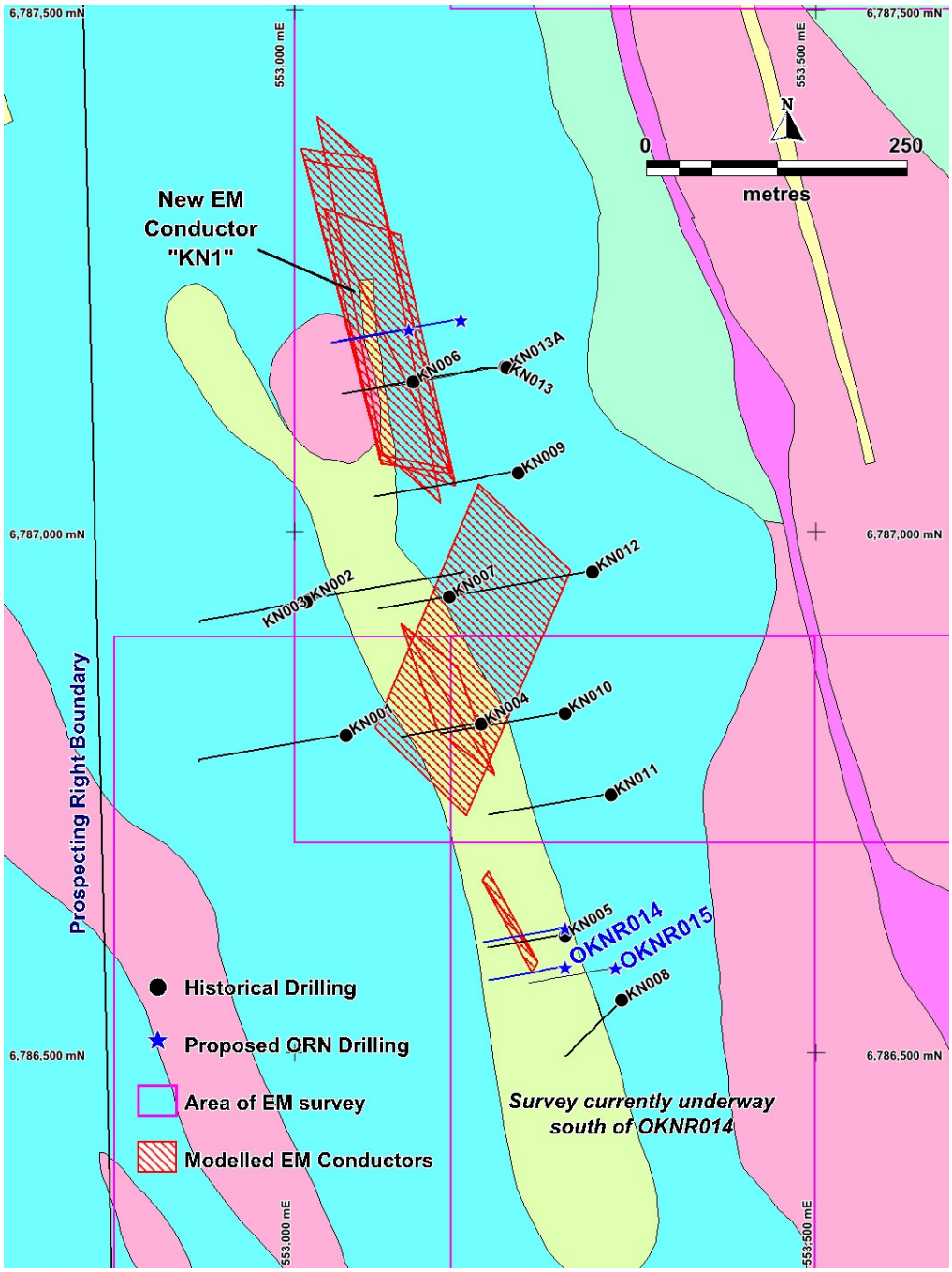


Figure 1: Plan showing historical and proposed drilling at Kantienpan with EM conductors modelled from the current, ongoing HP_FLEM survey including KN1. Note the survey has not yet effectively tested south of OKNR014.

