



ASX/Media Release  
11 September 2018

## **Pyke Hill Nickel Cobalt Laterite Project JORC 2012 Resource Statement**

### **Highlights**

- **High Grade Cobalt Resource 5.0mt @ 0.94% Ni and 0.14% Co**
- **Total Resource 10.5mt @ 0.99% Ni and 0.08% Co**
- **Ni and Co resource lies entirely within granted Mining Lease M39/159**
- **Lies adjacent to Minara Resources Murrin East Mining Operations**

Cougar Metals NL (Cougar or the Company) is pleased to release a JORC 2012 resource statement for the Pyke Hill Nickel/Cobalt Resource which lies 40km south of the Murrin Murrin Nickel facility, and immediately adjacent the current Murrin East mining operations.

Cougar holds the nickel and cobalt laterite rights over the Pyke Hill tenement subject to a 40c/tonne royalty (for mined and treated ore) to the vendors.

### **Mineral Resource Estimate**

An updated Mineral Resource estimate has been completed for the Pyke Hill Nickel-Cobalt laterite deposit in the Eastern Goldfields Region of Western Australia.

The deposit occurs within the central portion of the Norseman-Wiluna greenstone Belt. The mineralisation is hosted within the weathering profile developed over Archaean serpentinised peridotite rocks, which are within a sequence of feldspathic volcanic sediments.

The deposit has a strike length of 2,100m and is up to 450m wide and attains a maximum depth of 60m below surface.

A nickel envelope was interpreted using a 0.8% Ni cut-off. This provided a largely continuous horizon typically 25m to 30m in thickness (Figure 1). A distinct zone of cobalt enrichment is also present in the deposit.

A cobalt envelope was interpreted using a 0.08% Co cut-off which defined a largely continuous blanket of mineralisation typically 10m to 20m in thickness. The majority of the cobalt-rich blanket occurs within the upper part of the nickel envelope however in places it extends above the nickel envelope.

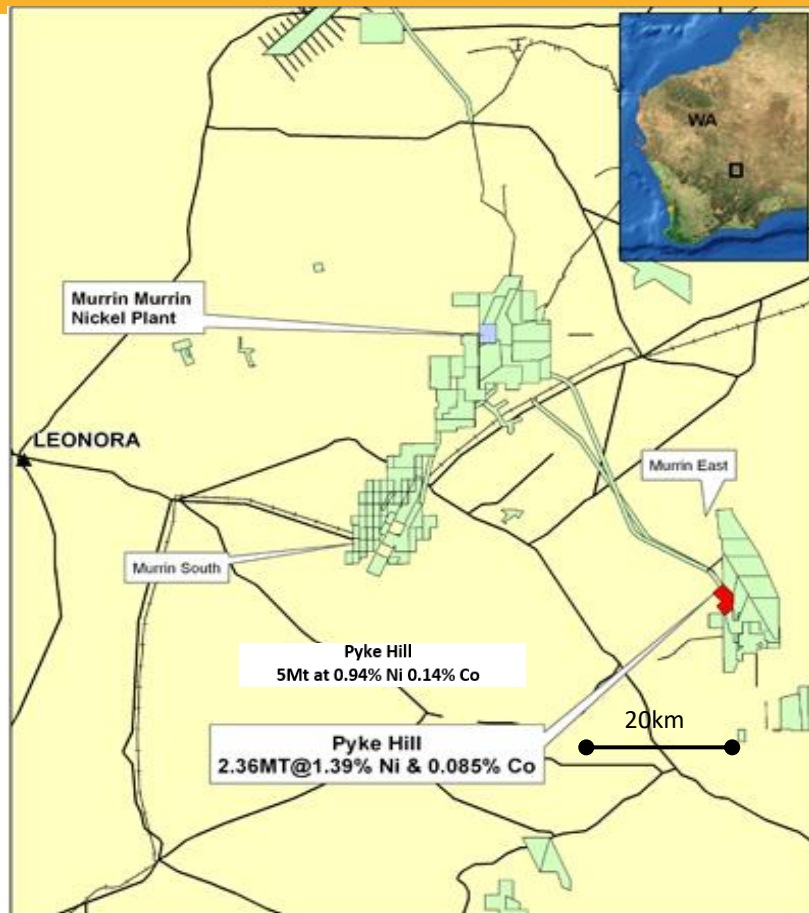
The deposit was delineated by Cougar with air core and RC drilling completed between 2005 and 2007. The Mineral Resource is now defined by a total of 249 drill holes for 9,824m.

