

29 May 2015



## New Robust Drill Targets Identified at Aurora Flats Epithermal Gold-Silver Project, Queensland

**ASX Code:** ORN

**Issued Capital:**

Ordinary Shares: 306M

Options: 89M

**Directors:**

**Denis Waddell**  
Chairman

**Errol Smart**  
Managing Director, CEO

**Bill Oliver**  
Technical Director

**Alexander Haller**  
Non-Executive Director

**Management:**

**Kim Hogg**  
Company Secretary

**Martin Bouwmeester**  
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](mailto:info@oriongold.com.au)

*Three robust target areas confirmed for drilling at Aurora Flats from state-of-the-art magnetics and geochemistry; same process underway at Veinglorious.*

**Highlights:**

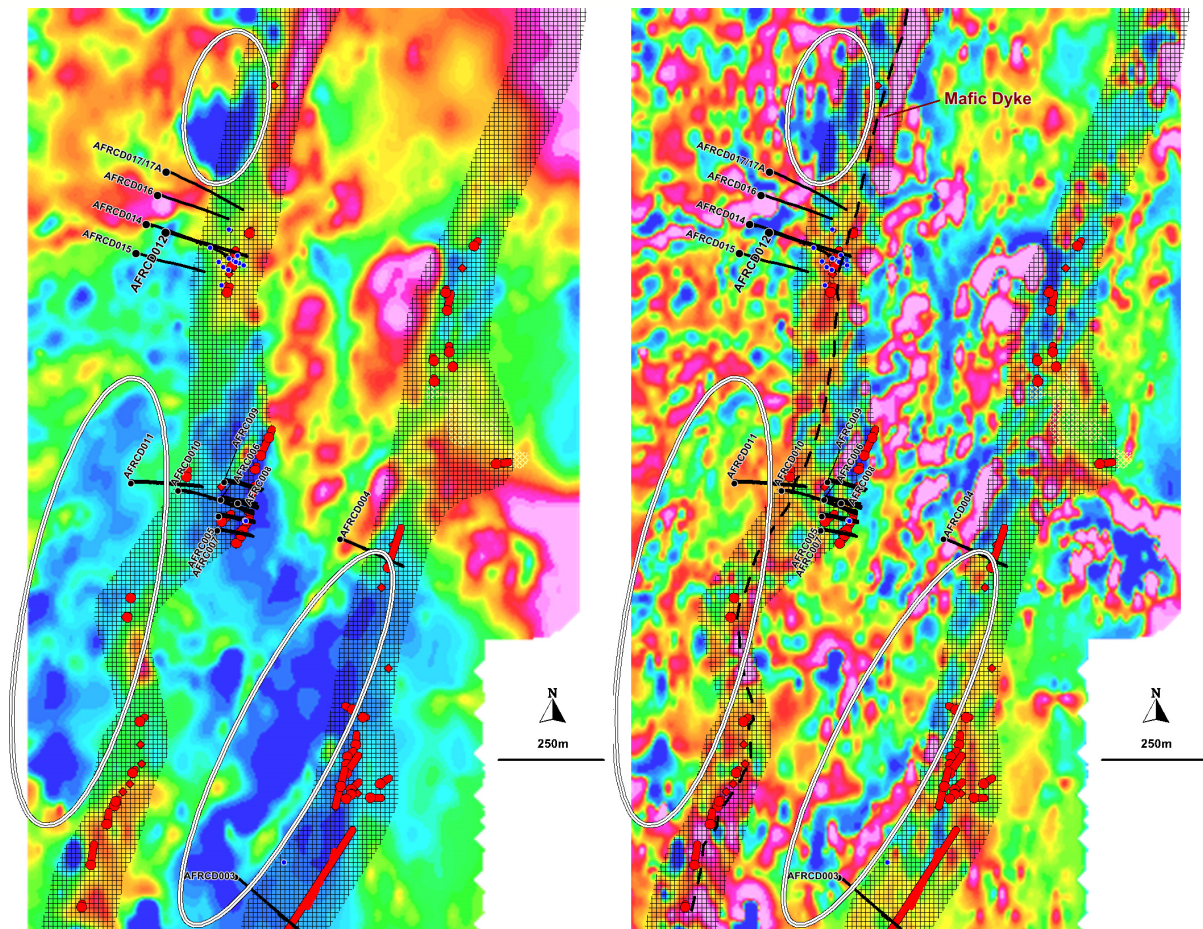
- Interpretation of high-resolution, ground magnetics provides map of peak epithermal alteration, providing an indication of where the largest vein deposits can be expected.
- Detailed geochemical and Visible-Short Wave Infrared ("VNIR-SWIR") data interpretation provides key information to determine the optimum depth for mineralisation.
- A similar process of magnetic survey and geochemical interpretation is also underway for the Veinglorious prospect, with results expected in the coming weeks.
- On completion the new targets will be ranked prior to designing a follow-up drilling program, which is planned to commence in the coming Quarter.