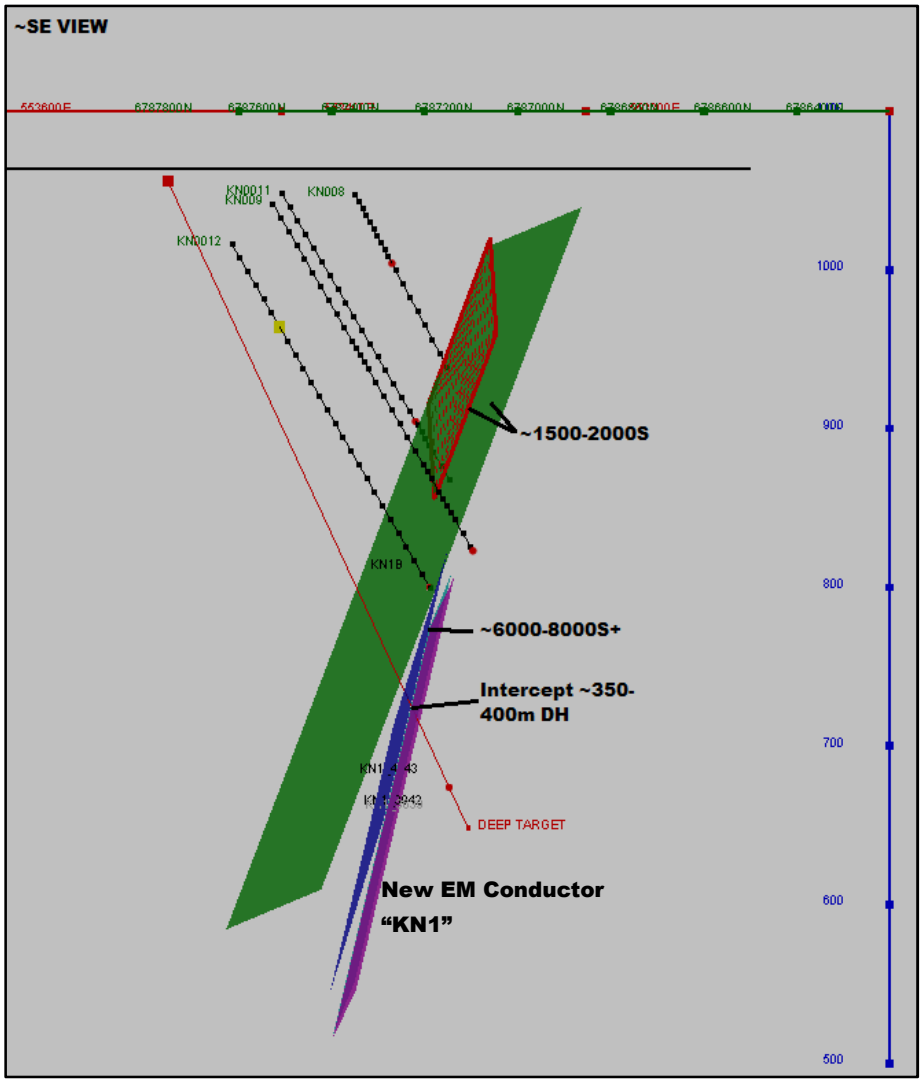


Figure 2: Orthogonal view showing a model of the new KN1 conductor defined in the current Orion survey along with selected drill holes.

Significantly, the results of the survey also have implications for nickel-focused exploration in the belt, where the use of this method of surveying – which is used in exploration in the Fraser Range province of Western Australia – is expected to facilitate the detection of massive sulphide deposits, associated with numerous known disseminated sulphide bodies.

The Kantienpan Deposit was originally discovered by Iscor, with a total of 14 historical diamond core holes for 3,199m previously drilled (Figure 1, ASX Release 31 May 2016). Drilling at the Kantienpan Deposit was curtailed soon after discovery, due to a corporate decision by Iscor to stop all exploration and focus on iron ore production. Significant intersections from the Iscor drilling include the following results:

- 8.84 metres at 6.32% zinc and 1.02% copper (KN005);
- 6.15 metres at 4.74% zinc and 0.49% copper (KN010);
- 7 metres at 3.15% zinc and 0.57% copper (KN007);
- 13 metres at 3.96% zinc and 0.36% copper (KN003); and
- 2.6 metres at 6.59% zinc and 0.35% copper (KN011).

