

16 September 2022

The Manager Companies  
ASX Limited  
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Sydney NSW 2000

(25 pages by email)

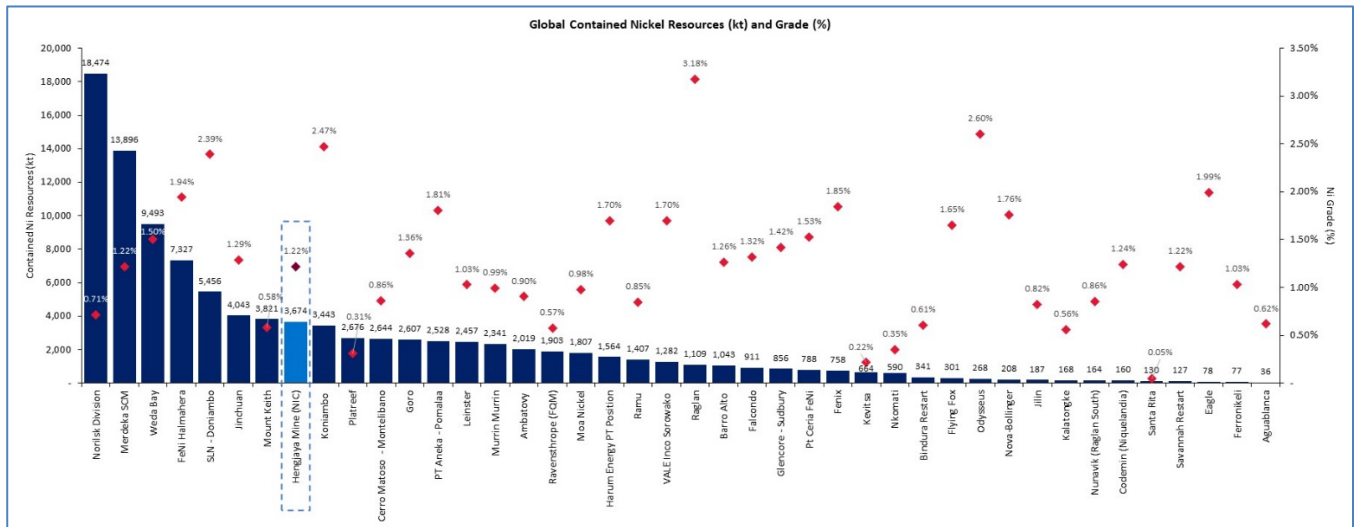
## HENGJAYA MINE RESOURCE UPGRADE ADDITIONAL INFORMATION

*This announcement provides additional information on Mineral Resource Estimation Data and Methodology used in the Hengjaya Mine Resource upgrade detailed in the ASX Announcement dated 12 September 2022 and a Mineral Resource Statement.*

### Highlights:

- **300 million dry metric tons ('dmt')**, with an average grade of 1.22% nickel and 0.09% cobalt (using a nickel cut-off grade of 0.8%), have been estimated using the JORC Code 2012. This equates to approximately **3,700,000 tons of nickel metal** and **270,000 tons of cobalt**.
- The Resource covers an area of 1,784 hectares within the Hengjaya Mine concession which has a total area of 5,983 hectares.
- **Since the last Resource estimate in June 2020, Measured Resources have increased 333%, Indicated Resources by 20% and Inferred Resources by 53%**, delivering a significant conversion of Inferred and Indicated to Measured Resources and providing increased confidence in the current remaining Resource estimation.
- Grades of up to **6.36% nickel** are reported in recent infill drill assay results, and for this reason a range of statistical nickel grade top cuts between 2.42% - 2.91% nickel have been applied to this Resource update to insure there is no over estimation in the current resource estimate due to the 'nugget effect'.
- **High grade Saprolite Resource of 72 million wet metric tonnes ('wmt') at 1.8% nickel** (cut-off grade 1.5% nickel), represents a source of long-term ore supply to the IMIP where the Company's Hengjaya Nickel ('HNI') and Ranger Nickel ('RNI') and Oracle Nickel ('ONI') RKEF projects will have total combined ore requirements of approximately 8.8 million wmt per annum. Hengjaya Mine is expected to deliver 3.5-4.0 million wmt of saprolite ore to the IMIP upon completion of the haul road linking the mine to the industrial park.
- **Limonite Resource of 151 million wmt at 1.2% nickel and 0.14% cobalt** (cut-off grade 1.0% nickel) positions the Hengjaya Mine as one of the long-term ore suppliers to the IMIP's Huayue and QMB HPAL projects, which are expected to require up to 20 million wmt per annum to produce nickel cobalt mixed hydroxide precipitate for the electric vehicle battery market. This significant limonite resource also leaves the Hengjaya Mine well positioned to supply any future HPAL projects the Company may invest in.

Nickel Industries Limited ('Nickel Industries' or 'the Company') commissioned PT Danmar Explorindo ('Danmar') to update a JORC compliant Mineral Resource based on data incorporating 529 kilometres of Ultra Ground Penetrating Radar survey ('Ultra-GPR'), 4,657 drill holes and 111,643 sample assays from drill cores taken from a 3,000-hectare area at the Hengjaya Mine. **Please refer to Table 1 for details of the Resource estimation dated 2022**, and to the Company's website for a copy of the full [Nickel Resource Estimate](#).



\* Source broker research, company announcements

***Hengjaya Mine contained nickel tonnes relative to global nickel resources.***

Commenting on the upgraded Resource Managing Director Justin Werner said:

*“We are delighted to deliver a significant increase in our Resource at the Hengjaya Mine from 2.4 million tonnes to 3.7 million tonnes of contained nickel metal representing a 56% increase, with further upside remaining. This places the Hengjaya Mine amongst the top 10 global nickel resources, highlighting the world class size of the deposit.*

*The Hengjaya Mine is the closest large tonnage, high grade saprolite and limonite mine to the Indonesia Morowali Industrial Park (‘IMIP’) and one of its largest ore suppliers. This underscores the important strategic value of the mine in providing secure, long-term supply to the Company’s RKEF operations within IMIP, being HNI and RNI, as well as Oracle Nickel (‘ONI’) which is currently under construction and due to commission in October this year.*

*We are also pleased to further announce that the Company has received its environmental approval (‘AMDAL’) to complete construction of the 16km haul road which will link the Hengjaya Mine to IMIP. 10km of the 16km is already complete and we expect the remainder to be completed by the 2<sup>nd</sup> quarter of next year.*

*Once completed, the haul road will allow the Hengjaya Mine to ramp up supply to approximately 10 million wmt per annum of saprolite and limonite to the Company’s RKEF lines and to the high pressure acid leach (‘HPAL’) plants which are currently operating within IMIP.*