**Orion Gold NL (ASX: ORN)** is pleased to advise that it has identified three new robust target areas for immediate follow-up at the Aurora Flats prospect, part of its 100%-owned Connors Arc Epithermal Gold-Silver Project in central Queensland.

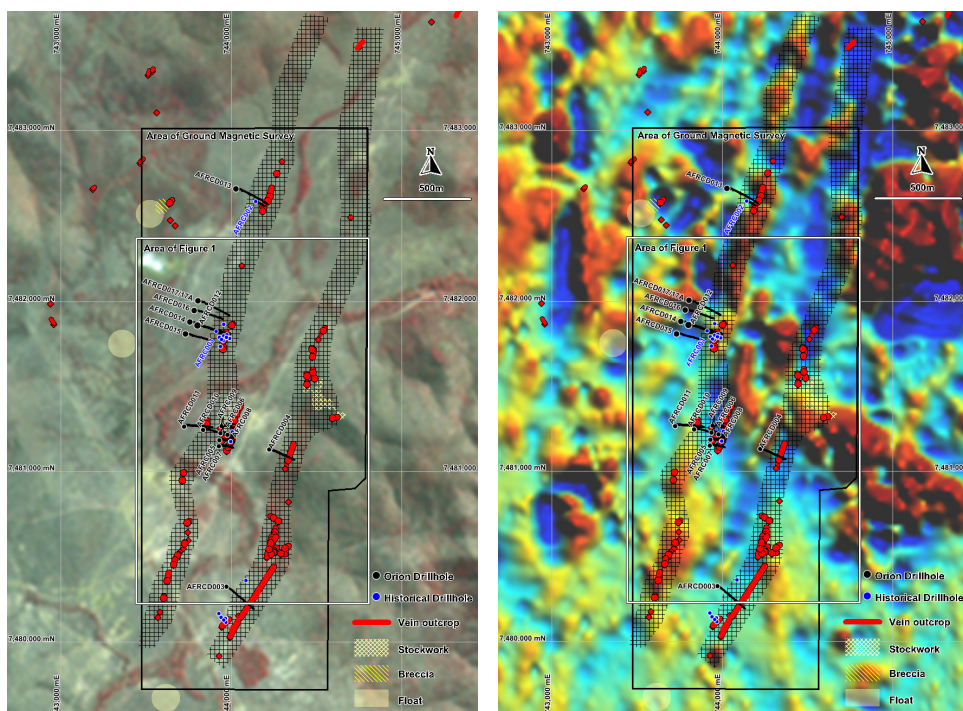
The new targets, which lie close to the area where the Company undertook its maiden drill program earlier this year, were developed following interpretation of recently completed high-resolution ground magnetic survey.

This process has enabled the Company to map areas associated with the Aurora Flats vein corridors where magnetic low anomalies indicate pervasive alteration by epithermal fluids and are therefore considered to be indicative of where the largest vein deposits can be expected.

Three robust target areas have been identified for immediate follow-up with the next phase of drilling planned to commence in the coming Quarter.



**Figure 1:** LHS: plan showing high resolution Reduced To Pole ("RTP") ground magnetic data, indicating magnetic lows anomalies correlating to west dipping epithermal vein systems at the critical target depth for gold deposition. RHS: 1<sup>st</sup> vertical derivative of the same data, with dashed line indicating location of a narrow mafic dyke that follows the mineralised structure. White ovals outline target areas for drilling.



**Figure 2:** Map showing vein outcrops and drill traces in the Aurora Flats Prospect area and 1<sup>st</sup> vertical derivative of 200m spaced helimagnetic data covering the area. The area in black shows the margins of the current high resolution ground magnetic survey with the white box showing the area of Figure 1.

The clear benefit and enhanced quality of the recently acquired, higher resolution ground magnetic data (Figure 1) can be seen by comparing it with the relatively high-resolution airborne magnetic data (Figure 2 RHS). This has allowed for reinterpretation and identification of robust drill targets based on magnetic features.