The Mineral Resources have been classified as Measured and Indicated Mineral Resources in accordance with the JORC Code, 2012 Edition and are shown in Table A. This table represents the total deposit and is reported using a cut-off grade of > 0.8% Ni or > 0.08% Co.

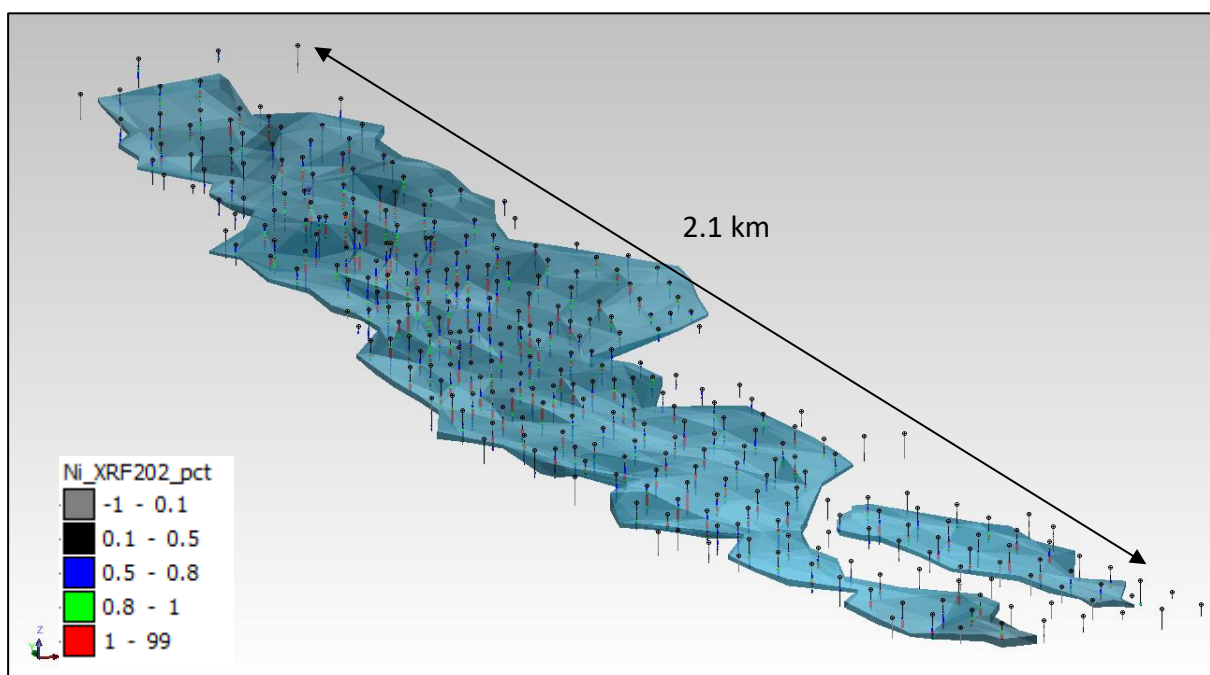
**Table 1: Pyke Hill June 2018 Mineral Resource (>0.8% Ni or > 0.08% Co)**

Co Domain	Class	Tonnes Mt	Ni %	Co %	Ni Metal Tonnes	Co Metal Tonnes
High Co >0.08% Co	Measured	1.9	0.94	0.13	17,900	2,500
	Indicated	3.0	0.94	0.14	28,600	4,300
	<b>Sub Total</b>	<b>5.0</b>	<b>0.94</b>	<b>0.14</b>	<b>46,500</b>	<b>6,800</b>
Low Co >0.8% Ni, <0.08% Co	Measured	2.3	1.05	0.04	23,800	900
	Indicated	3.2	1.02	0.04	32,600	1,200
	<b>Sub Total</b>	<b>5.5</b>	<b>1.03</b>	<b>0.04</b>	<b>56,500</b>	<b>2,100</b>
<b>Total &gt;0.8% Ni or &gt;0.08% Co</b>	Measured	4.2	1.00	0.08	41,800	3,400
	Indicated	6.3	0.98	0.09	61,500	5,500
	<b>Total</b>	<b>10.5</b>	<b>0.99</b>	<b>0.08</b>	<b>103,300</b>	<b>8,900</b>

(Rounding discrepancies may occur in summary tables)