(Refer ASX Release 31 May 2016 for complete results of historical drilling)

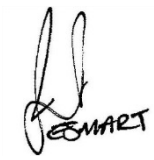
Orion's maiden drilling program has also identified strike extensions to the mineralisation identified historically, with massive sulphides intersected in OKNR014, which returned **7m at 6.44% Zn and 0.43% Cu from 60m including 3m at 7.94% Zn from 63m** (refer ASX Release 29 September 2016).

While a key tool in the original discovery of the Kantienpan Deposit by Iscor was FLEM surveying (and the 1998 survey was effective in delineating a shallow conductor related to sulphide-hosted mineralisation), a review of the system employed and the historical data has highlighted technical constraints in the historical survey.

The current, high-powered system which employs a more sensitive SQUID sensor and modified, deep searching loop layouts, has enabled Orion to execute a more effective survey, looking both deeper and with more precision than the previous survey allowed.

Identifying units with higher conductance at depth is important in the context of VMS deposits, which are generally zoned, with the potential for higher grade or more massive zones of mineralisation that are blind to surface. With drilling at Kantienpan already indicating attractive grades and widths in the higher level, less conductive units, the identification of the KN1 conductor with four times the conductance of conductors previously drilled, presents a compelling drill target.

Drilling is planned to re-commence following completion of the HP_FLEM survey, with a focus on targets of possible stronger sulphide mineralisation indicated by highly conductive sources.



Errol Smart
Managing Director and CEO

Company Enquiries:

Errol Smart - Managing Director and CEO
Denis Waddell - Chairman
T: +61 8 9485 2685
E: info@oriongold.com.au

About Orion

Orion Gold is focused on acquiring, exploring and developing large tenement holdings or regional scale mineral opportunities in world-class mineral provinces. The Company has acquired quality projects in proven mineral provinces.

Recently, the Company has secured an outstanding growth and diversification opportunity in the global gold and base metals sectors and has secured options and earn-in rights over a combined area of 1790km^2 on the highly prospective Areachap belt, North Cape Province of South Africa (Figure 3). These include:

- An option to acquire an advanced volcanic massive sulphide copper-zinc project with near-term production potential. The option gives Orion the right to acquire an effective 73.33% interest in a portfolio of projects including an exploration project at the Prieska Copper Project, located near Copperton in the Northern Cape province of South Africa, and the Marydale Prospecting Right, a virgin gold discovery of possible epithermal origin, located 60 km from the Prieska Copper Project. The Company is progressing extensive due diligence investigations. (refer ASX release 18 November 2015).
- An earn in right to ultimately earn a 73% interest in a 980km^2 prospecting right area located approximately 80 km north of the Prieska copper Project. The project area contains several VMS and VHMS zinc and copper targets including the advanced stage Kantienpan zinc – copper project. (refer ASX releases 29 April 2016 and 31 May 2016).
- An earn in right to ultimately earn an 80% interest, via a South African registered special purpose vehicle which will be 74% owned by Orion, to prospecting and mining right applications covering a combined and partially overlapping area of 626km^2. The mineral rights areas include an advanced stage ultramafic hosted nickel – copper project, analogous to the geology of the Fraser Range, Western Australia. Several VMS and VHMS copper-zinc targets are also located within this mineral rights package. (refer ASX release 14 July 2016).

The Company also continues to explore a large tenement package on the Connors Arc in Queensland, where a significant intermediate sulphidation, epithermal gold and silver system has been identified at Aurora Flats. The project lies between the Cracow and Mt Carlton epithermal deposits. The Company is increasing its focus on this project, following promising reports from expert consultants, and its fieldwork has led to the discovery of substantial epithermal systems at the Veinglorious and Chough Prospects.

The Company also holds a substantial tenement holding in the Albany-Fraser Belt, host to Australia's two most significant discoveries of the last decade (the Tropicana Gold Deposit and the Nova Nickel-Copper-Cobalt Deposit). Part of this tenement holding was acquired from entities associated with Mark Creasy who is a large shareholder in Orion. Orion's intensive, systematic exploration programs have successfully defined 34 targets to date by a combination of geological, geochemical and geophysical methods.

Additionally, the Company owns the Walhalla Project located in Victoria, which is prospective for gold, copper – nickel and PGEs.

The Company has an experienced management team with a proven track record in exploration, development and adding shareholder value.