A large volume epithermal fluid flow has the effect of altering and de-magnetising the host rocks in proximity to the veins, resulting in anomalous lows in RTP processed magnetic data. Drilling has shown that the veins dip to the west at an angle of approximately 70°. Therefore, pronounced magnetic low anomalies lying 250 - 400m west of mapped vein outcrops are prime targets for strongly altered rocks, indicative of larger volume fluid flow at the target depth in Aurora Flats.

The Company will now focus on testing these zones in the vein corridors that are at an appropriate depth and where evidence of large fluid flow is indicated by the interpretation of high-resolution ground magnetics.

In the western corridor, a mafic dyke was intersected in drilling within the epithermal vein intersection. Magnetic images clearly indicate that this dyke has exploited the same structure as the epithermal veins. While the dyke margin is somewhat altered and de-magnetised, the core of the dyke was found to be magnetic and provides a distinct signature close to surface.

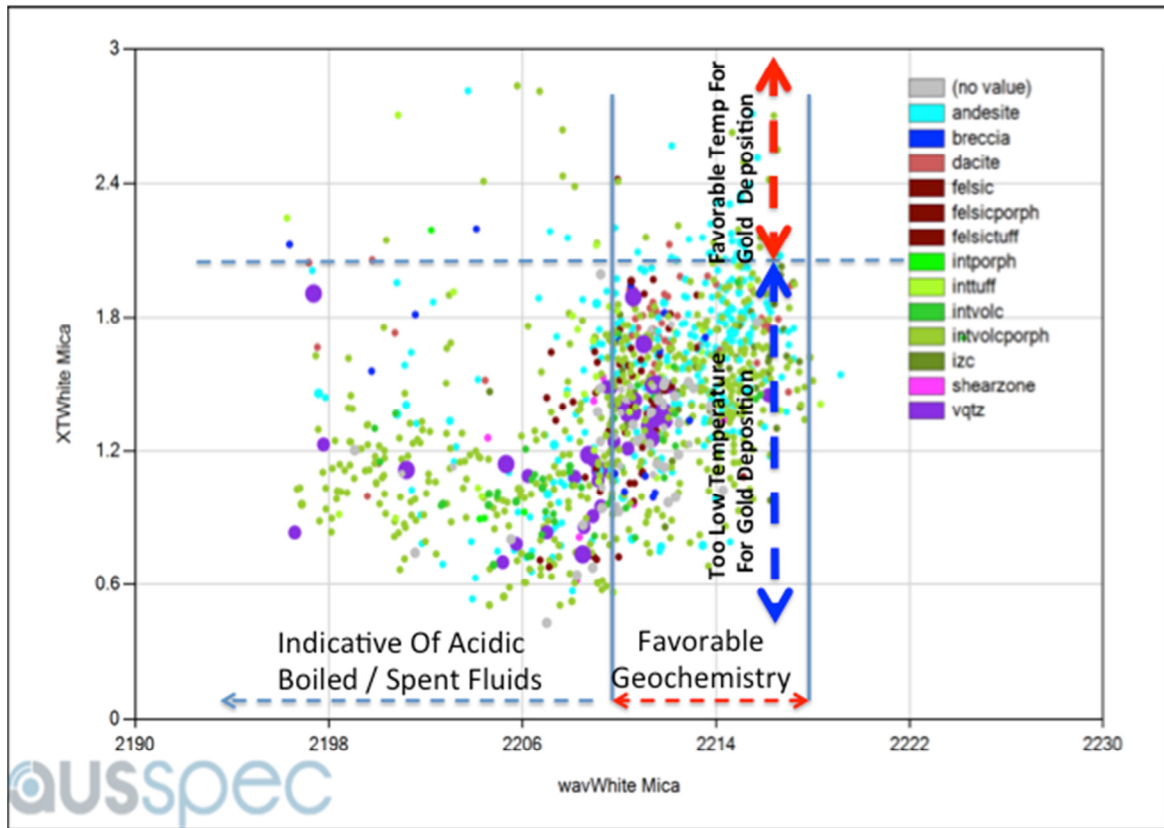
In addition to the magnetic interpretation work, interpretation of Visible-Short Wave Infrared ("VNIR-SWIR") data readings taken on drill hole samples from the Phase 1 and 2 drilling programs has been completed (refer ASX Releases 17 February 2015 and 27 April 2015). The data has been processed and interpreted with the assistance of VNIR-SWIR expert consultant Dr Sasha Pontual of AusSpec. The Company's technical team advised by Prof Noel White has concluded that the veins intersected in drilling have all deposited at sub-optimal temperatures for gold deposition.