**Project Location Plan**



**Figure 1: 0.8% Nickel Envelope (looking NE) Drill Holes Coloured by Ni%**

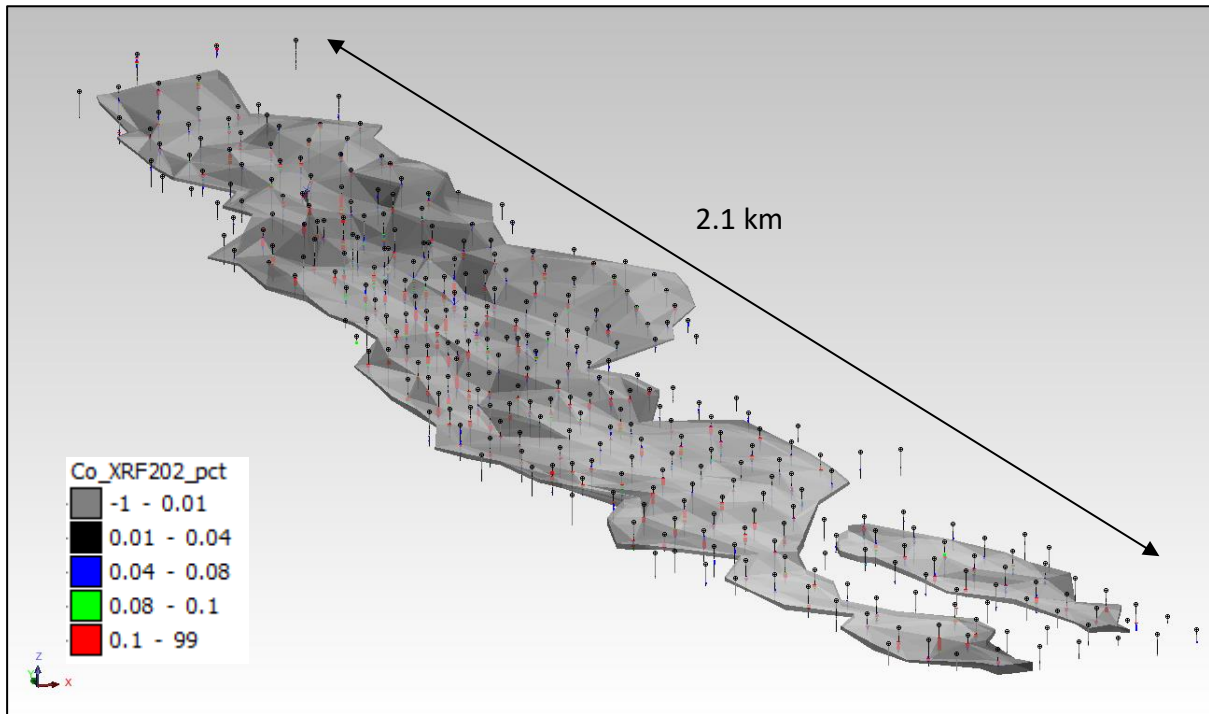


Figure 2: 0.08% Cobalt Envelope (looking NE) Drill Holes Coloured by Co%

## Resource Summary – Pyke Hill Nickel-Cobalt Deposit

### Geology

The Pyke Hill Nickel-Cobalt laterite deposit lies within the central portion of the Norseman-Wiluna greenstone Belt and is located approximately 100km south east of Leonora in Western Australia. The mineralisation is hosted within the weathering profile developed over Archaean serpentinised peridotite rocks, which are within a sequence of feldspathic volcanic sediments. Elevated nickel and cobalt values are due to the mobilisation and enrichment of those metals as they are released from silicate minerals during the weathering process.

As with most Western Australian laterite deposits, distinct geochemical zonation occurs through the weathering profile. At Pyke Hill, three horizons have been interpreted – a Smectite Zone with elevated aluminium and iron overlies a Mixed Zone with elevated iron and silica and a basal Saprolite zone with elevated magnesium.

## **Drilling**

The Pyke Hill deposit has been delineated by air core and RC drilling completed by Cougar between 2005 and 2007. The resource is now defined by a total of 249 drill holes (159 RC, 90 air core) for 9,824m. The typical drill hole spacing throughout the deposit is 50m by 50m however the central portion has been infilled to 25m spaced holes on 50m spaced cross sections. All holes were vertical.

Drill collar locations were surveyed in MGA grid by licenced surveyors using DGPS equipment. No holes have downhole surveys due to the short length of all holes and the limited possibility for deviation.

## **Sampling and Sub-Sampling Techniques**

All resource drilling has been completed using RC or AC with samples being collected at 1m interval from a riffle splitter. Samples were initially composited to 4m and for composites that returned assays greater than 0.8% Ni, the individual 1m samples were then submitted for analysis.