*The Hengjaya Mine reported a record EBITDA of US\$27.6M for the 1<sup>st</sup> half 2022, from approximately 1.6 million wmt sold, and is on track to deliver over 3 million wmt for the full year. An increase to 10 million wmt will represent more than a 6-fold increase on 1<sup>st</sup> half 2022 tonnes sold and is expected to make the Hengjaya Mine a material contributor to Nickel Industries’ cash flow moving forward.”*

## **Mineral Resource Estimation Data and Methodology**

### **Geology and Geology Interpretation**

The regional tectonic setting for Central Sulawesi is the result of a complex collision between three of the earth's major crustal plates namely, the Australian plate, the Pacific plate and the Eurasian plate. As a result, three smaller plates have formed in this collision zone known as the Sunda Plate, Philippine Plate and Caroline Plates. The collision between all these tectonic plates is the cause of sections of the seafloor to be uplifted and deposited in Sulawesi, North Maluku and Papua. This is the origin of the East Indonesian Ophiolite Belt which is one of the largest ophiolite regions in the world and the source of nickel laterite deposits in East Indonesia. Ophiolites are the result of the process of overthrust of oceanic crust and mantle to a position on top of continental rocks

When ophiolite rocks are exposed to humid, tropical climates over a long period of time laterisation can occur as the rocks are weathered. In this process of weathering by rain, soluble minerals are leached away and less soluble minerals such as iron, nickel and cobalt are left behind in the weathering profile. This laterisation process is influenced by climate, geological structure, rock type, permeability and topography over long periods of time, to form a soil profile in which minerals containing nickel and other elements can be depleted in some places and concentrated in other areas. Within the ground, the leaching process is enabled by the permeability of the bedrock often as a result of tectonic movement causing fracturing and shearing creating conduits for the flow of mineral rich solutions leached from above.

### **Drilling Techniques**

The drills used are rotary diamond core units and full coring was applied. All cores were photographed for future reference. The rigs have the added advantages of providing local people employment and also have low environmental impact with no need for road access or dozer support in mountainous terrain. The drills use HQ size triple tube core barrels.

### **Sampling and Subsampling Techniques**

Once drilling the hole is complete, wherever possible, the full core boxes are positioned in a level place in consecutive order. In this way the full hole section can be viewed for ease of describing each run and determining the geological boundaries. The description starts at the surface and follows each 1 metre core run until the total depth is reached

With the core boxes in position, in a level place, with no cover, in consecutive order, core photos can take place. Checks are carried out to make sure that the depth labels are clearly visible and in position at the bottom of each core run. Cores with swelling or core loss are clearly marked as well as labels showing where density samples have been removed or will be taken. The well site geologist checks to make sure the core box label shows the correct Hole Identification, sequential arrangement, depth interval, date of start and finish drilling, EOH (end of hole), initials of the wellsite geologist and the rig identification number. When this is ready photos are taken in good light conditions making sure to minimize shadows and reflections.

Plastic sample bags are always double layered to protect the integrity of the samples against accidental contamination, damage or loss. Samples are bagged according to the geological horizon from which they belong and or in 1 metre intervals, if there is no geological boundary and the plastic identity label placed inside.

Plastic sample bags are always double layered to protect the integrity of the samples against accidental contamination, damage or loss. Samples are bagged according to the geological horizon from which they belong and or in 1 metre intervals, if there is no geological boundary and the plastic identity label placed inside. After each core box is emptied the outer layer sample bag is tied with string in a bow so that it can easily be undone at the camp for rechecking and final labeling. During the sampling process, the sample form is continuously filled out so that as samples are bagged every sample is recorded. Checks are made to ensure the sample intervals and labels are correct.

### Sample Analysis Methods

PT Hengjaya Mineralindo ('HM') has dedicated facilities at the mine site for processing and assaying samples collected in the exploration drilling program and mining production operations at the site. The Japanese Industrial Standard is used to ensure the reliability and accuracy of the sampling process. At the Sample Preparation Laboratory (Prep Lab), samples are reduced from raw samples into 200# (75 micron) pulp samples. The Assay Laboratory is where the 200# pulp samples are assayed using XRF Spectrometers to provide the composition of the drill and mine samples, in particular, the weight percent of nickel, iron, cobalt, silica dioxide, magnesium oxide and calcium oxide.

The drill core samples are reduced in volume and sample particle size to produce a 60g pulp sample, from which a 10g sample is taken for a pressed pellet, or a fused bead, for XRF. The expectation is that the results obtained on the 10g pressed powder pellets or fused beads that are produced from the 1 metre drill core sample are representative of the original samples. It is the primary responsibility of the HM QA/QC Department to ensure that this is the case.

### Wireframing and Surface Gridding

Wireframing was set up on each drill line in both east-west & north-south directions to create a 10X10m grid over the entire database area. First digitized, the lines were then draped onto the LiDAR surface to develop a morphology wireframe. This was done to assess any aspect and slope angle, weathering patterns obvious from the topography. The wireframe sections were then generated into gridded surfaces from the drilling/assay database (points of observation)

From these wireframes, gridded surfaces were produced to represent the roof and floor limits of limonite, saprolite and bedrock zones. 10 metre grids were set up and interpolation of the gridded points was conducted using Inverse Distance Weighted (IDW<sup>2</sup>) methods.

### Assay Data and Compositing

Only assay data from the validated database were extracted for use in the compositing process. Composite lengths of 1 metre were used.

Based on analysis of the downhole statistical data additional top and bottom grade cut-off constraints were applied to Ni% content, to impose a domain limit of no greater than two standard deviations from the saprolite ore average, to avoid over-estimation of nickel content. For this reason, all core sample measurements over statistical cut-off grade for nickel were assigned a default value. A total of 838 nickel top cuts were applied from a database of 111,590 samples.

### Bulk Density

Relative density was manually added to the 1 metre composites based on the weighted average recorded for each zone within the corresponding domain (see Table 1). The APL block was assumed to be similar in geological characteristics to Central East block as they are located in the same area. For this reason, the density was assumed to be the same.

| Laterite Profile | Bete Far West | Bete West | Bete Bete | Bete South | Central West | Central East |
|------------------|---------------|-----------|-----------|------------|--------------|--------------|
| SOIL             | 1.83          | 1.83      | 1.95      | 1.92       | 2.01         | 1.93         |
| LIMONITE         | 1.78          | 1.77      | 1.85      | 1.76       | 1.83         | 1.81         |
| SAPROLITE        | 1.72          | 1.50      | 1.53      | 1.64       | 1.85         | 1.66         |
| BRK              | 2.88          | 2.25      | 2.67      | 2.87       | 2.80         | 2.79         |
| Total Samples    | 343           | 189       | 1677      | 1849       | 6912         | 2034         |

Table 1 – Hengjaya Mine Density measurements applied to the Mineral Resource

## Moisture Content

Since April 2019, every 1 metre drill core sample was measured for moisture using the Japanese Industrial Standard (JIS). A total 94,074 moisture measurements were performed. In areas where moisture content measurements were not available, the domain default weighted average was applied to the corresponding composite zone. Table 2 (below) summarises the weighted average Moisture Content by domain.

