

14 February 2014

Orion Gold<sub>NL</sub>

## Orion Gold Project Locations

**ASX Code:** ORN**Issued Capital:**

Ordinary Shares: 201M

Options: 166M

**Directors:****Denis Waddell**  
Chairman**Errol Smart**  
Managing Director, CEO**Alexander Haller**  
Non-Executive Director**Martin Bouwmeester**  
Finance Director, Company  
Secretary**Management:****Bill Oliver**  
Chief Operating Officer

## Mafic intrusives intersected at CE Prospect, Fraser Range: RC drilling to follow

### Key Points

- **Aircore drilling at the CE Prospect (Fraser Range, WA) has intersected prospective mafic intrusives in the region of the bedrock conductor defined by ground and airborne EM surveys.**
- **Bedrock samples have been collected and dispatched for analysis.**
- **An RC rig is currently being mobilised to the CE Prospect to test the modelled bedrock conductor. This is expected to commence early next week, subject to access.**

Orion Gold NL (ASX: **ORN**) advises that recent aircore drilling at the **CE Prospect**, part of the Company's **Fraser Range Ni-Cu-PGE Project** in Western Australia, has intersected mafic lithologies in the area above the bedrock conductor modelled from ground EM surveys (refer ASX Announcement 23 October 2013).

The drilling has intersected a pyroxene bearing metamorphosed mafic intrusive in multiple holes adjacent to the modelled position of the conductive body (Figure 1). Trace sulphides, including chalcopyrite, have been logged. It is important to note that no petrographic work has been carried out as yet. However, the presence of a mafic intrusion is an essential component to a potential mineralised system at CE.

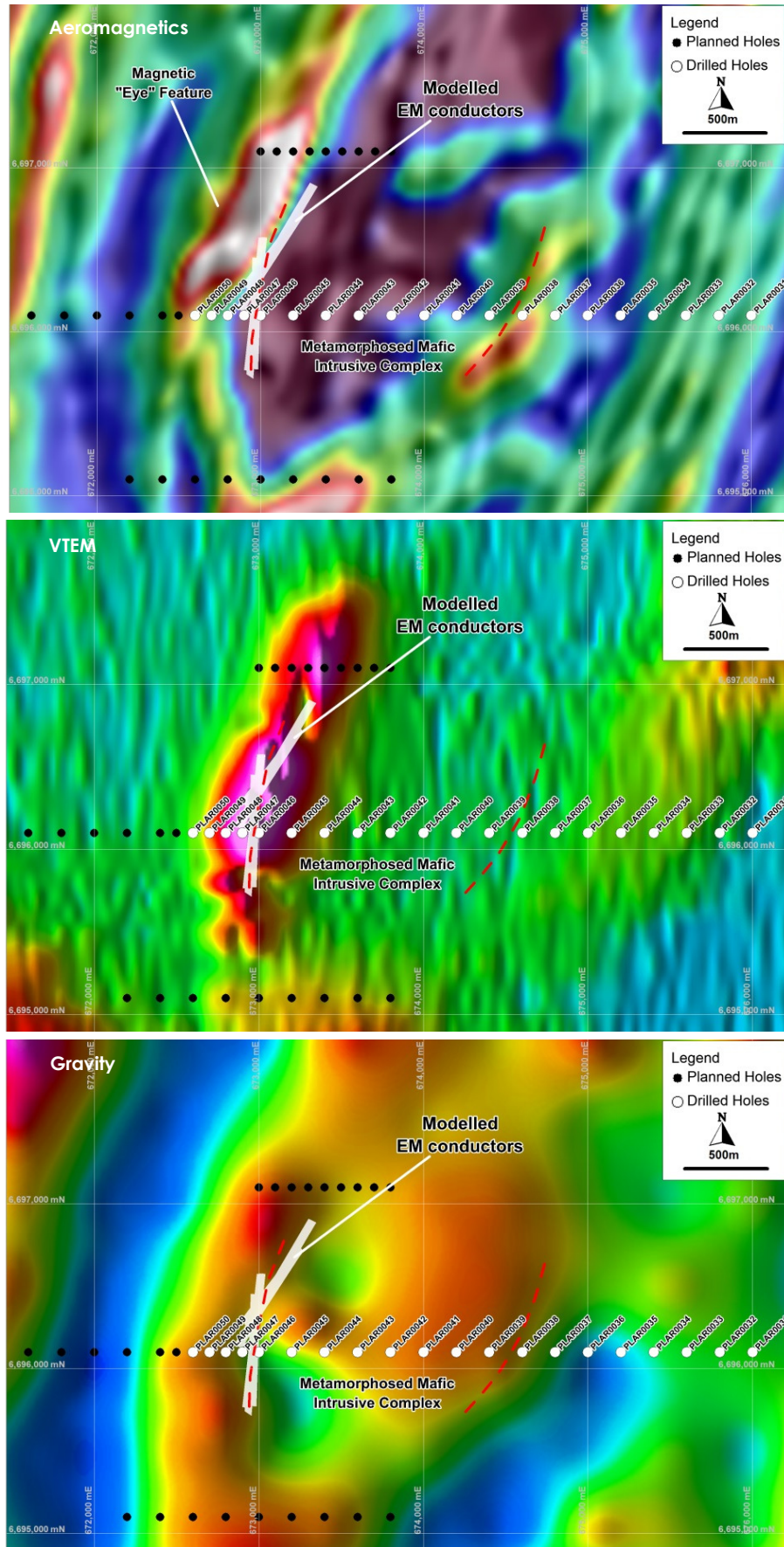
The project team is also encouraged that drilling has not identified any of the common contributors to "false" EM anomalies such as graphitic horizons or shear-zones that may host saline waters or hydrothermal massive sulphides. The aircore drilling has also intersected up to 40m of cover sediments that would obscure geochemical signatures from surface sampling.