## **Sample Analysis Method**

All RC and AC holes in the database were analysed for a thirteen-element suite (Ni, Co, Mg, Fe, Mn, Zn, Cu, Al, Cr, As, Ca, Si, Cl) by Ultratrace Laboratories using X-ray Fluorescence Spectrometry (XRF).

Extensive quality control protocols were in place for the resource drilling and involved a certified standard and a field duplicate being submitted for each hole drilled. In addition, interlaboratory checks were completed on eleven holes. The results of the QAQC program were satisfactory and confirmed the reliability of the assay data.

## **Estimation Methodology**

Separate nickel and cobalt wireframes were prepared. The nickel wireframe was based on a 0.8% Ni threshold and the cobalt wireframe was based on a 0.8% Co threshold. The cobalt wireframe lies largely within the upper part of the nickel zone and in places lies partially above the nickel wireframe.

The nickel wireframe was used as a hard boundary for the Ni estimate, and the cobalt wireframe was used as a hard boundary for the Co estimate. Other elements were estimated using the interpreted weathering profile boundaries (smectite, mixed zone, saprolite) as hard boundaries.

Interpolation parameters were based on the geometry of each zone and geostatistical parameters were determined by variography. No high-grade cuts were applied to the estimate due to the uniformly low coefficient of variation ("CV") of the data.

The block dimensions used in the model were based on deposit geometry and drill hole spacing. Parent block sizes used were 25m NS by 25m EW by 2m Z with sub-celling only in the Z direction to 0.5m.

Sample data was composited into 1m intervals then block model grades estimated using ordinary kriging (OK) grade interpolation. A first pass search range of 75m was used and oriented to match the strike of the mineralisation. A minimum of 10 samples and a maximum of 24 samples were used to estimate each block. The majority of the resource (96%) was estimated in the first pass with expanded search radii of 150m used for the blocks not estimated in the first pass.

Bulk density determinations were not available for the Pyke Hill samples. However the deposit lies adjacent to the Murrin Murrin East deposit where an extensive density dataset was available. The density value of 1.21t/m<sup>3</sup> derived from that data was applied to the Pyke Hill estimate.

### **Mineral Resource Classification**

The Mineral Resources was classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012).

The portion of the deposit defined by 25m spaced drill holes on 50m spaced cross sections displays excellent continuity of geology and grade and has been classified as Measured Mineral Resource. The remainder of the deposit has been defined by 50m spaced drilling, displays good continuity of geology and mineralisation and has been classified as Indicated Mineral Resource.

### **Cut-off Grades**

The cut-off grades of 0.8% Ni or 0.08% Co reflect the likely minimum grades required to consider processing through a high pressure acid leach ("HPAL") process as successfully operated at the adjacent Murrin Murrin operation. The shallow, flat-lying nature of the deposit and its proximity to an operating nickel laterite mine suggests good potential for eventual exploitation.

### **Metallurgy**

No metallurgical test work has been conducted at the project. Due to the similarities with the mineralisation at the adjacent operating Murrin Murrin East mine, it can be reasonably assumed that good recoveries will be achieved via HPAL processing.

## **Modifying Factors**

No modifying factors were applied to the reported Mineral Resource estimate. Parameters reflecting mining dilution, ore loss and metallurgical recoveries will be considered during the any future mining evaluation of the project.

Enquiries for further information regarding the Company's activities can be sent to [info@cgm.com.au](mailto:info@cgm.com.au).



**RANDAL SWICK**  
Executive Chairman

## **COMPETENT PERSONS STATEMENT**

*The Information in this report that relates to Mineral Resources is based on information compiled by Mr Paul Payne, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Payne Geological Services Pty Ltd. Mr Payne 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 "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**JORC Table 1 Section 1 Sampling Techniques and Data**

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<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. 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>Air core drilling was conducted at 25m to 50m spacings on 100m spaced cross sections.</li> <li>Air core samples were collected using a splitter or scoop.</li> <li>RC drilling was conducted using face sampling bit on at 50m by 50m spacings.</li> <li>RC samples were collected in large plastic bags from riffle splitter and a 2-5kg representative sample taken for analysis.</li> <li>Collar surveys were carried by licenced surveyors using DGPS equipment.</li> <li>No down hole surveys were completed due to the shallow, vertical nature of the drilling.</li> <li>Initially, samples were composited into 4m intervals and where &gt;0.5% Ni was returned, the 1m samples were submitted for analysis.</li> </ul>
<b>Drilling techniques</b>	<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>All resource drilling was completed between 2005 and 2007 using face sampling equipment.</li> <li>Air core and RC drilling methods were used.</li> </ul>
<b>Drill sample recovery</b>	<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 record of RC sample quality was located, however drilling conditions were good and samples generally had the expected volume based on visual observations.</li> <li>No obvious relationships between sample recovery and grade.</li> </ul>
<b>Logging</b>	<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 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>All holes were geologically logged in the field at the time of drilling.</li> <li></li> </ul>

