



# METALS FINANCE LIMITED

SPECIALISTS IN METAL RECOVERY

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The Manager  
Company Announcements Office  
Australian Securities Exchange

23 November 2010

Dear Sir/Madam,

**RE : BARNES HILL RESERVE STATEMENT**

Metals Finance is pleased to provide the attached stock exchange release by Proto Resources and Investments Ltd. (Proto), which details the results of the ongoing independent resource analysis being conducted by Snowden Mining Industry Consultants on comprehensive drilling of the Barnes Hill nickel laterite deposit in Tasmania.

The Barnes Hill deposit is being investigated under a 50:50 joint venture between Proto and the Company. The conversion of previously categorised resources into reserves by Snowden provides a firm basis for the detailed feasibility study that will be undertaken by Metals Finance, as the company's responsibility under the joint venture agreement with Proto. This programme will commence with comprehensive leach testing of bulk samples from the Barnes Hill ore body, and will be largely based around the comprehensive work carried out on the Lucky Break nickel laterite project in Queensland.

**P.A. Treasure**  
Chief Executive Officer

*Information within this announcement which pertains to mineralisation or resources is based on information compiled by Mr Tony Treasure who is a full time employee of Metals Finance Limited and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Treasure has sufficient experience in the fields under consideration to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration results, Mineral Resources and Ore reserves and consents to the inclusion of this information in the form and context of which it appears in this report*

# PROTO



RESOURCES & INVESTMENTS LTD

## STOCK EXCHANGE ANNOUNCEMENT

November 23, 2010

### Barnes Hill Reserve Statement

#### ASX Release, Stock Code: PRW

*Following on from the recent announcement of an updated Mineral Resource of 6.6 Mt at 0.82% Ni and 0.06% Co at a 0.50% Ni cut-off, Proto are pleased to announce that a Reserve of 4.0 Mt at 0.84% Ni and 0.06% Co at a 0.70% nickel equivalent cut-off has been estimated by Snowden Mining Industry Consultants ("Snowden") for the Barnes Hill deposit. At a proposed mining rate of 250,000 t per annum (tpa) the currently defined reserve represents a mine life of 16 years.*

#### Executive Summary

- A Reserve of 4.0 Mt at 0.84% Ni and 0.06% Co at a 0.70% nickel equivalent cut-off has been estimated by Snowden Mining Industry Consultants for the Barnes Hill deposit.
- At a proposed mining rate of 250,000 t per annum the currently defined reserve represents a mine life of 16 years.

#### Barnes Hill Nickel Reserve Statement

The Board of Proto Resources & Investments Ltd ("Proto", "the Company") is pleased to announce that it has now received a Reserve statement from Snowden for the Barnes Hill deposit in Beaconsfield, Tasmania. As previously announced in conjunction with their joint venture partner Metals Finance Limited (ASX: MFC), the updated Mineral Resource defined 6.6 Mt at 0.82% Ni and 0.06% Co at a 0.50% Ni cut-off (Table 1). A Total Reserve of 4.0 Mt @ 0.84% Ni and 0.06% Co has been estimated at a 0.70% nickel equivalent ("NiEq") cut-off by Snowden under the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2004 JORC Code") (Table 2). The Reserve estimate indicates Proto's intentions for developing the Barnes Hill deposit are economically viable and the project has a minimum mine life of 16 years at a proposed mining rate of 250,000 tpa.

The Barnes Hill Reserve has been based on metal prices for Ni and Co of \$US9/lb (\$US19,842/t compared to the London Metals Exchange spot price of \$US21,495/t on 18 November 2010) and \$US 19 /lb respectively, and an Australian currency exchange rate of 0.9 \$US:\$A. Forecast Ni and Co price assumptions have been obtained using the Australian Bureau of Agricultural and Resource Economics (ABARE) "Australian commodities – March quarter 2010" report. Process recoveries of 75% and 70% were used for Ni and Co respectively. Planned dilution and mining ore recoveries were modelled using a minimum mining dimension of 25 m width, 25 m length and 1 m depth. Pit optimisations were prepared to

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establish the reserve (Table 2) which produces the maximum project NPV for the stated assumptions. Only the transitional, saprolite and saprock materials have been included in the Ore Reserve estimate.