Samples from the aircore drilling are being submitted for analysis this week and results will be announced as soon as they are received and validated.

The combination of the above geological features together with strong coincident geophysical anomalies from magnetic, gravity and EM surveys, validates the CE target as a high priority target. Orion now has a total of 23 targets identified for follow up from a combination of geophysics, geochemistry and geological fieldwork (refer ASX Announcements – 3 February 2014, 19 December 2013, 23 October 2013 and 15 August 2013). Immediate drilling will be focused on the CE Prospect given the encouraging initial results from this prospect.

The Company has been on standby to mobilise an RC rig to the CE Prospect however, this has been delayed by road closures due to heavy rains in the Eastern Goldfields and Interior. Once the RC rig is on site, RC drilling will test the position of the bedrock conductor as modelled from ground EM surveys. The location of this conductor relative to the aircore drilling and logged mafic intrusives is shown in Figure 1.

Figure 1. 2014 aircore drilling to date over aeromagnetic, VTEM and gravity data.





Errol Smart  
**Managing Director and CEO**

### **Competent Persons Statement**

The information in this report that relates to Exploration Results at the Fraser Range Projects 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 Bill Oliver, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Oliver is the Chief Operating Officer of 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 Oliver 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 2.

### **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.

### **Company Enquiries:**

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**Appendix 1: Drill hole collars**

Hole ID	Prospect	Collar Location (MGA94 Zone 51)			Collar Direction		Total Depth
		Easting	Northing	RL	Dip	Azimuth	
PLAR0031	CE	676000	6696100	200	-60	90	49
PLAR0032	CE	675800	6696100	200	-60	90	49
PLAR0033	CE	675600	6696100	200	-60	90	70
PLAR0034	CE	675400	6696100	200	-60	90	70
PLAR0035	CE	675200	6696100	200	-60	90	70
PLAR0036	CE	675000	6696100	200	-60	90	63
PLAR0037	CE	674800	6696100	200	-60	90	72
PLAR0038	CE	674600	6696100	200	-60	90	61
PLAR0039	CE	674400	6696100	200	-60	90	61
PLAR0040	CE	674200	6696100	200	-60	90	48
PLAR0041	CE	674000	6696100	200	-60	90	49
PLAR0042	CE	673800	6696100	200	-60	90	68
PLAR0043	CE	673600	6696100	200	-60	90	60
PLAR0044	CE	673400	6696100	200	-60	90	60
PLAR0045	CE	673200	6696100	200	-60	90	76
PLAR0046	CE	673000	6696100	200	-60	90	73
PLAR0047	CE	672900	6696100	200	-60	90	70
PLAR0048	CE	672800	6696100	200	-60	90	75
PLAR0049	CE	672700	6696100	200	-60	90	70
PLAR0050	CE	672600	6696100	200	-60	90	70