Criteria	JORC Code Explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>1m RC samples were split by the riffle splitter on the drill rig and sampled dry.</li> <li>The sampling was conducted using industry standard techniques and were considered appropriate.</li> <li>Field duplicates were prepared to check on sample representivity. One duplicate per hole was prepared and results were excellent.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>All samples were analysed at Ultratrace Laboratories using XRF analysis.</li> <li>QAQC data included the submission of certified reference material. QAQC results confirmed the accuracy and precision of the original assay data.</li> </ul>
<b>Verification of sampling and assaying</b>	<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>Intersections for 11 holes were checked by submission of sample pulps to an umpire laboratory. Results compared well with the original laboratory.</li> <li>Field data was loaded into excel spreadsheets at site.</li> <li>Original laboratory assay records have been located and loaded into an electronic database.</li> <li>Hard copies of logs, survey and sampling data are stored in the Cougar office.</li> <li>No adjustment to assay data.</li> </ul>
<b>Location of data points</b>	<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>All drill hole collars were accurately surveyed in WGS84 grid using DGPS equipment.</li> <li>Topography is gently undulating with control from drill hole collars and field traverses.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling was on a nominal 50m by 50m spacing with some infill to 25m by 50m.</li> <li>Drill data is at sufficient spacing to define Measured and Indicated Mineral Resource.</li> <li>Samples were originally composited to 4m intervals then 1m samples submitted for the mineralised zone and used for estimation.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	
<b>Orientation of data in relation to geological structure</b>	<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>All holes were drilled vertical into a flat lying zone so are orientated perpendicular to the trend of mineralisation in the deposit.</li> <li>No orientation based sampling bias has been identified in the data.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were organised by company staff then transported by courier to the laboratory.</li> </ul>
<b>Audits or reviews</b>	<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>Procedures were reviewed by independent consultants during the exploration programs in 2007.</li> </ul>

## JORC Table 1 Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<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 license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Pursuant to an option agreement dated April 30, 2004 CGM acquired 100% of the Ni and Co laterite rights on Mining Lease M39/159. The original vendors retain a 40 cent per tonne royalty from material mined and treated from the tenement.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>All exploration was completed by Cougar between 2005 and 2007.</li> </ul>
<b>Geology</b>	<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 project is hosted within the Archaean Norseman-Wiluna Greenstone Belt.</li> <li>The nickel-cobalt mineralisation at Pyke Hill is hosted within the weathering profile overlying ultramafic bedrock lithologies. Resource grade nickel and cobalt mineralisation occurs in ferruginous and smectite clay rich zones, as well as less strongly oxidised saprolite overlying the bedrock. Metal enrichment is a result of mobilisation of Ni and Co released by breakdown of nickeliferous silicate minerals during the weathering process.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the under-standing 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>Results have all been previously reported in MGA grid.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</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>Length weighted average grades have been reported.</li> <li>No high-grade cuts have been applied.</li> <li>Metal equivalent values are not being reported.</li> </ul>
<b>Relationship between mineralisation widths and</b>	<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</li> </ul>	<ul style="list-style-type: none"> <li>The majority of holes have been drilled at angles to intersect the mineralisation approximately perpendicular to the orientation of the mineralised trend.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b><i>intercept lengths</i></b>	<p><i>nature should be reported.</i></p> <ul style="list-style-type: none"> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>Intersection length approximates true thickness.</li> </ul>
<b><i>Diagrams</i></b>	<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>A relevant plan showing the drilling is included within this release.</li> </ul>
<b><i>Balanced Reporting</i></b>	<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>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 relevant results available have been previously reported.</li> </ul>
<b><i>Other substantive exploration data</i></b>	<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>RAB drilling was initially used to test for elevated nickel and cobalt mineralisation.</li> </ul>
<b><i>Further work</i></b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. 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>Preliminary economic analysis of the project is planned.</li> </ul>