The Ore Reserve estimate is sensitive to processing costs and recovery rates. Expected improvements in these areas are likely to result in an increase to the Ore Reserve.

The Scott's Hill and Mt Vulcan deposits, which contain a combined historic resource of 3.6 Mt, were not included in the pit optimisation work completed by Snowden. These areas are considered prospective and represent a potential additional production source and as such provide further earnings potential for the project.

Proto will now extract a series of 20 t bulk samples of representative limonite and saprolite material for metallurgical and density testwork. The results of this work program will provide additional information on the expected recoveries and density for each material type. It is expected that this testwork, in conjunction with a phase of infill drilling, will result in the assignment of a Measured classification for an area which represents at least the first 10 years of mining. This metallurgical testwork will commence in the next few months with the collection of the 20 t bulk samples to follow an initial 7 t of material that is currently being shipped to the laboratory.

The Barnes Hill Mining Licence (application 1872P/M) is expected to be granted prior to the end of 2010. Proto is in the process of finalising the documentation and bond arrangements to allow grant of this Mining Licence. The lodgement of the Development Proposal and Environmental Management Plan is scheduled for mid December 2010.

Proto is pleased with the Reserve for the Barnes Hill deposit. A 16 year mine life will provide a strong sustainable backbone of earnings for Proto and its joint venture partner MFC to build on. The Barnes Hill deposit is in close proximity to the Bell Bay port (15 km) and local infrastructure (sealed roads, water and the power grid) and has now been shown to be an economically robust project.

Snowden have been retained to now complete pit design and mine scheduling work for the Barnes Hill deposit.

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## **Competent Persons Statements**

*The information in this report that relates to Exploration Results is based on information compiled by Mr Andrew Jones. Mr Jones is a full time employee of TasEx Geological Services who provide geological consulting services to Proto Resources & Investments Ltd and is a member of the Australian Institute of Geoscientists (AIG) and the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Jones has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.*

*The information in this report that relates to the estimation of the Barnes Hill Mineral Resource was compiled by Mr Justin Watson. Mr Watson is a full time employee of Snowden Mining Industry Consultants. Mr Watson is a registered chartered professional (CP) and Member of the Australasian Institute of Mining and Metallurgy. Mr Watson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Watson consents to the inclusion of this information in the form and context in which it appears in this announcement.*

*The information in this report that relates to the estimation of the Barnes Hill Mineral Reserve was compiled by Mr Hamish Guthrie. Mr Guthrie is a full time employee of Snowden Mining Industry Consultants. Mr Guthrie is a Member of the Australasian Institute of Mining and Metallurgy. Mr Guthrie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Guthrie consents to the inclusion of this information in the form and context in which it appears in this announcement.*