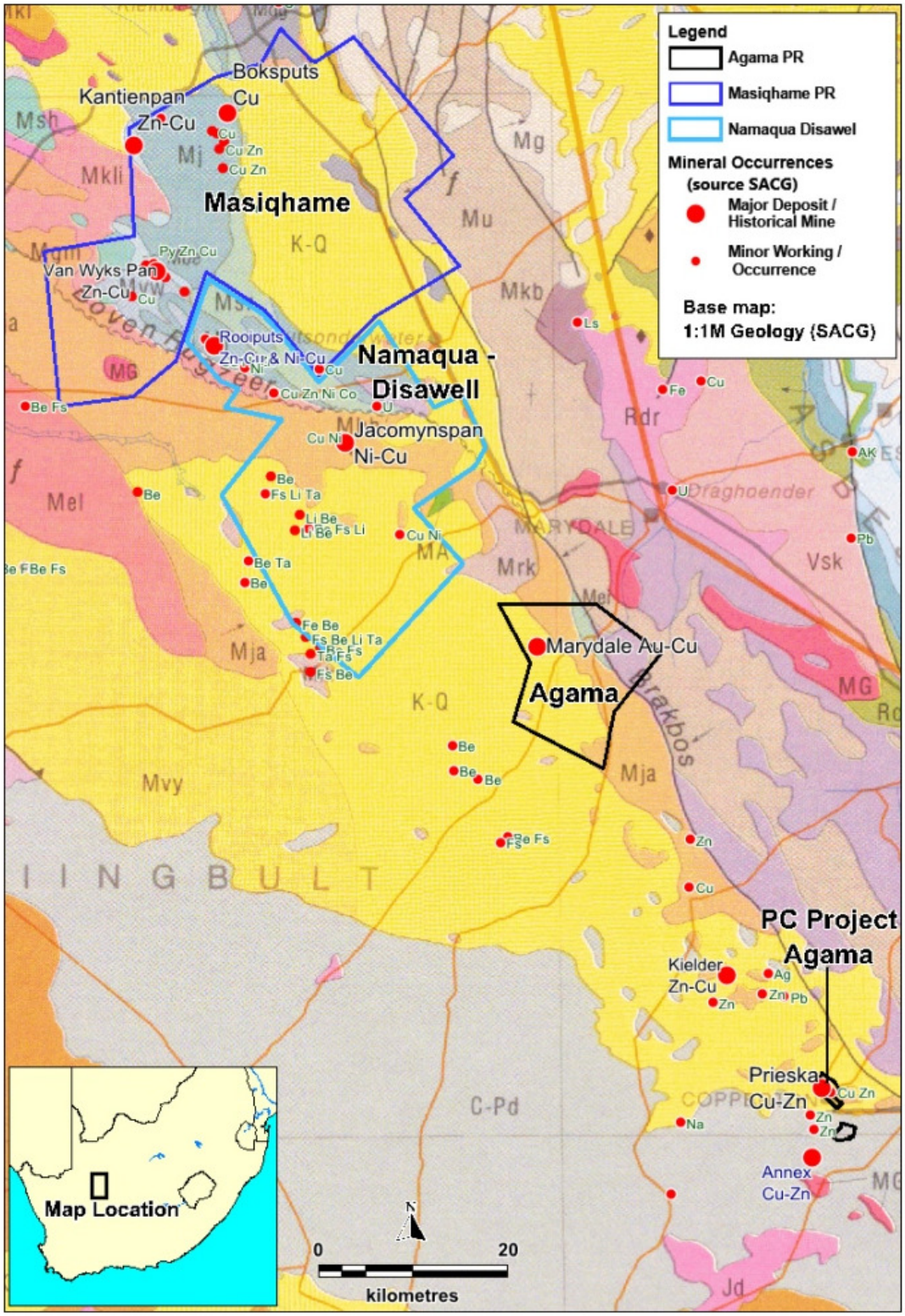


Figure 3: Regional geology map of the Areachap Belt showing prospecting rights currently under option to Orion and noted mineral occurrences as per published data from South African Council for Geoscience.

Competent Persons Statement

The information in this report that relates to Orion's Exploration Results from the Masiqhame 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 Gold NL's Managing Director. Mr Smart (PrSciNat) is registered with the South African Council for Natural Scientific Professionals, a 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 measure as detailed in Appendix 1.

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:

- disclaim any obligations or undertaking to release any updates or revisions to the information to reflect any change in expectations or assumptions;
- do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this release, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and
- disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence).

Orion Gold NL

Appendix 1: The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of Exploration Results.