| Laterite Profile     | Average Moisture Content % |            |             |              |              |              |
|----------------------|----------------------------|------------|-------------|--------------|--------------|--------------|
|                      | Bete Far West              | Bete West  | Bete Bete   | Bete South   | Central West | Central East |
| SOIL                 | 36.5%                      | 35.5%      | 32.5%       | 35.5%        | 34.2%        | 35.4%        |
| LIMONITE             | 40.1%                      | 41.8%      | 40.2%       | 43.3%        | 41.2%        | 41.9%        |
| SAPROLITE            | 24.3%                      | 35.7%      | 31.8%       | 32.9%        | 31.5%        | 31.8%        |
| BRK                  | 6.6%                       | 24.7%      | 13.3%       | 10.3%        | 9.8%         | 12.2%        |
| <b>Total Samples</b> | <b>2179</b>                | <b>611</b> | <b>9867</b> | <b>12912</b> | <b>52514</b> | <b>15991</b> |

*Table 2 - HM Moisture Content measurements applied to the Mineral Resource*

## Block Modelling

A 3D block model was created covering the Mineral Resource area constrained using the final gridded surface models from the wireframing process to use as the base of volume estimation of the laterite zones of limonite and saprolite.

## Grade Interpolation

Ordinary Kriging (OK) algorithm was used in the grade interpolation for nickel grades for limonite and saprolite laterite zones. In the absence of a geostatistical analysis for other elements, Inverse Distance Weighted Squared (IDW<sup>2</sup>) methods were used to estimate the model grade interpolation for other elements Co, Fe, MgO, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, Cr<sub>2</sub>O<sub>3</sub>, MnO and Moisture Content.

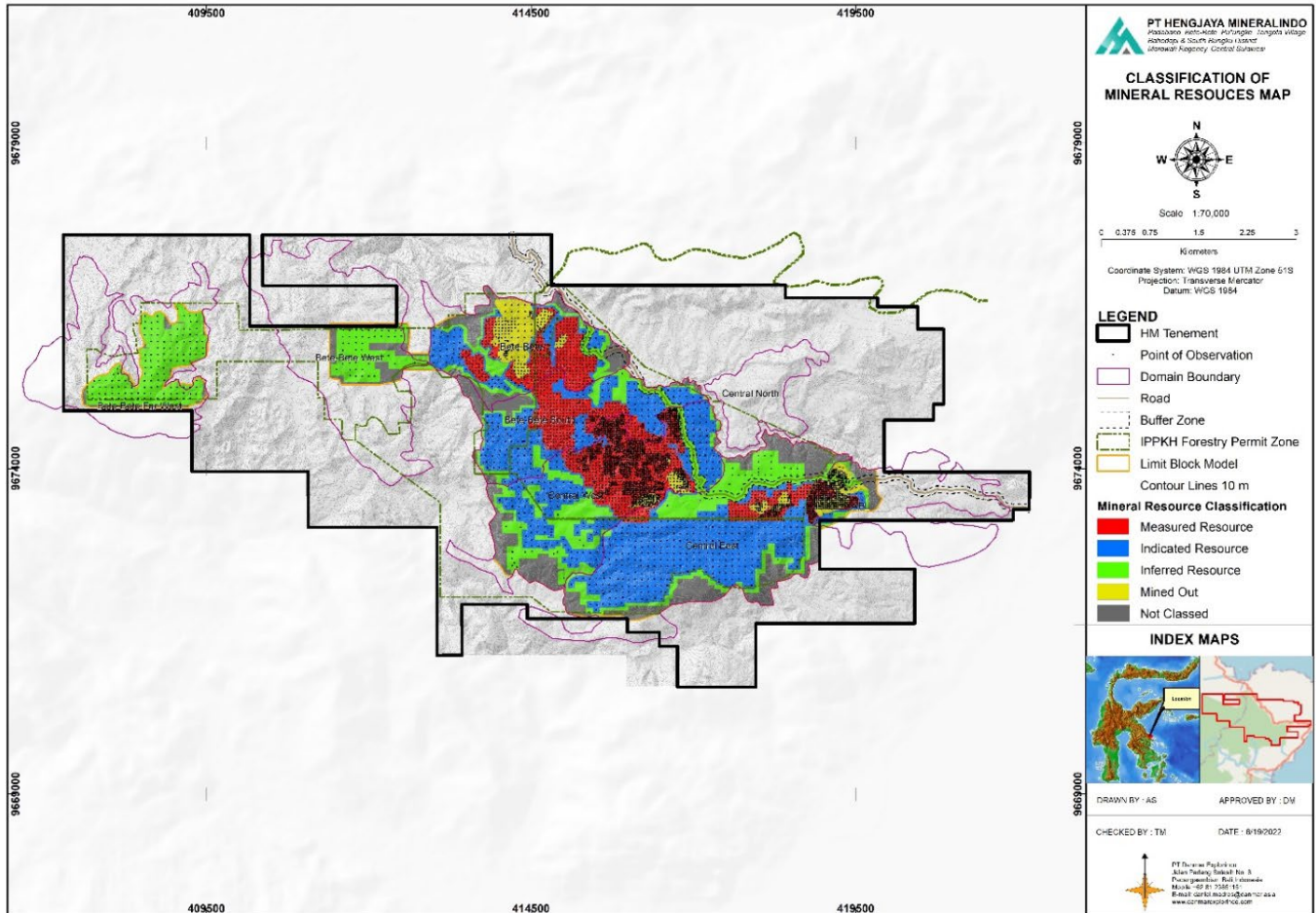
The subsequent model validation process showed similar nickel to volume ratios between OK and IDW<sup>2</sup> results. In total, three main passes were applied to both the OK and IDW<sup>2</sup> methods when interpolating the model grades, with increasing search ellipsoid distances between drilling. A fourth pass was completed to ensure all blocks within the model were given a grade within the Mineral Resource area.

## Resource Classification

Determination of the Resource classes were applied to the Mineral Resource, with a digitised polygon boundary based on the spatial continuity of each geological domain around regular spaced drilling grids of 25, 50, 100, 200 metres from points of observation in the final validated database. Also taken into account was the Ultra-GPR grid lines between the drilling locations increasing confidence in interpretation of the laterisation contact surfaces between the points of observation in the model. Resources were classified as follows:

- **MEASURED** - Areas of 25-50 metres of drilling spacing on a continuous grid pattern, where significant influence from Pass 1 and 2 dominate the search ellipsoids, with no extrapolation from the last line of drilling.
- **INDICATED** - Areas of 50-100 metres of drilling spacing on a continuous grid pattern, where significant influence from Pass 1 and 2 dominate the search ellipsoids, with 50 metre extrapolation from the last line of drilling.
- **INFERRED** - Areas of 100-200 metres of drilling spacing on a continuous grid pattern, where significant influence from Pass 1 and 2 dominate the search ellipsoids, with 100 metre extrapolation from the last line of drilling. In some areas between holes greater than 200 metres the polygon was included into the Inferred category to allow for more practical polygon shape fit to the model area.