**Appendix 2: The following tables are provided to ensure compliant 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>Aircore and reverse circulation drilling used to obtain 4 metre and 1 metre samples.</li> <li>Drilling spaced at 100 to 200 metres intervals along section lines perpendicular to interpreted structural trend, or intrusive contact (based on aeromagnetic interpretation).</li> <li>Drill hole locations set out and picked up using handheld GPS.</li> <li>Sampling carried out under supervision using procedures outlined below including industry standard QA/QC.</li> <li>Sample submitted for analysis by ALS will be crushed, dried, pulverized and split to obtain two sub samples – a 30g charge for precious metal determination via fire assay and a 0.25g sample for analysis for determination of other metals including Ni, Cu, Co, Cr, Pb and Zn.</li> <li>No handheld XRF or other measurement instruments were used on this program.</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>Aircore drilling using 3.5" blade bit to blade refusal.</li> <li>Selected holes extended using "slimline RC" – 3.5" face sampling hammer.</li> <li>Certain holes hammered from surface depending on weathered profile intersected.</li> <li>Drilling carried out by Bostech Drilling.</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>Sample recoveries not measured.</li> <li>Recovery estimated quantitatively and issues also noted qualitatively e.g. "small sample" in sample ledger (digital).</li> <li>Cyclone, splitters and sample buckets cleaned regularly.</li> <li>No assays received therefore relationship between recovery and grade unknown.</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</li> </ul>	<ul style="list-style-type: none"> <li>All holes logged on 1m intervals using visual inspection of washed drill chips.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>Mineral Resource estimation, mining studies and metallurgical studies.</p> <ul style="list-style-type: none"> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• Qualitative logging of colour, grainsize, weathering, structural fabric, lithology, alteration type and sulphide mineralogy carried out.</li> <li>• Quantitative estimate of sulphide mineralogy and quartz veining.</li> <li>• Logs entered directly into tablet/Toughbook at the drill site.</li> <li>• Drilling logs digitally entered into standard templates which use file structures, lookup tables and logging codes consistent with the Azeva.XDB SQL-based exploration database developed by Azeva Group. The drill hole data is compiled, validated and loaded by independent Data Management company, Geobase Australia Pty Ltd.</li> <li>• Logging is of sufficient quality to be used in a Mineral Resource estimation however at this early stage the lithological / alteration / mineralogical features that assist in modeling a Mineral Resource are yet to be determined.</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>• 1m sub samples collected by splitting entire 1 metre sample through a 75:25 riffle splitter. The 25% split is collected as the 1m sample,</li> <li>• Remainder of this sample split 50:50, with half retained for the 4m composite and half for inspection by the geologist.</li> <li>• Retained portions combined to form a 4 metre composite sample which was split down to 3-5kgs using either the 50:50 splitter or the 75:25 splitter depending on sample size. Where the sample was too wet to split it was collected directly from the cyclone and speared. It is believed that splitting composite samples rather than scooping/spearing them represents best practice.</li> <li>• Where 4 metre composites return anomalous concentrations the 1m sub samples will be submitted for analysis. Anomalous concentrations are yet to be determined but will be based on statistical methods e.g. 2 x the average content of fresh samples from the prospect or intrusive body being tested.</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</li> </ul>	<ul style="list-style-type: none"> <li>• No handheld XRF or other geophysical instrument was used during this program.</li> <li>• The analytical technique will use a 4 acid digest to maximize the liberation of metals from fresh rock samples and therefore is appropriate for Ni-Cu-PGE exploration. A 0.25g sub samples is analysed using ICP-AES for Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, Zn.</li> <li>• A 30g charge for fire assay is analysed using ICP-AES for Au, Pt, Pd which is standard industry procedure for first pass exploration. More</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>levels of accuracy (ie lack of bias) and precision have been established.</i></p>	<p>accurate methods will be used in follow-up drilling in areas when precious metals have been determined to be present.</p> <ul style="list-style-type: none"> <li>The Company uses certified reference materials (CRM) and field duplicates in its QA/QC procedures. CRMs are sourced from Ore Research and Exploration Pty Ltd. One CRM is inserted every 30 samples (composites) or 30 metres (1m sampling) and field duplicates are taken in each hole. The duplicate sample is taken from the opposite side of the splitter as the "original" 4m or 1m sample. As part of the QA/QC process the laboratory's repeat assays (also known as lab duplicates) are reviewed as well as the laboratory's internal standards.</li> <li>No external laboratory checks have been carried out at this stage as the program is aiming to determine the presence / absence of mineralisation.</li> <li>No bias has been observed and accuracy/precision is believed to be acceptable for quoting of Exploration Results.</li> </ul>
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Assay data has not been received therefore significant intersections have not been calculated to date.</li> <li>No twin holes have been drilled to date. These would be carried out once a Mineral Resource has been delineated</li> <li>Primary data was collected using a set of standard digital templates supplied by Geobase Australia which use file structures, lookup tables and logging codes sourced from an SQL-based drill hole database developed by Azeva Group.</li> <li>The drill hole data is compiled, validated and loaded by independent Data Management company, Geobase Australia Pty Ltd. The data is exported into formats to be used in Micromine and Mapinfo software for the company. The QAQC implemented for each assay batch has been interrogated using Azeva.X software with no issue identified</li> <li>No adjustment to assay data has been carried out.</li> </ul>