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 (eg 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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	• Ground electromagnetic surveys are industry standard geophysical techniques in exploration for sulphide hosted base metal deposits. The fixed loop technique was used for this survey as the orientation of the mineralisation was known and to minimise environmental impacts. The area and depth targeted by these surveys was planned based on previous drilling and survey results.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• No drilling results presented so not applicable.
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*	• No drilling results presented so not applicable.

Criteria	JORC Code explanation	Commentary
	loss/gain of fine/coarse material.	
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.*	• No drilling results presented so not applicable.
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.*	• No drilling results presented so not applicable.
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Fixed loop ground EM survey carried out by Spectral Surveys using a 1000m x 1000m single turn loop, 200A transmitter HPTX + SQUID + SM24. Stations measured on 100m x 100m grid, with 50m x 50m infill on known mineralisation margins.
Verification	• *The verification of significant intersections by either independent or*	• No drilling intersections are presented so not applicable.

Criteria	JORC Code explanation	Commentary
of sampling and assaying	*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.*	• Data collected on site and validated by geophysical technician daily. Data (raw and processed) sent to consultant geophysicist for review and quality control. Further processing of data carried out by the Company's consultant geophysicist.
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 in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Station locations have been located using handheld GPS with an accuracy of +/- 5 metres. • Topographic control is based on topographic data derived from public data. • All data is collected in UTM WGS84 Zone 34 (Southern Hemisphere) and these coordinates are used in diagrams shown.
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.*	• Survey carried out using 100m spaced lines, 100m spaced stations. • In fil of 50m x 50m spacing on margins of known mineralisation.
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.*	• Survey carried out on lines oriented relative to mineralisation intersected in historical drilling.
Sample security	• *The measures taken to ensure sample security.*	• No drilling results presented so not applicable.
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.

Orion Gold NL

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 mineral rights to the property are vested in the State and the Act regulates the exploration and mining industry in South Africa. A prospecting right in accordance with the Act was granted to Masiqhame to prospect for all minerals for a period of five years effective from 12 March 2014. • The Prospecting Right was granted in respect of the farm Koegrabe 117 comprising Portions 2 – 11; Boksputs 118 Portions 1, 7, 8, 9, 10; Kantien Pan 119 Portions 1 and 2; Wan Wyks Pan Portions 1 – 5; and Zonderpan Portions 1, 5, 6, 7, 8 situated in the Magisterial/ Administrative District of Kenhardt, Northern Cape Province. The total area measures 98435.8548 Ha in extent.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Much of the background information in this announcement is sourced from: - Roussouw, D, 2003. A technical risk evaluation of the Kantienpan volcanic-hosted massive sulphide deposit and its financial viability. M.Sc. thesis, University of Pretoria, 118 pp. - Du Toit, M.C, 1998. The metallogeny of the Upington-Kenhardt Area. Explanation: Metallogenic Sheets 2820 and 2920, South African Council for Geoscience, 108p. • Previous exploration in the northern Areachap belt including at the Kantienpan Deposit was carried out by Iscor, with exploration also carried out by Anglo American, Phelps Dodge, Anglovaal and Newmont. • Exploration activities across the Project area included surface geochemical sampling, geophysical surveying and diamond core drilling.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Kantienpan Deposit is a Volcanogenic Massive Sulphide (**VMS**) deposit, a globally significant and well studied mineralisation style. • The deposit lies in the Areachap Group, a volcano-sedimentary belt hosting other VMS deposits including Areachap, Boksputs, Kielder and Prieska (or Copperton).
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*	• No drilling results presented so not applicable.

Criteria	JORC Code explanation	Commentary
	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.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.*	• No drilling results presented so not applicable.
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 (eg 'down hole length, true width not known').*	• No drilling results presented so not applicable.
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.*	• All relevant geophysical along with geological and drilling data to interpret EM results are shown on Figure 1 and 2.
Balanced reporting	• *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.*	• No drilling results presented so not applicable. • All data collected in EM survey is shown on Figure 1.
Other substantive	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical*	• The Company's previous ASX releases have detailed historical exploration works on the Areachap Project and surrounds.

Criteria	JORC Code explanation	Commentary
exploration data	*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.*	
Further work	• *The nature and scale of planned further work (eg 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.*	• Further drilling planned as detailed in announcement. • More detail on further work will be available following completion of the EM survey.