Favourable conditions are achieved at temperatures exceeding 220°C, which correlates with a VNIR-SWIR illite crystallinity index ("XTWhite mica") of approximately 1.9. Illite micas that have formed with low illite crystallinity and shorter wavelengths are indicative of low temperature fluids that have boiled and acidified and are generally focused in the upper extent of the system within the veins, or in the hanging wall, above mineralised vein deposits.

Figure 4 further indicates that the veins that formed from auriferous (gold bearing) fluids were all intersected well above the zone where conditions would favour gold deposition.

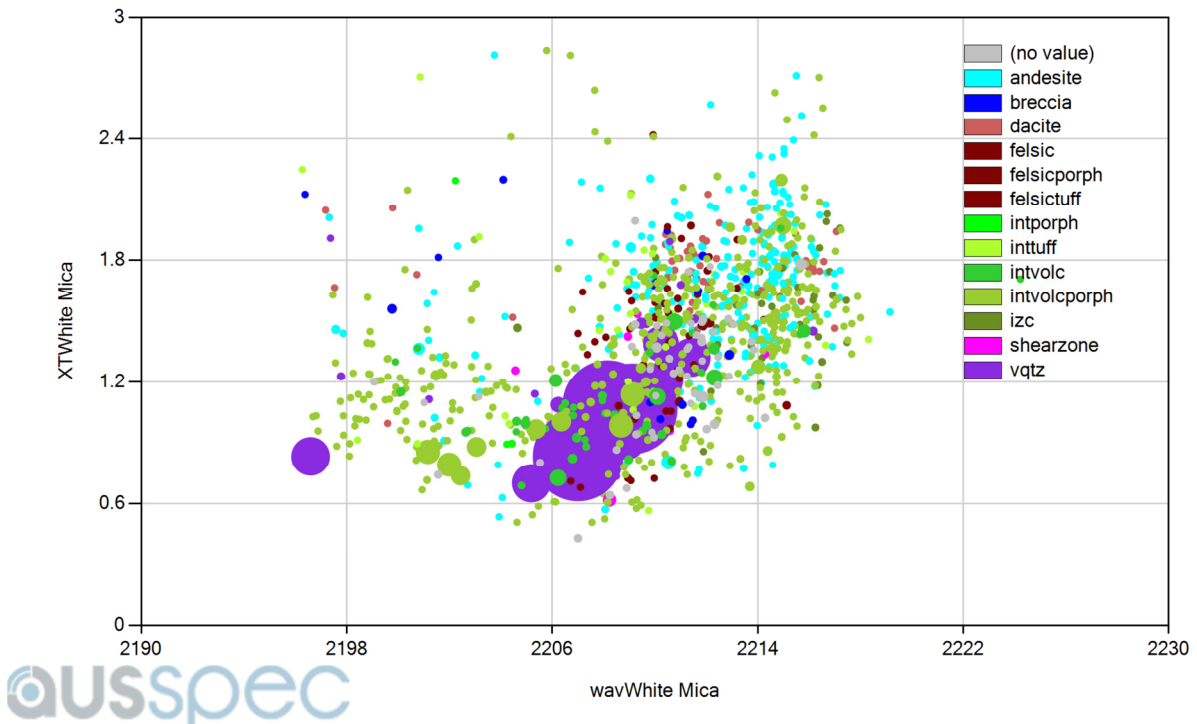
The mineralisation targeted would be expected to be confined to the epithermal veins ("vqtz" in Figures 3 and 4) and is unlikely to penetrate wall rocks which are thought to be relatively impervious to low pressure epithermal fluids.





**Figure 3:** A plot of VNIR-SWIR illite mica crystallinity versus wavelength readings as processed by AusSpec and interpreted by the Company's technical team.