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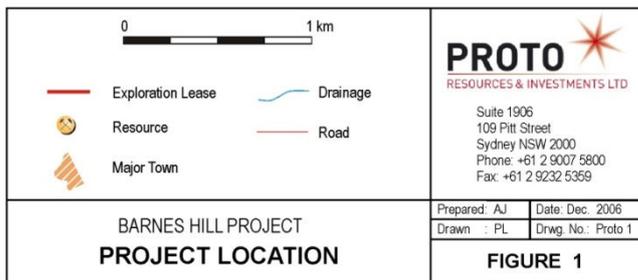
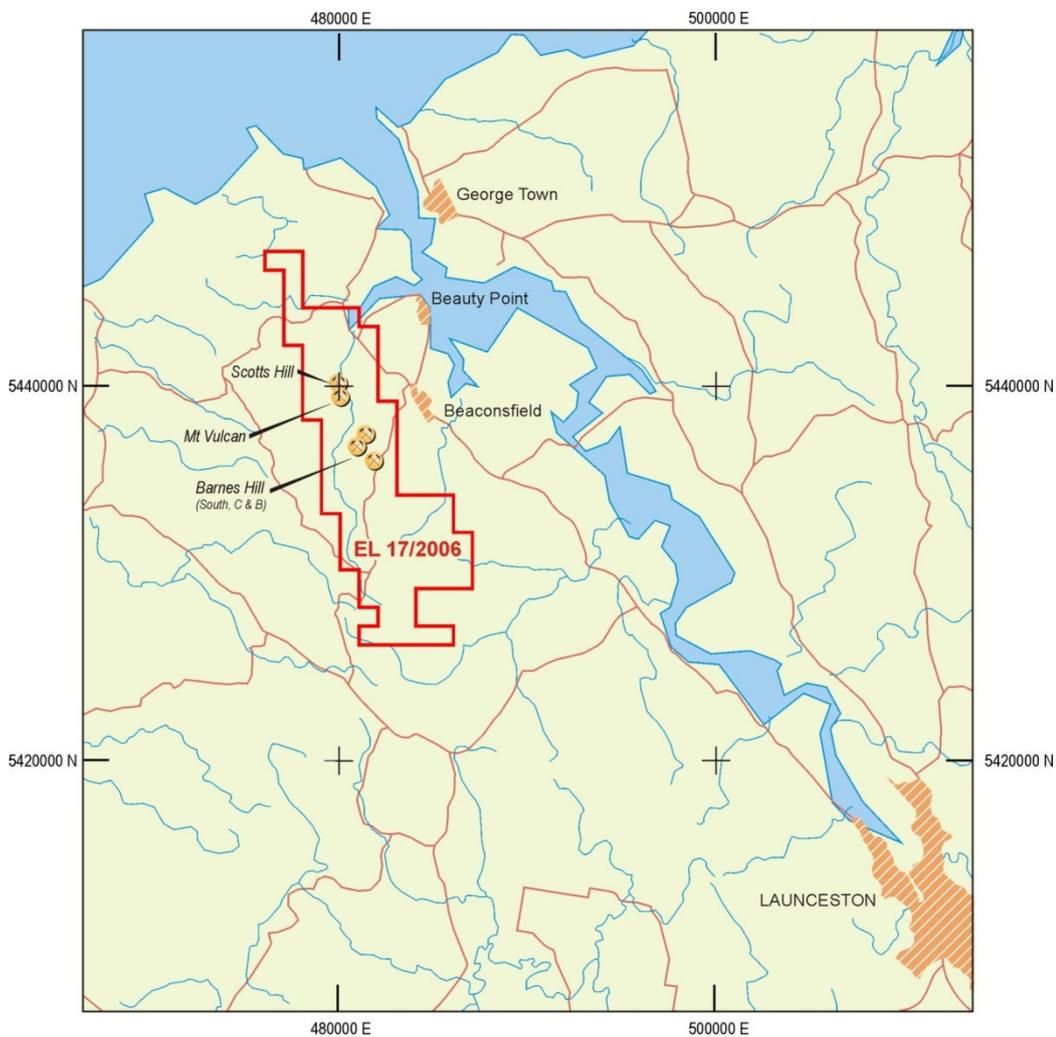


Figure 1 – Location Map of the Barnes Hill Deposit Near Beaconsfield, Tasmania

# STOCK EXCHANGE ANNOUNCEMENT

**Table 1 – Barnes Hill Deposit Mineral Resource by Geological Domains at a 0.50% Nickel Cut-off Grade**

Resource Classification	Volume ('000 m <sup>3</sup> )	Tonnage (kT)	Ni (%)	Co (%)	MgO (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)
<b>Cut-off grade of 0.50% Ni - Limonite Domain</b>							
Measured	-	-					
Indicated	70	105	0.56	0.16	1.4	57.4	13.7
Inferred	36	54	0.56	0.11	2.0	57.2	18.7
<b>Total</b>	<b>106</b>	<b>159</b>	<b>0.56</b>	<b>0.14</b>	<b>1.6</b>	<b>56.4</b>	<b>15.4</b>
<b>Cut-off grade of 0.50% Ni - Transitional Domain</b>							
Measured	-	-					
Indicated	177	247	0.65	0.09	3.5	42.8	25.0
Inferred	5	7	0.81	0.15	3.7	49.8	24.5
<b>Total</b>	<b>182</b>	<b>254</b>	<b>0.65</b>	<b>0.09</b>	<b>3.5</b>	<b>42.9</b>	<b>25.0</b>
<b>Cut-off grade of 0.50% Ni - Saprolite Domain</b>							
Measured	-	-					
Indicated	3,042	3,955	0.87	0.06	11.4	28.5	36.8
Inferred	369	480	0.87	0.06	11.4	28.6	36.8
<b>Total</b>	<b>3,411</b>	<b>4,435</b>	<b>0.87</b>	<b>0.06</b>	<b>11.4</b>	<b>28.6</b>	<b>36.8</b>
<b>Cut-off grade of 0.50% Ni - Saprock Domain</b>							
Measured	-	-					
Indicated	621	1,366	0.73	0.03	25.6	14.4	41.6
Inferred	178	392	0.68	0.02	25.1	15.0	43.1
<b>Total</b>	<b>799</b>	<b>1,758</b>	<b>0.72</b>	<b>0.03</b>	<b>25.5</b>	<b>14.5</b>	<b>42.0</b>
<b>Cut-off grade of 0.50% Ni - All Domains</b>							
Measured	-	-					
Indicated	3,910	5,674	0.82	0.06	14.3	26.3	37.0
Inferred	588	933	0.77	0.05	16.5	24.7	38.4
<b>Total</b>	<b>4,498</b>	<b>6,606</b>	<b>0.81</b>	<b>0.05</b>	<b>14.6</b>	<b>26.1</b>	<b>37.2</b>