Parts of the Bete Bete, Central and APL mine areas were given the Resource class **MINED OUT** as it is considered mining depletion has sterilised these areas. The figure below shows the drill hole locations and polygons applied to the model to prepare the statement of Mineral Resource in this report.



*Resource classification boundaries*

Another factor in selection of Resource polygon limits used for the Mineral Resource was a review of the geostatistical inputs and the weighting on each category. This was done by comparing the influence of each pass within the polygon boundaries.

## Model Validation

Final block model and interpolated grades were validated using several visual and statistical techniques to gain further confidence in the Mineral Resource estimates stated in this report.

Swath plots were used as a final model validation tool to provide comparisons between sample composites and estimated block model values. This process identifies any bias towards under-estimation or overestimation or any smoothing in the results.

## Mineral Resource Statement

All results are represented as remaining volumes with mining depletion excluded up to 30 June 2022 and presented as millions of dry tons. A rounding of the Resource estimate numbers has been applied to reflect the level of accuracy of the Mineral Resource estimate. Tables 3 and 4 show the results.

| Mineral Resource Category        | Million ton (Dry) | XRF (DRY ANALYSIS) |             |             |
|----------------------------------|-------------------|--------------------|-------------|-------------|
|                                  |                   | Ni (%)             | Co (%)      | Fe (%)      |
| Measured                         | 85                | 1.3                | 0.09        | 30.4        |
| Indicated                        | 130               | 1.2                | 0.08        | 28.6        |
| Inferred                         | 85                | 1.2                | 0.08        | 29.1        |
| <b>Total Cutoff &gt; 0.8% Ni</b> | <b>300</b>        | <b>1.2</b>         | <b>0.09</b> | <b>29.2</b> |

Table 3 – Hengjaya Mine Mineral Resource Table, 2022

| LIMONITE & SAPROLITE - COMBINED GLOBAL MINERAL RESOURCE ESTIMATE (OK 4 pass) |                      |                      |                    |      |       |       |        |          |         |       |                      |                           |                               |
|--|----------------------|----------------------|--------------------|------|-------|-------|--------|----------|---------|-------|----------------------|---------------------------|-------------------------------|
| GRADE CUT-OFF RANGE  | MINERAL RESOURCE     |                      | XRF (DRY ANALYSIS) |      |       |       |        |          |         |       | Moisture Content (%) | Relative Density (sg Wet) | METAL CONTENT EQUIVALENT (Ni) |
|  | MILLION TONNES (Wet) | MILLION TONNES (DRY) | Ni %               | Co % | Fe %  | MgO % | SiO2 % | SM Ratio | Al2O3 % | CaO % |                      |                           |                               |
| >0.8   | 473                  | 300                  | 1.22               | 0.09 | 30.11 | 10.39 | 22.66  | 2.18     | 6.15    | 0.41  | 36.65                | 1.79                      | 3,674,261                     |
| >0.9   | 415                  | 263                  | 1.27               | 0.09 | 29.31 | 10.97 | 23.49  | 2.14     | 5.84    | 0.43  | 36.82                | 1.78                      | 3,347,265                     |
| >1.0   | 347                  | 219                  | 1.33               | 0.09 | 28.20 | 11.77 | 24.61  | 2.09     | 5.52    | 0.44  | 36.95                | 1.77                      | 2,919,609                     |
| >1.1   | 271                  | 171                  | 1.41               | 0.09 | 26.56 | 12.92 | 26.28  | 2.03     | 5.09    | 0.46  | 36.98                | 1.75                      | 2,410,101                     |
| >1.2   | 201                  | 128                  | 1.50               | 0.08 | 24.27 | 14.48 | 28.58  | 1.97     | 4.53    | 0.49  | 36.71                | 1.74                      | 1,911,516                     |
| >1.3   | 145                  | 93                   | 1.59               | 0.07 | 21.61 | 16.28 | 31.25  | 1.92     | 3.89    | 0.52  | 36.15                | 1.73                      | 1,473,358                     |
| >1.4   | 105                  | 68                   | 1.68               | 0.06 | 19.30 | 17.86 | 33.51  | 1.88     | 3.30    | 0.53  | 35.61                | 1.72                      | 1,138,291                     |
| >1.5   | 75                   | 49                   | 1.78               | 0.06 | 17.78 | 18.94 | 34.98  | 1.85     | 2.90    | 0.51  | 35.27                | 1.72                      | 868,037                       |
| >1.6   | 54                   | 35                   | 1.87               | 0.06 | 16.91 | 19.66 | 35.77  | 1.82     | 2.62    | 0.49  | 35.20                | 1.71                      | 650,468                       |
| >1.7   | 38                   | 25                   | 1.95               | 0.06 | 16.38 | 20.30 | 36.19  | 1.78     | 2.36    | 0.45  | 35.06                | 1.71                      | 488,560                       |
| >1.8   | 27                   | 18                   | 2.04               | 0.06 | 16.21 | 20.57 | 36.36  | 1.77     | 2.17    | 0.43  | 35.23                | 1.71                      | 361,375                       |
| >1.9   | 19                   | 12                   | 2.12               | 0.06 | 16.08 | 20.84 | 36.37  | 1.75     | 2.08    | 0.40  | 35.45                | 1.71                      | 261,273                       |
| >2.0   | 12                   | 8                    | 2.22               | 0.06 | 15.73 | 21.04 | 36.70  | 1.74     | 2.02    | 0.38  | 35.74                | 1.71                      | 173,857                       |

Table 4 – Hengjaya Mine Mineral Resource at various cut-off grades

## Comparison to the 2020 Mineral Resource

The 2022 Mineral Resource upgrade was estimated over an area of 1,784 hectares while in 2020 an area of 1,144 hectares which was used to estimate the Mineral Resource. Significant additional exploration work has been undertaken the last report in 2020 including:

- More than 300 kilometres of Ultra GPR (Ground Penetrating Radar) survey over 1,400 hectares.
- Infill drilling in Bete Bete and Central domains to 25 - 100 metre spacing, with more than 67,592 metres of drilling over 2,763 drilling locations.

Close spaced drilling since June 2020 and the supportive data provided by Ultra-GPR surveys has greatly enhanced the confidence in the geological interpretation and resulting geological model at the Hengjaya Mine. The comparison of previous Mineral Resource estimate dated 30 June 2020, shows a 116 million dry ton (+63%) increase of result for the total volume of nickel laterite at cut-off nickel grade of 0.8%. However, there is now significantly more Measured (+333%), Indicated (+20%) and Inferred (+53%) Resources. This is as a result of the ongoing exploration and infill drilling in the Bete Bete and Central areas since June 2020.