## JORC Table 1 Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Field data was loaded into excel spreadsheets at site.</li> <li>Digital laboratory assay records were loaded into an electronic database.</li> <li>Validation included visual review of results.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>A site visit by Paul Payne was undertaken in May 2018 to confirm surface geological features, locate drill hole collars and review general site layout.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>Geological interpretations of the weathering profile were largely based on geochemical zonation.</li> <li>Nickel and cobalt mineralisation were not controlled by geological boundaries so the interpretations were grade based.</li> <li>Information between different drilling programs is consistent and the interpretations are considered to have a high degree of confidence.</li> <li>There is no real possibility of alternative interpretations other than variation in grade thresholds used to define the mineralisation envelopes.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The Pyke Hill deposit has a drilled strike extent of 2.1km NS, a width of 450m EW and a maximum vertical depth of 60m. The true thickness of the mineralisation ranges from 25m to 35m.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process</li> </ul>	<ul style="list-style-type: none"> <li>Ordinary kriging grade interpolation was used to estimate block grades within the resource.</li> <li>Surpac software was used for the estimation.</li> <li>Samples were composited to 1m intervals. Due to the low CV of the data no high grade cuts were applied to the estimate.</li> <li>The parent block dimensions were 25m EW by 25m NS by 5m vertical with sub-cells of 25m by 25m by 0.5m. Cell size was based on 50% of the average drill hole spacing in the well drilled part of the deposit.</li> <li>The previous resource estimate for Pyke Hill was reported in 2007.</li> <li>No assumptions have been made regarding recovery of by-products.</li> <li>An orientated ellipsoid search was used to select data and was based on drill hole spacing and the geometry of the mineralisation.</li> <li>A search of 75m was used with a minimum of 10 samples and a maximum of 24 samples which resulted in 96% of blocks being estimated. The remaining blocks were estimated with search radii of 150m.</li> <li>Selective mining units were not modelled in the Mineral Resource model. The block size used in the model was based on drill sample spacing and deposit geometry.</li> <li>Mineralisation was constrained by wireframes prepared using a 0.8% Ni grade</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i>	<p>envelope. In addition, a cobalt domain was wireframed using a 0.08% Co cut-off grade.</p> <ul style="list-style-type: none"> <li>For validation, quantitative spatial comparison of block grades to assay grades was carried out using swath plots.</li> <li>Global comparisons of drill hole and block model grades were also carried out.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The cut-off grades of 0.8% Ni or 0.08% Co reflect the likely minimum grades required to consider processing through a high pressure acid leach ("HPAL") process as successfully operated at the adjacent Murrin Murrin operation.</li> <li>The shallow, flat-lying nature of the deposit and its proximity to an operating nickel laterite mine suggests good potential for eventual exploitation.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>Based on comparison with adjacent, currently operating deposits, the Mineral Resource is considered to have sufficient grade and metallurgical characteristics for economic treatment via a recognised processing route.</li> <li>No mining parameters or modifying factors have been applied to the Mineral Resource.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical test work has been conducted at the project. Due to the similarities with the mineralisation at the adjacent operating Murrin Murrin East mine, it can be reasonably assumed that good recoveries can be achieved via HPAL processing.</li> <li>Metallurgical test work is planned.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>The area is not known to be environmentally sensitive and there is no reason to think that proposals for development including the dumping of waste would not be approved if planning and permitting guidelines are followed.</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the</i></li> </ul>	<ul style="list-style-type: none"> <li>Bulk density determinations were not available for the Pyke Hill samples. However the deposit lies adjacent to the Murrin</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <ul style="list-style-type: none"> <li><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<p>Murrin East deposit where an extensive density dataset was available. The density value of 1.21t/m<sup>3</sup> derived from that data was applied to the Pyke Hill estimate.</p>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource was classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012).</li> <li>The portion of the deposit defined by 25m spaced drill holes on 50m spaced cross sections displays excellent continuity of geology and grade and has been classified as Measured Mineral Resource.</li> <li>The remainder of the deposit has been defined by 50m spaced drilling, displays good continuity of geology and mineralisation and has been classified as Indicated Mineral Resource.</li> <li>The results reflect the view of the Competent Person.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource estimate has been checked by an internal audit procedure.</li> </ul>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The estimate utilised good estimation practices, high quality drilling, sampling and assay data. The extent and dimensions of the mineralisation are sufficiently defined by the detailed drilling. The deposit is considered to have been estimated with a high level of accuracy.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>There is no historic production data to compare with the Mineral Resource.</li> </ul>