Note: Significant figures may cause summation differences.

# STOCK EXCHANGE ANNOUNCEMENT

**Table 2 – Barnes Hill Deposit Ore Reserve\* by Geological Domains at a 0.70% Nickel Equivalent Cut-off Grade\*\***

Reserve Classification	Volume ('000m <sup>3</sup> )	Tonnage (kT)	Ni (%)	Co (%)	MgO (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	NiEq* (%)
<b>Cut-off grade of 0.70% NiEq - Transitional Domain</b>								
Proved								
Probable	872	1,180	0.80	0.07	9.0	34.1	32.5	0.95
<b>Total</b>	<b>872</b>	<b>1,180</b>	<b>0.80</b>	<b>0.07</b>	<b>9.0</b>	<b>34.1</b>	<b>32.5</b>	<b>0.95</b>
<b>Cut-off grade of 0.70% NiEq - Saprolite Domain</b>								
Proved								
Probable	1,571	2,355	0.86	0.05	14.8	25.3	38.2	0.97
<b>Total</b>	<b>1,571</b>	<b>2,355</b>	<b>0.86</b>	<b>0.05</b>	<b>14.8</b>	<b>25.3</b>	<b>38.2</b>	<b>0.97</b>
<b>Cut-off grade of 0.70% NiEq - Saprock Domain</b>								
Proved								
Probable	195	421	0.78	0.03	25.4	15.1	41.1	0.84
<b>Total</b>	<b>195</b>	<b>421</b>	<b>0.78</b>	<b>0.03</b>	<b>25.4</b>	<b>15.1</b>	<b>41.1</b>	<b>0.84</b>
<b>Cut-off grade of 0.70% NiEq - Total Reserve</b>								
Proved								
Probable	2,638	3,956	0.84	0.06	14.2	26.8	36.8	0.95
<b>Total</b>	<b>2,638</b>	<b>3,956</b>	<b>0.84</b>	<b>0.06</b>	<b>14.2</b>	<b>26.8</b>	<b>36.8</b>	<b>0.95</b>

Note: Significant figures may cause summation differences.

\* Ore Reserve estimate figures are based on metal prices for Ni and Co of \$US 9 /lb (\$US19,842 /t compared to a current London Metals Exchange spot price of \$US21,495 on 18 November 2010) and \$US 19 /lb respectively, and an Australian currency exchange rate of 0.9 \$US:\$A. Forecast Ni and Co price assumptions have been obtained using the Australian Bureau of Agricultural and Resource Economics (ABARE) "Australian commodities – March quarter 2010" report. Process recoveries of 75% and 70% were used for Ni and Co respectively.