Other major differences between the two estimates are:

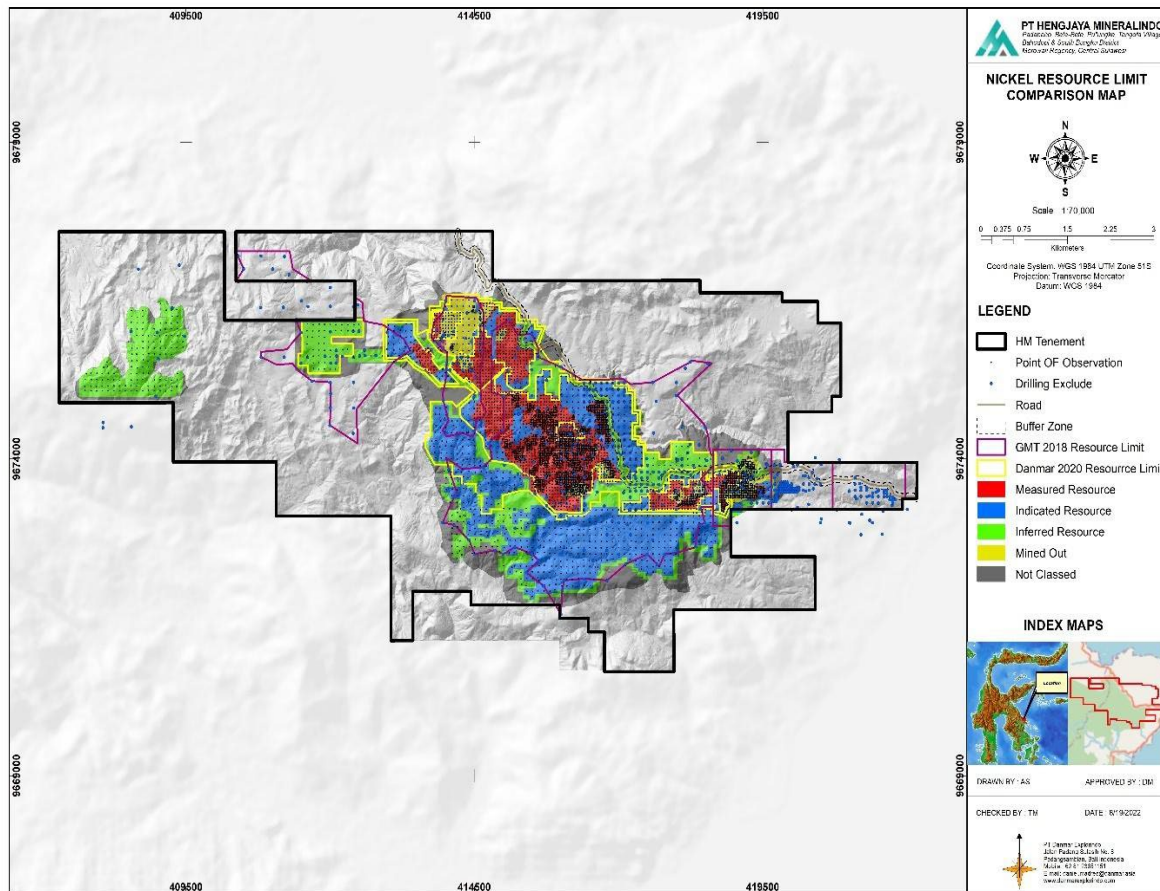
- Mining depletion from Bete Bete and central pits of approximately 4.7 million wmt.
- An estimated 57% increase in areal extent of the previous Resource class polygon area of influence.
- The exclusion of most of the APL Resource due to downgrading over poor historical data records and rehabilitation of the area after mining.

In the 2020, PT Danmar Explorindo reported Mineral Resources at the Hengjaya Mine using a 0.8% nickel cut-off grade as follows:

| Mineral Resource Category        | Million ton (Dry) | XRF (DRY ANALYSIS) |             |             |
|----------------------------------|-------------------|--------------------|-------------|-------------|
|                                  |                   | Ni (%)             | Co (%)      | Fe (%)      |
| Measured                         | 20                | 1.3                | 0.08        | 27.9        |
| Indicated                        | 109               | 1.3                | 0.08        | 29.2        |
| Inferred                         | 56                | 1.3                | 0.07        | 27.1        |
| <b>Total Cutoff &gt; 0.8% Ni</b> | <b>185</b>        | <b>1.3</b>         | <b>0.08</b> | <b>28.4</b> |

*Table 5 – Previous Hengjaya Mine Mineral Resource, June 2020*

The map below shows the 2020 PT Danmar Explorindo Resource estimation boundaries of 1,144 hectares in purple versus the current Resource estimation (2022) area of 1,784 hectares in shaded red (Measured), blue (Indicated) and green (Inferred).



*Comparison between 2020 and 2022 Mineral Resource estimate boundaries*



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*Stockpiles at Hengjaya Mine jetty*



*Aerial view of Central pit mine area*

## **Competent Persons Statement**

The information in this report that relates to Mineral Resources, the Exploration Target and Exploration Results is based on data compiled by Daniel Madre of PT Danmar Explorindo. Mr Madre is a member of the Australian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activities which are being undertaken to qualify as a Competent Person as defined in the 2012 edition of the “Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Madre is an independent consulting geologist and consents to the inclusion of the matters based on his information in the form and context in which it appears. Mr Madre has more than 20 years experience in exploration and mining of nickel laterites in Indonesia.

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## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

| Criteria              | JORC Code explanation   | Commentary   |
|-----------------------|---|--|
| Sampling techniques   | <ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul> | <ul style="list-style-type: none"> <li>HQ core samples taken in 1m intervals and all new core since April, 2019 photographed</li> <li>Drill on systematic 100 X 100m grid over GPR targets for Indicated Resource and 50X50m and 25X25m grid for Measured Resource</li> <li>Since April 2019, all core photographed and described by well site geologists as well as sample preparation and moisture determination follow the Japanese Industrial Standard, Method for Sampling and the Determination of Moisture Content of Garnieritic Nickel Ore, 1996</li> <li>High confidence in the laboratory analyses results are supported by rigorous quality assurance and quality control protocols including; sample blanks, sample standards, duplicate samples and interlaboratory checking. A complete report on this is provided in the Appendix 9.5 Mining reconciliations of predicted tonnage and grades to actual ore recovered provides further evidence for the reliability of the assay results used in this study.</li> </ul> |
| Drilling techniques   | <ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>   | <ul style="list-style-type: none"> <li>HQ wireline triple tube coring in 1m runs to ensure accurate measurement of core expansion (swelling) and recovery</li> <li>Vertical drilling, core orientation not required</li> </ul>   |
| Drill sample recovery | <ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential</li> </ul>   | <ul style="list-style-type: none"> <li>Full coring used and core recovery data collected for all runs since 2019 (4009 holes), core recoveries documented by photography</li> <li>Minimum 95% recovery maintained for all holes</li> <li>If 3 consecutive runs are less than 95% the hole is re-drilled</li> <li>Some lower recoveries in silica boxwork zones but overall drilling conditions are relatively good and recoveries remain consistently high</li> </ul>  |