<p><i>Location of data points</i></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drill holes have been located using handheld GPS with an accuracy of +/- 5 metres which is acceptable for this stage of the project.</li> <li>No downhole surveys were carried out in this program.</li> <li>Co-ordinates are presented in MGA94 Zone 51.</li> <li>Topographic control is based on topographic data collected as part of a 100 metre spaced aeromagnetic survey carried out in 2002 for a previous explorer.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>Drill hole spacing is 200 metres along traverses across target areas with 100 metre infill in certain places where features of interest had been noted in aeromagnetic or EM surveys.</li> <li>Drill hole spacings were selected to achieve a first pass test of target areas and to enable bedrock lithologies to be identified as a basis for a geological model to drive future exploration.</li> <li>The mineralised domains have not yet demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource and Reserves, and the classifications applied under the 2012 JORC Code.</li> <li>No compositing has been applied to the exploration results.</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>The orientation of mineralised structures has not been ascertained.</li> <li>Drilling has been oriented in a direction perpendicular to the interpreted regional structural fabric. Vertical drilling was used to infill historical drilling or where drilling difficulties were encountered.</li> <li>No orientation based sampling bias has been identified in the data at this point.</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>Chain of custody is managed by the Company. 4 metre composites were stored on site and then delivered directly to ALS Kalgoorlie for processing. 1 metre samples were taken from site to a yard in Kalgoorlie where they were stored behind locked gates.</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>E39/1654 is one of a group of tenements 70% owned by Orion Gold NL.</li> <li>Located on Vacant Crown Land</li> </ul>
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>Tenement and surrounding area was most recently explored by Western Areas (including a period where a joint venture was formed with Placer Dome Australia) with activities including aeromagnetic survey and RAB/aircore/RC drilling.</li> <li>Previous explorers in the region include Mineral Search &amp; Development (1970-1972), Payne Associates (1970-1972), Amax Exploration (1970-1972), Glendale Exploration (1970-1971), Elmina Mining (1986-1991), Tulloch-MIM Holdings (1994-1997), Imperial Mining NL/Jason Mining (1994-1996). Exploration was also carried out by the BMR on behalf of the Federal Government (regional magnetic and gravity surveys).</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 Peninsula Project is located in the northern portion of the Proterozoic aged Albany-Fraser mobile belt. The Project is underlain by the Fraser and Biranup Zones of the Orogen as well as intrusive bodies which have been referred to as the Plumridge Complex.</li> <li>The target is Ni-Cu-PGE mineralisation hosted within mafic intrusions analogous to the Nova Ni-Cu-Co Deposit (WA), the Voiseys Bay Deposit (Canada) and the Thompsons Bay Deposit (Canada).</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</li> </ul>	<ul style="list-style-type: none"> <li>Coordinates (easting, northing, RL), collar dip and azimuth and total depth are tabulated in Appendix 1.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>understanding of the report, the Competent Person should clearly explain why this is the case.</i>	
Data aggregation methods	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No assay data has been received therefore no significant intersections have been calculated to date.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>All intersections to be reported are downhole widths.</li> <li>True widths are unknown at this time as the geometry of the mineralisation has not been determined.</li> </ul>
Diagrams	<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>Diagrams showing interpreted geology and any significant results will be presented once assay data has been received and petrographic analysis of drill samples have been completed. This will enable the geological interpretation to be as robust as possible.</li> </ul>
Balanced reporting	<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>No assay data has been received therefore no significant intersections have been calculated to date.</li> </ul>
Other substantive exploration data	<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 including historical drilling, geological mapping, results of airborne and ground EM surveys and preliminary results from ground gravity surveys.</li> </ul>
Further work	<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>The Company plans to follow up these results with deeper drilling to test targets arising from the drilling reported here and any anomalous results returned from assays (analyses are awaited).</li> <li>Drilling in the bedrock beneath anomalous zones will need to be undertaken to establish the true nature of the mineralisation.</li> </ul>