

#### **Orion Gold Project Locations**



**ASX Code: ORN** 

### **Issued Capital:**

Ordinary Shares: 201M

Options: 166M

<u>Market Cap:</u> ~\$14M (at 7c)

#### **Directors:**

## **Denis Waddell**

Chairman

#### **Errol Smart**

Managing Director, CEO

#### **Alexander Haller**

Non-Executive Director

#### **Management:**

## **Bill Oliver**

Chief Operating Officer

## Martin Bouwmeester

CFO, Company Secretary

# Drilling Resumes at Fraser Range and Coopers Creek Projects

## **Key Points**

- Aircore drilling to commence shortly at the CE Prospect, which is part of the Fraser Range ground package acquired from the Creasy Group.
- The maiden drill program at CE will determine the lithologies present within a magnetic "eye" feature as well as the source of the bedrock EM conductor within this feature.
- Gravity anomalies coincident with this "eye" feature have been identified from the results of a recent ground gravity survey.
- RC drilling will also be carried out at the nearby Peninsula Project to test the EM conductor at HA1 and the gravity anomaly at HA2.
- Drilling has also recommenced at the Coopers Creek Prospect,
   Victoria, targeting Ni-Cu-PGE mineralisation.

Orion Gold NL (ASX: **ORN**) is pleased to advise that drilling and exploration activities are resuming at both its **Fraser Range Ni-Cu-PGE Project** in Western Australia and **Coopers Creek Ni-Cu-PGE Project** in Victoria.

In the **Fraser Range**, drilling will commence shortly at the **CE Prospect**, part of the ground package acquired last year from the Creasy Group.

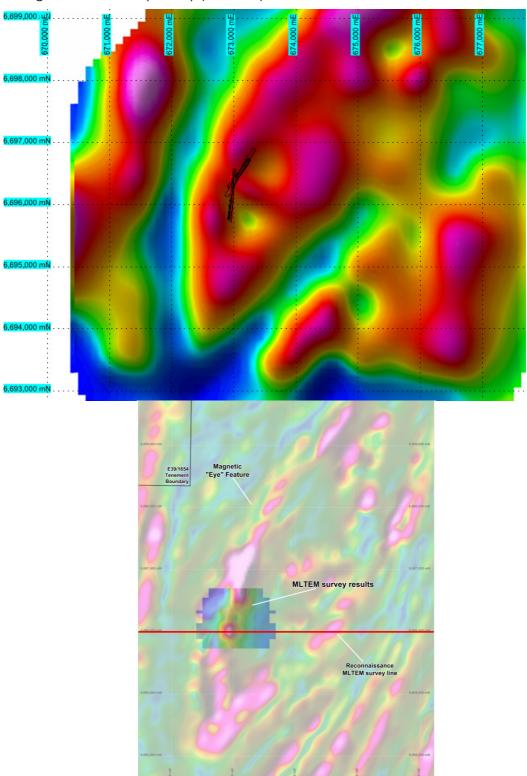
The maiden drill program will determine the bedrock lithology associated with a previously identified magnetic "eye" feature, as well as the source of the bedrock conductor identified in ground EM surveys completed in 2013.

The Company has received preliminary data from its ground gravity survey carried out across the Peninsula and Plumridge Lakes Projects (see Appendix 1). Significantly, a number of gravity anomalies have been identified coincident with the "eye" feature, enhancing the prospectivity of this area (Figure 1). Aircore drilling will enable the geological features causing the gravity anomalies, as well as the area around the EM conductors, to be characterised and bedrock samples to be taken for geochemical analysis.

While assay results are still awaited from the Company's 2013 drill program at the Peninsula Project, the Company is currently mobilising an RC rig to the Project to drill test certain priority targets after reviewing the geological results from the aircore program (see ASX Announcement – 19 December 2013).

The upcoming drilling will aim to determine the source of the gravity anomaly within the mafic intrusion at HA2, where historical drilling returned several anomalous nickel results (previously announced to the ASX on 26 July 2013 and 23 October 2013). Drilling will then move to HA1 to test the EM conductor identified in ground EM surveys at this prospect. This follows the identification of an ultramafic intrusion at HA1 in the 2013 aircore drilling.

**Figure 1.** Ground gravity data from CE Prospect (top) compared to magnetic and ground EM data (below), previously released 23 October 2013.





## **Update on Other Projects**

Diamond drilling has re-commenced at the **Cooper's Creek Cu-Ni-PGE Prospect**, which is the most advanced prospect within the Company's Walhalla Polymetals Project in Victoria.

Drilling is testing the mineralised keel/ trap up-dip and down-dip of the previously reported high-grade polymetalic intersection in drill hole CC003 (refer to ASX Announcement – 18 February 2013) and is expected to reach target depth in coming days.

The Company is also pleased to advise that the airborne EM survey over the Plumridge Lakes tenements in the Fraser Range has commenced. The survey will be undertaken using the VTEM<sub>max</sub> system due to technical issues with the VTEM<sub>supermax</sub> system.

While the VTEM<sub>supermax</sub> system is anticipated to be fully operational in coming weeks, the Company has decided that the survey needs to be completed this month to enable 2014 work programs to be planned and implemented.

Errol Smart

**Managing Director and CEO** 

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 1.