| Criteria  | JORC Code explanation  | Commentary   |
|---|--|--|
|   | <i>loss/gain of fine/coarse material.</i>  | <ul style="list-style-type: none"> <li>Historic data has less core recovery information; depths and assay results can be checked against GPR and assay using statistical methods</li> <li>Most historic assays were done at external certified laboratories</li> </ul>   |
| <i>Logging</i>  | <ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>  | <ul style="list-style-type: none"> <li>100% of laterite layers drilled have been logged and photographed in drilling since 2019</li> <li>Logging includes core recoveries and core swelling measurements</li> <li>Since April 2019, all holes have 1 density sample (700-800g of solid core) taken from each stratigraphic layer to give representative density data throughout the deposit</li> <li>Every meter of the core is logged and sampled separately</li> </ul>   |
| <i>Sub-sampling techniques and sample preparation</i> | <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>With the exception of a small density sample weighing 700-800g taken from each of the 4 main geological horizons observed in each drill hole, full drill core was submitted to the lab for analysis</li> <li>Industry standard laboratory sample preparation methods suitable for nickel laterite mineralization style and involve drying, crushing, incremental splitting &amp; pulverizing to -75um pulps for assay.</li> <li>Representivity at sub-sampling stages at sample prep lab maintained by following JIS M-8109-1996 SOP to maintain accuracy and precision at all sub-sampling stages eg coarse blanks, coarse replicates and 200# pulp sieve tests, whilst reducing sample particle size and volume.</li> <li>Sample sizes are according to JIS M-8109-1996 Industry Standard and have shown to be effective re accuracy and precision during life of project to date.</li> </ul> |
| <i>Quality of assay data and laboratory tests</i>     | <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>Industry standard laboratory sample preparation methods suitable for nickel laterite mineralization style and involve drying, crushing, incremental splitting &amp; pulverizing to -75um pulps for assay.</li> <li>Representivity at sub-sampling stages at sample prep lab maintained by following JIS M-8109-1996 SOP to maintain accuracy and precision at all sub-sampling stages eg coarse blanks, coarse replicates and 200# pulp sieve tests, whilst reducing sample particle size and volume.</li> </ul>  |

| Criteria                              | JORC Code explanation  | Commentary   |
|---------------------------------------|--|--|
|                                       |  | <ul style="list-style-type: none"> <li>Sample sizes are according to JIS M-8109-1996 Industry Standard and have shown to be effective re accuracy and precision during life of project to date.</li> </ul>   |
| Verification of sampling and assaying | <ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>                    | <ul style="list-style-type: none"> <li>Geological logs of the drill core are reconciled against assay results to verify lithology for any misallocation.</li> <li>Database checked and rechecked for errors and anomalies</li> <li>Based on analysis of the downhole statistical data additional top and bottom cut constraints were applied to Ni% content to impose a domain limit of no greater than 2 standard deviations from the ORE-SAP average, to avoid over-estimation of nickel content due to possible nugget effect.</li> </ul>   |
| Location of data points               | <ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>  | <ul style="list-style-type: none"> <li>All recent drilling located by ground RTK GPS survey methods</li> <li>From a total of holes 120 holes had GPS coordinates only. These holes were used because they had a complete drill log, analysis data, GPR data supporting laterite thickness and were surrounded by numerous holes with ground survey. It is considered appropriate to use these holes as their depth match the surrounding holes and the assay results. It is considered to have low potential to introduce a bias to the nickel grades</li> <li>UTM (Universal Traverse Mercator) Projection; WGS 1984 UTM Zone 515 grid is being applied in the Resource estimation</li> <li>LiDAR topographic surface was used</li> <li>Average mis-close between the LiDAR and drill collar survey is - 0.01m</li> </ul> |
| Data spacing and distribution         | <ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul> | <ul style="list-style-type: none"> <li>Random spacing of old data used for Exploration Targets only</li> <li>100-200m grid drilling used for Inferred Resource, 50-100m grid for Indicated Resources and 25-50m for Measured Resources to match previous Resource estimate from 2020</li> <li>Geostatistical analysis of Ni mineralization was used to confirm the direction and distances to be applied to the Nickel Resource model</li> <li>Reconciliation of predicted grades and volumes have been recovered in actual mining confirming data reliability</li> <li>Semi-variogram models for each domain were calculated using statistical top-cuts applied to composites and constrained by hard boundary surfaces of Limonite and Saprolite lithologies to prevent over-estimation of nickel grades</li> </ul>      |

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
| <i>Orientation of data in relation to geological structure</i> | <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> | <ul style="list-style-type: none"> <li>• Vertical drilling is appropriate for nickel laterite as the laterite is relatively horizontal so the drilling intersects a true thickness</li> <li>• No bias is considered to be introduced as a result of the drilling orientation</li> </ul> |
| <i>Sample security</i>   | <ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Samples left in the field are properly stored, covered and guarded by night security at each rig</li> <li>• Sample stores are locked and continuously guarded</li> </ul>   |
| <i>Audits or reviews</i>                                       | <ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Sampling review was carried out by the Competent Person and regular (monthly) progress reports were provided by the onsite lab documenting improvements and forward planning</li> </ul>  |

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| Criteria                                       | JORC Code explanation  | Commentary   |
|--|--|--|
| <i>Mineral tenement and land tenure status</i> | <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Mining rights are held under an Operation and Production Mining Business Permit (IUPOP), Area Code 540.3/SK.001/DESDM/VI/2011. The area covers 5,893Ha and gives HM the right to mine nickel and its associated minerals. The IUPOP was granted by the Regent of Morowali in 2011 and is valid until 26th May 2031. The Operation Production IUP may be renewed twice, each for a period of 10 years.</li> <li>• Two Forestry permits (IPPKH) to allow open cut mining within a 1845Ha area have been granted by the Minister of Forestry, the mining permits doesn't overlap with any protected forests or nature reserves</li> <li>• A third Forestry Permit for exploration covering 984Ha is valid until 9 Sept 2023</li> </ul> |
| <i>Exploration done by other parties</i>       | <ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• The exploration work has been carried out over various stages since 2007 until 2017, under the direction of experienced nickel laterite geologists. All the historic data, (pre April 2019) relating to the project was obtained from HM for the purpose of this study.</li> <li>• Exploration of the area began in 2007 when the state owned</li> </ul>  |