dot size = Au ppm



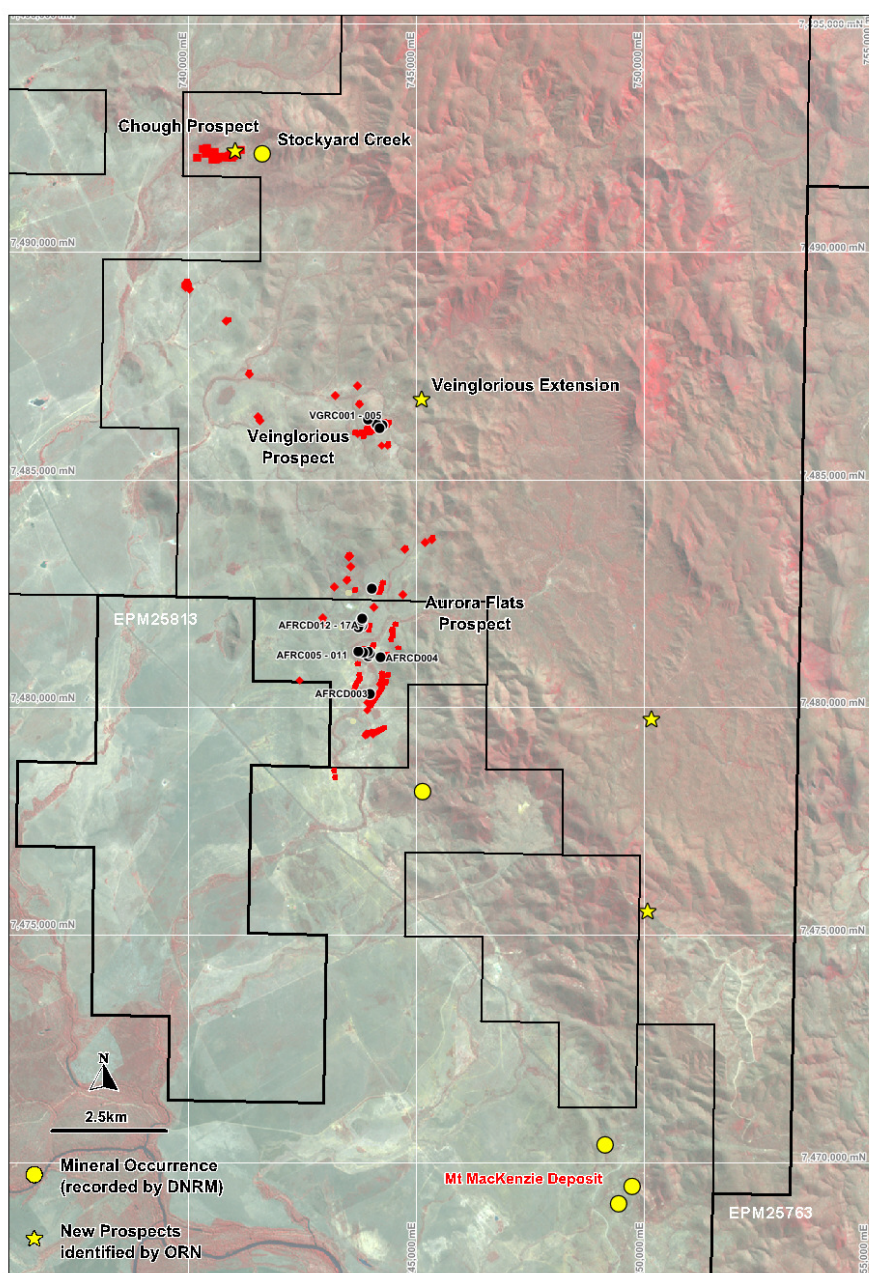
**Figure 4:** Plot of gold illite crystallinity versus illite wavelength indicating both gold endowment and host lithology. Larger dots are indicative of relative gold grade.

## Ongoing Regional Exploration

In recent weeks the Company has been granted EPM's 25763, 25764 and 25813 (Figure 5) adding approximately 500km<sup>2</sup> of granted tenure to the Company's Connors Arc Project. Early reconnaissance on these tenements has already identified epithermal veining, which is now being mapped and sampled.

Mapping traverses have also identified epithermal veining which appear to be along trend from the Veinglorious Prospect, where drilling intersected significant silver mineralisation (Figure 5; refer ASX Release 27 April 2015)

In addition, an occurrence of epithermal veining and stockwork veins in highly silicified, pyritic volcanic host rocks has been discovered at the Chough Prospect close to the historical "Stockyard Creek" prospect (Figure 6). This group of occurrences are thought to be related to the historically reported stream sediment anomalism in this area (DNRM regional data derived from historical sampling by Freeport).



**Figure 5:** Plan showing new and recorded mineral prospects at the Connors Arc Project.





**Figure 6:** Outcropping epithermal quartz veining at the Chough Prospect.

### **Forward Program**

The Company is in the process of finalising a similar magnetic survey and geochemical interpretation for the Veinglorious prospect, with results expected in the coming weeks.

On completion of this process, the new targets at both prospects will be ranked before a follow-up drill program is planned. The Company is aiming to undertake the next phase of drilling at the Connors Arc Project during the coming Quarter.