\*\* Nickel equivalent (NiEq) calculation = Ni% + 1.97\*Co%



Table 3 – Application of JORC Code Table 1 to the Barnes Hill Deposit

Criteria	Explanation	Deposit Specific Information
<b>Sampling Techniques and Data</b> (criteria in this group apply to all succeeding groups)		
Drilling techniques.	<ul style="list-style-type: none"> <li>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka etc.) and details (e.g., 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>	A total of 716 drill holes totalling 7,114m have been drilled at the Barnes Hill deposit. A total of 694 aircore drill holes (50mm Diameter) and 23 PQ triple tube diamond drill holes have been completed. All 716 drill holes were used for geological interpretation and resource estimation.
Drill sample recovery.	<ul style="list-style-type: none"> <li>Whether core and chip sample recoveries have been properly recorded 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>	Diamond drill holes were completed using triple tube to enhance core recoveries. Core recovery was recorded throughout drill holes. Core recovery typically exceeded 90%. Sample recovery within aircore drill samples was generally good with relatively few damp and wet samples. Any samples with poor recovery were recorded as “No Samples” with no sample taken for assay. A total of 28 samples did not have enough sample for analysis. 85% of all samples have a sample weight which was greater than 0.5kg. The mean dry sample weight for all aircore samples was 0.73kg.
Logging.	<ul style="list-style-type: none"> <li>Whether core and chip samples have been 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> </ul>	Aircore drill holes were logged on 1m intervals with chip trays of each metre collected as a geological record and photos taken of all chip trays. Diamond drill holes were logged over geological intervals ranging from centimetres to several metres. Core photos were taken of each tray throughout the hole.
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 representativity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected.</li> <li>Whether sample sizes are appropriate to the grainsize of the material being sampled.</li> </ul>	For diamond drill holes all drill core was cut in half using a diamond core saw and 1m half core samples submitted for assay. PQ diamond drill hole samples weighed more than 5 kg's and up to 10 kg in fresher rock samples. Aircore drill holes were tube sampled with a separate sample taken for each metre. Duplicate samples and standard samples were also submitted as a quality control measure.



<p>Quality of assay data and laboratory tests.</p>	<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>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<p>All samples were submitted to ALS Laboratory Group in Adelaide for assay by a lithium borate fusion X-Ray Fluorescence technique (ME-XRF12). Samples were logged and tracked via LIMS system. Any samples that didn't air dry overnight were oven dried at a maximum of 120 degrees Celsius. Entire samples initially crushed to 90% passing 2mm. Sample split using riffle splitter. A sample split of up to 1000g was pulverized to better than 95% of the sample passing 106 microns. A 0.66g sample is fused with flux to generate a disk which is used for XRF analyses. Lower detection limit for Ni% and Co% is 0.001%. QA/QC procedures implemented by Proto Resources included the submission of certified standards, submission of sample duplicates and submission of pulp duplicates. Laboratory implements own internal standards and is involved in round robin testing with other laboratories. Internal laboratory standards were also analysed within all submitted batches.</p>
<p>Verification of sampling and assaying.</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> </ul>	<p>A total of 16 diamond drill holes (BHD001 – BHD016) twinned existing aircore drill holes to confirm grade and provide mineralised material for bulk density testwork.</p>
<p>Location of data points.</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>Quality and adequacy of topographic control.</i></li> </ul>	<p>Drill hole collars were surveyed by handheld GPS. All drill holes were vertical holes. Collar RLS and topographic surface level was determined by an Airborne Laser Scanning (LiDAR) survey completed by Photomapping Services of Melbourne, Victoria. LiDAR survey has a quoted accuracy of 0.15m. Supplied contours were on a 1.0m elevation spacing.</p>
<p>Data spacing and distribution.</p>	<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> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<p>Aircore drill hole spacing across the Barnes Hill resource area has been completed predominantly on a 50mN x 50mE staggered grid pattern. A 50mN by 50mE drilling pattern has been shown to give a robust grade estimate into 25mN by 25mE by 1.0m blocks and is considered adequate to support a Measured Resource for mineralised material greater than 2.0m thick. A 50mN x 50mE staggered drilling pattern however does not accurately define the true variability of thickness accurately and consequently tonnage estimates are subject to error and an Indicated classification has been applied. Diamond drill holes were completed at various locations across the deposit to gain material for bulk density and to twin existing aircore drill holes from representative areas of the deposit. In addition, two traverses consisting of 151 holes of 10m closely spaced aircore drill holes were completed in the northern resource area to test grade and width variations. Sampling was completed consistently to a 1.0m length. Compositing was not required to obtain an equal sample support.</p>
<p>Orientation of data in relation to geological structures and the extent to which this is known, considering the deposit type structure.</p>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>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.</i></li> </ul>	<p>Drill holes were drilled vertically - perpendicular to the interpreted ore body orientation. Tight spaced (10m) drilling program completed along a north-south and east-west line traversing the main portion of the deposit was completed to ascertain thickness and grade variation on a local scale.</p>
<p>Audits or reviews.</p>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<p>No external review of sampling and drilling procedures.</p>