| Criteria                 | JORC Code explanation  | Commentary   |
|--------------------------|--|--|
|                          |  | <p>minerals company, PT Aneka Tambang, explored the nickel potential of a broad area which included the location of where the HM project is located today. The work included mapping and wide spaced drilling. The data is poorly documented with many holes having ambiguous hole identification, coordinate location and or no analysis information.</p> <ul style="list-style-type: none"> <li>• HM started drilling in 2010. At least 3 separate phases of drilling were implemented. Initially wide spaced drilling on a 400m X 400m grid was conducted followed by 200 X 200m spacing and eventually 25 X 25m grids in subsequent mining areas.</li> </ul>   |
| Geology                  | <ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Laterization of Ophiolite bedrocks, formed in a tropical climate environment through a process of surface leaching over time, two distinct enriched zones of Limonite clays and Saprolite clays &amp; weathered rocks are typically found in this type of geological setting where concentrations of Ni, Co, Fe and other associated metals are common</li> </ul>   |
| Drill hole Information   | <ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>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.</i></li> </ul> | <ul style="list-style-type: none"> <li>• The drill database at HM contains 5,412 holes with a cumulative total depth of 125,996m. Assays total 127,503</li> <li>• It is not practical or relevant to include these individual results to understand this report because;</li> <li>• Ni laterite deposits are at relatively low concentrations (1.2% Ni average) and the Resource can only be represented by a compilation of large numbers of points of observations. For this reason, the report has described the deposit using maps of borehole locations, Ni grade isopacs and thickness isopacs, statistical analyses of assay results, variograms and swath plots of the data to understand the data and check its validity and variability</li> </ul> |
| Data aggregation methods | <ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Only assay data from the validated database from included holes (INCL) were extracted for use in the compositing process. Composite lengths of 1m were used, which correlates with the majority of the sample length records and within statistical ranges suggested by the variography modeling. Composites were split into 5 lithologies</li> <li>• Based on analysis of the downhole statistical data additional top and bottom cut constraints were applied to Ni% content to ensure grades were not over estimated</li> </ul>  |

| Criteria  | JORC Code explanation  | Commentary   |
|---|--|--|
|   | <i>should be clearly stated.</i>   | <ul style="list-style-type: none"> <li>metal equivalents for Nickel content were shown in the Resource table with ore grades as wet and dry tons</li> </ul>  |
| <i>Relationship between mineralisation widths and intercept lengths</i> | <ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul> | <ul style="list-style-type: none"> <li>Vertical drilling provides good representation of the deposit geometry and depth and reasonably assumed to represent true thickness, 1m core and assay sampling procedures were sufficient to provide accurate wellsite observations and reconciliation of logs</li> <li>Mineralization is basically horizontally orientated</li> <li>Total depths of drilling were guided by the interpretation of the GPR surfaces to target at least 2-3m of bedrock was intersected at the end of each hole</li> </ul>  |
| <i>Diagrams</i>   | <ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>   | <ul style="list-style-type: none"> <li>Diagrams, maps, sections are all included in the body of the report</li> </ul>  |
| <i>Balanced reporting</i>   | <ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>   | <ul style="list-style-type: none"> <li>All reliable(validated) data included without prejudice</li> <li>Thickness established through drilling intercepts supported with Ground Penetrating Radar (UltraGPR) geophysics, reliable assays and exposed lithological layers observed in the open cut mining operation</li> </ul>  |
| <i>Other substantive exploration data</i>                               | <ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>                       | <ul style="list-style-type: none"> <li>Approx. 900km of ground penetrating radar (UltraGPR) survey lines were completed since Jan 2019, providing excellent section profiles views of limonite, saprolite and bedrock layers, global volumes and thickness grids were used for exploration planning and understanding of the weathering patterns of the nickel laterites to best optimize the drilling patterns by domains</li> <li>Reconciliation of mining production in several ongoing mine areas, providing additional information of ore characteristic's, materials handling, densities, recoveries and dilution of grades</li> </ul> |
| <i>Further work</i>   | <ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>  | <ul style="list-style-type: none"> <li>Plans for infill drilling in Indicated and Inferred Resource areas</li> <li>Exploration Target and extension areas will first be surveyed using Ultra GPR and then drilled to focus on the thickest laterite areas.</li> <li>Exploration Target areas map is provided</li> </ul>  |

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria                         | JORC Code explanation  | Commentary   |
|----------------------------------|--|--|
| <i>Database integrity</i>        | <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>The collar survey, assay and geology tables of both these datasets were validated to correct data error issues such as: <ul style="list-style-type: none"> <li>missing or duplicate collar records</li> <li>overlapping intervals in the assay records</li> <li>collar elevation errors compared to current LiDAR topography</li> <li>downhole accuracy issues, total depths, from/to intervals</li> <li>core recoveries and swelling</li> <li>lithology description from wellsite geologists</li> <li>reconciliation of lithology with laboratory assay results</li> <li>moisture records from core lab analysis</li> <li>downhole statistical analysis</li> </ul> </li> <li>If these errors could not be fixed to a suitable level of confidence or failed to meet the accuracy standards during the validation process they were removed from the dataset. Approximately 98% of the excluded data was from the historical records supplied by Hengjaya.</li> </ul> |
| <i>Site visits</i>               | <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>Numerous site visits by all the CP's have been completed since the end of 2018 to review exploration progress; drilling, and sampling procedures, review sample handling, preparation and analyses, including monitoring Mine planning and reconciliations of ore production against predicted Resource modelling</li> <li>All the CP's for this work have an intimate knowledge of the HM site</li> </ul>  |
| <i>Geological interpretation</i> | <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>Due to a very large systematic drill program on the same grid as more than 800km of UltraGPR survey, allows for a relatively high confidence in geological interpretation of the Hengjaya nickel laterite deposit. Historical records for surface mapping, drilling, assay &amp; mine production combined with the more recent UltraGPR survey traverse on 50-100m spaced infill grids over more than 90% of the Resource area provides good correlation and understanding if the laterization distribution, bulk volumes and mineralization. Considered sufficient in statement of the Mineral Resource</li> <li>All data included into the geological interpretation was validated to be free of errors and downhole wellsite logging reconciled with assay results into composited zones of Limonite, Saprolite &amp; Bedrock lithology zones</li> <li>Use of Ground Penetrating Radar (UltraGPR) interpretative data</li> </ul>                                   |