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Appendix 1: 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> <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 (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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Ground gravity survey at 500 metre by 500 metre spacing carried out by Atlas Geophysics Pty Ltd.</li> <li>Gravity measurements taken using Scintrex CG-5 instrument.</li> <li>Location of gravity measurements determined using GPS instruments from Leica Geosystems which use GNSS technology to ensure increased accuracy.</li> <li>All gravity meters have been calibrated on the calibration range at Helena Valley, WA. The calibration process validates each gravity meter's scale factor to ensure reduction of the survey data produces correct Observed Gravities from measured dial reading values.</li> <li>Weekly tilt tests and cycles conducted to ensure meter drift and tilt correction factors are valid. Gravity meter drift rates monitored on a day to day basis using AGRIS software.</li> </ul>
Drilling techniques	<ul> <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>	• N/A
Drill sample recovery	<ul> <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>	• N/A
Logging	<ul> <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 costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	• N/A



Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <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>	• N/A
Quality of assay data and laboratory tests	<ul> <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> <li>Gravity measurements taken using Scintrex CG-5 instrument.</li> <li>All gravity meters have been calibrated on the calibration range at Helena Valley, WA. The calibration process validates each gravity meter's scale factor to ensure reduction of the survey data produces correct Observed Gravities from measured dial reading values.</li> <li>Weekly tilt tests and cycles conducted to ensure meter drift and tilt correction factors are valid. Gravity meter drift rates monitored on a day to day basis using AGRIS software.</li> <li>Gravity data will be acquired concurrently with GPS-Glonass data using Scintrex CG5 gravity meters. Data acquired in a single shift of 10 hours duration, with each shift consisting of a single loop controlled by observations at the gravity control stations. Each loop will contain a minimum of two repeated readings so that an interlocking network of closed loops is formed. A minimum of 3% repeats is acquired for quality control purposes with repeat readings evenly distributed on a time basis throughout each of the gravity loops.</li> <li>At each measurement location, the gravity operator will take a minimum of two gravity readings of 20 second duration so that any seismic or wind noise can be detected. Control station readings will be set to 120 second duration. Before taking a reading, the operator will ensure that instrument tilt-reading is restricted to less than 5 arcseconds and after the reading, not higher than 20 arc-seconds. All meters will be tilt tested before the project commences.</li> <li>If two separate readings do not agree to better than 0.03 mGal (0.01 mGal for control station readings), then the operator will continue taking readings until the tolerance between consecutive readings is</li> </ul>



Criteria	JORC Code explanation	Commentary
		achieved. At the conclusion of the gravity reading, the final data display on the gravity meter will be analysed to ensure the instrument is performing to specification, and that the station observation provides data conforming to the project specifications. The operator will also verify that the temperature, standard deviation and rejection values are within required tolerance before recording the reading.
Verification of sampling and assaying	<ul> <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> <li>At each station, the operator will record the data digitally in the gravity meter as well as in an Atlas Geophysics Pty Ltd field book so that instrument drift and reading repeatability can be analysed easily whilst in the field. Data recorded at each station is assigned a unique station code and station number.</li> <li>The acquired gravity data will be processed using Atlas Geophysics' inhouse gravity preprocessing and reduction software, AGRIS. This software allows for full data preprocessing, reduction to Bouguer Anomaly, repeatability and statistical analysis, as well as full quality analysis of the output dataset.</li> <li>Following reduction of the data to Bouguer Anomaly, repeatability and QA procedures have been applied to both the positional and gravity observations using AGRIS software.</li> <li>QA procedures are applied to the gravity data on a daily basis and any gravity stations not conforming to contract specifications have been repeated.</li> </ul>
Location of data points	<ul> <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> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Location of gravity measurements determined using GPS instruments from Leica Geosystems which use GNSS technology to ensure increased accuracy.</li> <li>Primary GPS control has been established for all control stations within the survey area with all position and height information obtained from the gravity survey able to be tied to the Geocentric Datum of Australia (GDA94), the Geodetic Reference System 1980 (GRS80) and the Australian Height Datum (AHD).</li> <li>Coordinates for the control stations have been derived from the 5 second static GPS data logged at the station whilst gravity surveying is underway. Each station location has been positioned using Leica GPS1200 receivers operating in stakeout mode. Accuracy of the autonomous positioning system will be better than 5m.</li> <li>The acquired raw GPS-Glonass data has been processed nightly using Novatel Waypoint Grafnav v8.4 postprocessing software. Rigorous quality analysis procedures has been routinely applied to the acquired</li> </ul>



Criteria	JORC Code explanation	Commentary
		GPS-Glonass data on a daily basis using Waypoint Grafnav's built in QA tools.
Data spacing and distribution	<ul> <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>	Station spacing is 500 metres by 500 metres as this is believed to be sufficient to identify anomalies for follow up work. Limited infill was also completed over anomalies of potential interest to 250 metres by 250 metres.
Orientation of data in relation to geological structure	<ul> <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>	Not appropriate for this date.
Sample security	The measures taken to ensure sample security.	<ul> <li>All data acquired by Atlas Geophysics reported to the Company's representatives.</li> </ul>
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	<ul> <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> <li>E39/1653 is 80% owned by Kamax Resources Limited, a subsidiary of Orion Gold NL.</li> <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	Acknowledgment and appraisal of exploration by other parties.	<ul> <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),</li> </ul>



Criteria	JORC Code explanation	Commentary
		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).
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <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> <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> <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>	• N/A
Data aggregation methods	<ul> <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>	• N/A
Relationship between mineralisation widths and intercept	<ul> <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 should be a clear statement to this effect (e.g. 'down hole length, true</li> </ul>	• N/A



Criteria	JORC Code explanation	Commentary
lengths	width not known').	
Diagrams	<ul> <li>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.</li> </ul>	• N/A
Balanced reporting	<ul> <li>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.</li> </ul>	• N/A
Other substantive exploration data	<ul> <li>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.</li> </ul>	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.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>The Company plans to follow up these results with drilling to test targets arising from the survey reported here.</li> <li>Drilling to bedrock will collect samples for geochemical analysis as well as identification of lithologies present.</li> </ul>