<b>Estimation and Reporting of Mineral Resources</b> <i>(criteria listed in the first group, and where relevant in the second group, apply also to this group)</i>		
<p><i>Database integrity.</i></p>	<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>	<p>Selected checks on drill hole data against original assay certificates were completed. No errors noted.</p> <p>Geological logging completed on paper, transferred to Excel spreadsheets and geological logging codes validated.</p> <p>Drill hole database backed up on a regular basis.</p> <p>Statistical checks completed to ensure all assays fall within acceptable limits.</p> <p>Checks on overlapping or duplicate intervals completed.</p> <p>Checks were completed on all samples which fell below analytical detection limits to ensure samples were assigned zero grades in resource estimation.</p>
<p><i>Geological interpretation</i></p>	<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>	<p>The Barnes Hill nickel laterite deposit has developed from the weathering of an ultramafic host rock sequence. The boundaries of the deposit have been interpreted from drilling which has intersected unmineralised sandstone and siltstones to the east, west and south of the deposit. The northern boundary to the deposit has yet been defined from drilling. Geological interpretation in this region has been limited to the extent of current drilling.</p>
<p><i>Dimensions.</i></p>	<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>	<p>The deposit has an extent of approximately 2km's north-south by 1 km east-west.</p> <p>The main and thickest region of the deposit however is centred around Barnes Hill and is approximately 400m north-south by 800 m east-west. This area is characterised by a distinct limonite zone (average thickness ~3.5m) underlain by a saprolite zone (~4.0m).</p> <p>The area to the south of Barnes Hill is much thinner and consists primarily of saprolite material (~2.0m to 3.0m).</p> <p>Ni mineralisation within the limonite zone is overlain in most part by ferruginised lateritic waste material (~2.0m to 5.0m).</p>
<p><i>Estimation and modelling techniques.</i></p>	<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, maximum distance of extrapolation from data points.</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 (e.g. sulphur for acid mine drainage characterisation).</li> </ul> <p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p> <ul style="list-style-type: none"> <li>• Any assumptions behind modelling of selective mining units.</li> <li>• Any assumptions about correlation between variables.</li> <li>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>Ordinary kriging estimation technique for Ni, Co, MgO, Fe<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub>.</p> <p>Sample selection honoured geological domains which had been developed taking into account the chemical and geological variation noted vertically through the profile. Seven (7) domains developed: Pisolite / Hardcap domain, Laterite domain, Limonite domain, Transitional Domain, Saprolite Domain, Saprock Domain and Bedrock Domain.</p> <p>Statistical analysis by domain completed. No outliers / extreme values identified and no upper or lower cut applied to the datasets.</p> <p>Variography for Ni and Co completed for the Limonite and Saprolite domains. Isotropic variogram model developed was then applied to the estimation of all elements for all domains.</p> <p>Visual and statistical checks completed on block model.</p> <p>Checks were completed against original and declustered drill hole / composite dataset.</p>