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](mailto: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, including 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 now a significant shareholder in Orion. The project area was previously explored by Western Areas Ltd who identified mafic-ultramafic intrusives within the project area as well as nickel-copper-cobalt-PGE anomalies. Orion's intensive, systematic exploration programs have successfully defined 34 targets to date by a combination of geological, geochemical and geophysical methods.

The Company has also secured 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 well known Cracow and Mt Carlton epithermal deposits. The Company is increasing its focus on this project, following promising reports from expert consultants.

Additionally, the Company has an interest in the Walhalla Project located in Victoria, where it is focusing on exploration for Copper-PGE and has entered into an agreement with A1 Mining regarding the gold rights on the tenements.

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

## Competent Persons Statement

The information in this report that relates to Exploration Results at the Connors Arc Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code") and is based on information compiled by Mr Bruce Wilson, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Wilson is the Principal of Mineral Man Pty Ltd, a consultant to Orion Gold NL, 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 Wilson 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. 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 Gold NL. 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 Gold NL 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.

**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	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Ground magnetic survey at 25 metre or 50 metre line spacing.</li> <li>Survey carried out using the GSM-19 Overhauser Walking magnetometer system.</li> <li>On board GPS receiver and automatic data logger takes a reading every second during survey/traverse.</li> <li>Readings carried out relative to base station, diurnal correction at end of each day's survey.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results presented so not applicable.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results presented so not applicable.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or</li> </ul>	<ul style="list-style-type: none"> <li>No logging data presented so not applicable.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p>costean, channel, etc) photography.</p> <ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>No sample results presented so not applicable.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No assay results presented so not applicable.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Primary data collection in field using on board instrument.</li> <li>Validation of data commenced with field checking, and diurnal correction at end of each day.</li> <li>Data emailed to the Contractor's representatives daily for review and checking, with the Company's representatives copied on raw data transmissions.</li> <li>RTP and 1VD images reviewed by Company's geologists to enable confirmation of results.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All survey locations picked up by inbuilt GPS receiver.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	
Data spacing and distribution	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• 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.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• 50 metre line spacing chosen to enable detailed coverage over the survey area.</li> <li>• Infill spacing carried out over main area of interest.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Survey lines oriented near perpendicular to main vein swarms (east-west lines versus trend to 010 / 015).</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Company representatives copied on all data transmissions including interpretations.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews have been carried out at this stage.</li> </ul>

## **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"> <li>• 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.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• EPM/EPMA's 19825, 25122, 25283, 25703, 25708, 25712, 25714, 25763, 25764 and 25813 are 100% owned by Orion Gold NL.</li> <li>• The Connors Arc Project is overlain by claims by the Barada Kabalbara Yetimarala People and the Barada Barna People. Orion Gold NL has agreed an ancillary agreement with the Barada Kabalbara Yetimarala People relating to exploration of the Connors Arc Project.</li> <li>• The Connors Arc Project is also overlain by a number of pastoral leases. Orion Gold NL is following all relevant DNRM procedures relating to access and entry in its exploration of the Connors Arc Project.</li> <li>• Over and above its legislative requirements Orion Gold NL is committed to maintaining strong beneficial relationships with stakeholders and landowners in the region and using industry best practise in its exploration.</li> </ul>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The Connors Arc Project and adjacent areas was most recently explored by SmartTrans Holdings Ltd (formerly Coolgardie Gold NL) (including periods where joint ventures were formed with Marlborough Gold and Newcrest Mining). The focus of most exploration activities was the Mount Mackenzie deposit, outside Orion's Project area.</li> <li>Exploration activities across the Project area included surface geochemical sampling, open hole percussion drilling and RC percussion drilling.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Connors Arc Project is located in the central portion of the Connors Arc, a "fossil" magmatic arc active during Permo-Carboniferous time.</li> <li>The target is epithermal gold-silver mineralisation similar to the Cracow and Mt Carlton Deposits.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>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"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results presented so not applicable.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>No assay results / significant intersections presented so not applicable.</li> </ul>
Relationship between mineralisation widths and intercept	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there</li> </ul>	<ul style="list-style-type: none"> <li>No assay results / significant intersections presented so not applicable.</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>lengths</i>	<i>should be a clear statement to this effect (eg 'down hole length, true width not known').</i>	
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Survey location plans shown, along with data available prior to completion of survey.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All results from magnetic survey shown.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Company's previous ASX releases have detailed exploration works on the Connors Arc Project and results/conclusions drawn from these.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• Further work involves testing the targets presented in this release.</li> </ul>