Moisture.	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	The mineral resource estimate is based upon dry tonnages. Moisture content has not been included. Limited testwork indicates the moisture content to be approximately 8% calculated using core samples weight when drilled versus weight when dried.
Cut-off parameters.	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	Limonite domain has been developed based on a 0.2% Ni cut-off. Overlying lower grade lateritic material has been considered waste. Grade / tonnage curves support the selection of this cut-off as a natural threshold between waste and mineralised material. Resources have been reported within domain boundaries and at a 0.0% Ni, 0.2% Ni and 0.5% Ni cut-off. Domain percentages within each block have been recorded and block grades have been weighted by block tonnes.
Mining factors or assumptions.	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and. internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.</li> </ul>	Resource is sensitive to mining dilution and cut-off grade.
Metallurgical factors or assumptions.	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no assumptions have been made, this should be reported.</li> </ul>	No metallurgical testwork completed at this stage. No recovery assumptions made. Resource is potentially sensitive to results of metallurgical testwork.
Bulk density.	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> </ul>	Bulk density was determined by the water immersion technique on 20cm to 30cm samples of PQ diamond core. A total of 244 density samples taken. Default density values were assigned to each domain: Pisolite / Hardcap Domain (1.75g/cm <sup>3</sup> ), Laterite domain (1.70g/cm <sup>3</sup> ), Limonite domain (1.5g/cm <sup>3</sup> ), Transitional domain (1.40g/cm <sup>3</sup> ), Saprolite domain (1.3g/cm <sup>3</sup> ), Saprock domain (2.2g/cm <sup>3</sup> ) and Bedrock domain (2.4g/cm <sup>3</sup> ).
Classification.	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade computations, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</li> </ul>	<p>Classification was based on a number of measures:</p> <ul style="list-style-type: none"> <li>Geostatistical measures associated with estimated block grades (Regression slope, kriging variance).</li> <li>Number of composites used in estimation.</li> <li>Number of drill holes used in estimation</li> <li>Domain thickness and variability</li> </ul> <p>Results indicate grade estimates into 25mN by 25mE by 1.0mRL blocks are robust and justifies a Measured classification. Tonnage estimates however are subject to the accuracy of interpreted geological / domain surfaces based on 50m by 50m drilling and the accuracy of applied default density values. Both are considered subject to error and material differences (&gt;15%) in tonnage are possible at the planned quarterly production volume of 62,500 tonnes. Consequently an Indicated classification has been applied. Additional drilling at 25mN by 25mE and density testwork is expected to result in a Measured classification. Areas that are not supported by a 50mN by 50mE drill spacing or are &lt;1.0m in thickness have been assigned an Inferred classification.</p>
Audits or reviews.	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	Snowden Mining Industry Consultants have an independent internal technical review process which ensures all work meets quality control standards.



<b>Estimation and reporting of Ore Reserves</b> <i>(criteria listed in the first group, and where relevant in other preceding groups, apply also to this group)</i>		
<p>Mineral Resource estimate for conversion to Ore Reserves.</p>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<p>Snowden has prepared the Resource estimate, as discussed in the above items. The Barnes Hill Mineral Resource estimate comprises an Indicated Resource of 5.7 Mt at 0.82 % Ni and 0.06 % Co, and an Inferred Resource of 0.9 Mt at 0.81 % Ni and 0.05 % Co at a cut-off grade of 0.5% Ni. The Mineral Resource is inclusive of the ore re</p>
<p>Study status.</p>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code does not require that a final feasibility study has been undertaken to convert Mineral Resources to Ore Reserves, but it does require that appropriate studies will have been carried that will have determined a mine plan that is technically achievable and economically viable, and that all Modifying Factors have been considered.</li> </ul>	<p>An open pit mining study has been completed for Barnes Hill. As part of this study:</p> <ul style="list-style-type: none"> <li>Snowden defined the economic pit limits in a pit optimisation study using commercial software utilising the Lerch Grossman algorithm.</li> <li>Metals Finance Ltd supplied the mining and process cost inputs for the pit optimisation study.</li> <li>Metals Finance Ltd supplied the metallurgical recoveries.</li> <li>Metals Finance Ltd provided the general environmental, social and infrastructure information.</li> </ul>
<p>Cut-off parameters.</p>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<p>The break-even cut-off grade was determined to be 0.7 % Ni, based on:</p> <ul style="list-style-type: none"> <li>Ni price of \$US 9 /lb</li> <li>exchange rate \$US:\$A of 0.9:1</li> <li>average royalty of 2.7 % of gross revenue</li> <li>process recovery of 75 % for Ni</li> <li>processing cost of 107 AUD/t</li> <li>all saprolite materials assumed to have similar process properties for this study</li> </ul> <p>A Ni equivalent grade (NiEq) was determined to include the value of the Co for ore selection. NiEq was calculated using the formula:  <math display="block">\text{NiEq (\%)} = \text{Ni (\%)} + 1.97 \times \text{Co (\%)}</math> </p> <p>Based on:</p> <ul style="list-style-type: none"> <li>Co price of \$US 19 /lb</li> <li>process recovery of 70 % for Co</li> </ul>
<p>Mining factors or assumptions.</p>	<ul style="list-style-type: none"> <li>The method and assumptions used to convert the Mineral Resource to an Ore Reserve (ie either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice of, the nature and the appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit optimisation (if appropriate).</li> <li>The mining dilution factors, mining recovery factors, and minimum mining widths used.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<p>The key features that influence open pit mining of the Barnes Hill deposit are:</p> <ul style="list-style-type: none"> <li>The mining method chosen is a standard shallow open cut method using a combination of truck and shovel and dozer push, similar to that in common use throughout the global mining industry. This method has been selected as most appropriate to maximise ore recovery and minimise mining operating costs</li> <li>Snowden has assumed pit wall inter-ramp angles of 45 deg for the economic evaluation. Final wall angles have been assessed to have a low sensitivity to the project value.</li> <li>Planned dilution and mining recoveries have been accounted for and modelled, based on a minimum mining dimension of 25 m width, 25 m length, and 1m depth. Reserve quantities have been derived using these modelled tonnes and grades.</li> <li>Suitable grade control practices will be required to identify the different ore types and waste materials.</li> <li>Only the saprolite materials have been assessed for the reserve statement. Saprolite materials include the “transitional”, “saprolite”, and “saprock” classified material types.</li> </ul>



<p><i>Metallurgical factors or assumptions.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li>▪ <i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li>▪ <i>The nature, amount and representativeness of metallurgical testwork undertaken and the metallurgical recovery factors applied.</i></li> <li>▪ <i>Any assumptions or allowances made for deleterious elements.</i></li> <li>▪ <i>The existence of any bulk sample or pilot scale testwork and the degree to which such samples are representative of the orebody as a whole.</i></li> </ul>	<p>The metallurgical process design is based on a vat leach of the ore, using sulphuric acid at approximately 60g/l and achieving 80% recovery of nickel. Bulk separation of nickel from the leach solution is achieved with ion exchange, producing a feed solution suitable for electrowinning of the nickel product as nickel cathode.</p>
<p><i>Cost and revenue factors.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The derivation of, or assumptions made, regarding projected capital and operating costs.</i></li> <li>▪ <i>The assumptions made regarding revenue including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, etc.</i></li> <li>▪ <i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<p>Process costs and price assumptions are stated above in the item “cut-off parameters”. These parameters have been provided by Metals Finance. A Mining cost of 5 AUD/t was used for material selected as ore, and 5 AUD/t for the remaining waste material. Mining costs provided by Metals Finance.</p>
<p><i>Market assessment.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>▪ <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li>▪ <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>▪ <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>	<p>Nickel will be produced as high purity nickel cathode which will meet typical LSE quality standards for nickel cathode. Off-take agreements for the high quality metal will be established in advance of project implementation and there are currently no concerns regarding the sale of metal into the current world nickel market.</p>
<p><i>Other.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The effect, if any, of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the likely viability of a project and/or on the estimation and classification of the Ore Reserves.</i></li> <li>▪ <i>The status of titles and approvals critical to the viability of the project, such as mining leases, discharge permits, government and statutory approvals.</i></li> </ul>	<p>The Ore Reserve is classified as Probable in accordance with guidelines of the JORC Code, corresponding, to the resource classifications of Indicated. The Mineral Resource does not contain material classified as Measured and consequently the Ore Reserve does not contain material classified as Proven. No Inferred Resource is included in the Ore Reserve estimate.</p>
<p><i>Classification.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li>▪ <i>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</i></li> <li>▪ <i>The proportion of Probable Ore Reserves which have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<p>Snowden Mining Industry Consultants have an independent internal technical review process which ensures all work meets quality control standards.</p>
<p><i>Audits or reviews.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<p>Snowden Mining Industry Consultants have an independent internal technical review process which ensures all work meets quality control standards.</p>



<p><i>Discussion of relative accuracy/ confidence.</i></p>	<ul style="list-style-type: none"> <li>▪ <i>Where appropriate a statement of the relative accuracy and/or confidence in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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 or volumes, 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>	<p>The study is at scoping study level, with the associated assumptions and accuracies. A higher degree of confidence will be possible once the pilot scale testwork (underway) has been completed.</p> <p>Metallurgical recoveries have been derived using large scale test work with up to 500kg samples sourced from drill core.</p> <p>Project costs have been sourced from a similar scale nickel laterite feasibility study and incorporated with site specific consumption estimates into a Barnes Hill model. Overall costing for Barnes Hill is considered to be at a scoping study level with the associated assumptions and accuracies.</p> <p>Forecast Ni and Co price assumptions have been obtained using the Australian Bureau of Agricultural and Resource Economics (ABARE) "Australian commodities – March quarter 2010". ABARE is a professionally independent government economic research agency.</p>
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