| Criteria                            | JORC Code explanation  | Commentary   |
|-------------------------------------|--|--|
|                                     |  | <p>source was used in combination with points of observations from the validated database in extrapolating between holes</p> <ul style="list-style-type: none"> <li>Laterite grades are not laterally or vertically persistent and tend to be relatively random distributed through the leaching of minerals during the laterization process. The inclusion of the GPR interpretive data provides increased confidence of the geological model controls between points of observation for transition contacts between Limonite-Saprolite-Bedrock</li> <li>Geological structure and bedrock topology, which are often displayed on Ultra-GPR interpretations, helped to target thick, high grade laterite areas</li> </ul>  |
| Dimensions                          | <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>Resource dimensions; approximately 8000m in length, 4000m in width, laterization thickness for up to 40m to bedrock in some places</li> <li>Limonite thickness varies from 4-9m and saprolite thickness is consistently 8-10m</li> <li>laterization of ophiolite formations occurs between an elevation range of 300 – 600 meters above mean sea level</li> </ul>   |
| Estimation and modelling techniques | <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> </ul> | <ul style="list-style-type: none"> <li>Modelling techniques &amp; assumptions applied were considered appropriate for estimation of Mineral Resource for this style of Nickel laterite deposit based on the CP's experience. Key assumption's include; <ul style="list-style-type: none"> <li>Domaining by elevation, laterite thickness and Ni grade, mineralogical, characteristics, distinct statistical population &amp; geological environment, no unfolding was preformed</li> <li>Downhole and spatial geo-statistical analysis of the data &amp; domain sub-sets of data providing search ellipsoids ranges for grade interpolation and maximum extrapolation distances for Ni between data points</li> </ul> </li> <li>Geological modelling and Mineral Resource estimates were completed using GEOVIA Surpac® mining software (version 6.1). Ordinary Kriging (OK) algorithm was used in the grade interpolation for nickel grades for limonite and saprolite laterite zones. In the absence of detailed geostatistical analysis for other elements Inverse Distance Weighted Squared (IDW<sup>2</sup>) methods were used to estimate the model grade interpolation for other elements Co, Fe, MgO, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO and moisture content.</li> <li>A comparison against previous Mineral Resource estimates from 30 June 2020 were conducted to validate the materiality of the volumes</li> </ul> |

| Criteria | JORC Code explanation  | Commentary   |
|----------|--|--|
|          | <ul style="list-style-type: none"> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul> | <p>stated in this report, further life of mine production reconciliation of historical mine areas of Bete Bete &amp; APL pits were completed, showing reasonable correlation of the model prediction's to actual ore recovery</p> <ul style="list-style-type: none"> <li>• Since Jan 2020, limonite (by product of mining high grade saprolite ores) was stockpiled in expectation for supply to HPAL processing facilities at IMIP. Limonite shipments have started since Nov 2021</li> <li>• Deleterious elements or acid drainage of the mineral resource was not considered in the model at time of Mineral Resource estimation as pits are shallow, backfilled and rehabilitated progressively</li> <li>• Block size selected 20m x 20m x 2m (sub-block 10m x10 x 1m) were considered appropriate for the style of mineralization reported. The assumption of the block sizes was designed to match the division of drilling spacing grids, composite sample lengths, geostatistical studies and practical mining bench dimensions for ongoing mine planning at the Hengjaya site</li> <li>• Wireframing was set up on each drill line in both east-west and north-south directions to create a 10X10m grid over the entire database to develop a morphology wireframe. From these wireframes, gridded surfaces were produced to represent the roof and floor limits of limonite, saprolite and bedrock zones. 10m grids were set up and interpolation of the gridded points was conducted using Inverse Distance Weighted (IDW<sup>2</sup>) methods.</li> <li>• Based on analysis of the downhole statistical data additional constraints were applied to Ni% content to impose top cuts to avoid over-estimation of nickel content due to possible nugget effect. For this reason, all core sample measurements were subjected to a top cut for(Ni) estimated for each domain using downhole statistics</li> <li>• Final block model and interpolated grades were validated using several visual and geostatistical techniques to gain further confidence in the Mineral Resource estimates stated in this report. visual inspection of the block models in plan and sectional views to assess the grade interpolations performed conform with the lithological wireframes, surface models and drilling database. Further statistical validation, including swath plots of the Nickel Resource estimate was completed by comparing global averages of the sample composites against the block model global averages.</li> </ul> |
| Moisture | <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>• Since April, 2019 a total 94,074 Moisture measurements were performed every 1m drill core sample using the Japanese Industrial</li> </ul>   |

| Criteria                                    | JORC Code explanation  | Commentary  |
|---|--|---|
|   |  | <p>Standard (JIS M8109-1996IS).</p> <ul style="list-style-type: none"> <li>In areas where Moisture content measurements were not available from core lab analysis the domain default weighted average was applied to the corresponding composite zone</li> <li>Moisture content were used to adjust Wet to Dry tonnage for mineral Resource estimates</li> </ul>  |
| <p>Cut-off parameters</p>                   | <ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>   | <ul style="list-style-type: none"> <li>Based on statistical analysis of the domain databases &amp; ongoing ore mining operations a 0.80% cutoff for nickel was applied to both Limonite and Saprolite to best represent the global Mineral Resource estimate for representation of eventual economic extraction. A range of Ni cut-off up to 2.0% split by laterite type to better understand the other elements (Co, Fe, MgO, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, Density &amp; Moisture) in relation to Nickel (Ni) was also supplied</li> </ul>   |
| <p>Mining factors or assumptions</p>        | <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 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.</li> </ul> | <ul style="list-style-type: none"> <li>no mining or modifying factors were applied to the Mineral Resource statement that would result in a conversion to Ore Reserve.</li> <li>assumptions for open cut mining operation similar to current production and supply agreements with nearby IMIP smelter provide sufficient evidence for determination of reasonable prospects of eventual economic extraction of the Hengjaya Mineral Resource</li> <li>proximity to the smelter and the prospect of direct haul road access in addition to barging indicates excellent prospect for eventual economic extraction</li> </ul> |
| <p>Metallurgical factors or assumptions</p> | <ul style="list-style-type: none"> <li>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.</li> </ul>                             | <ul style="list-style-type: none"> <li>Metallurgical factors and assumption based on ongoing supply requirement to the RNI &amp; HNI smelters (majority owned by NIC) at the IMIP facility were considered when selecting the cutoff ranges for the Mineral Resource and by product splits between Limonite &amp; Saprolite</li> </ul>  |
| <p>Environmental factors or assumptions</p> | <ul style="list-style-type: none"> <li>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</li> </ul>   | <ul style="list-style-type: none"> <li>Environmental Impact studies were completed as part of the mining operation permitting process,</li> <li>Limits of the 2 IPPKH forestry land borrow permits were reviewed when selecting the data, most holes outside these permits were excluded from the model estimation</li> <li>Top soil composites were extracted separately and considered overburden waste for future mine planning &amp; rehabilitation of ex-</li> </ul>   |

| Criteria                     | JORC Code explanation   | Commentary  |
|------------------------------|---|---|
|                              | <p><i>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></p>   | <p>opencast pit areas, usually represented as the first 1-4meters from surface below grade cutoff ranges and not included in the Mineral Resource</p>   |
| <p><i>Bulk density</i></p>   | <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 frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <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> | <ul style="list-style-type: none"> <li>• Since April 2019 a total of 13,004 density measurements on drill core samples have been performed. Bulk density was measured on solid core from each stratigraphic layer in every bore hole. Density was measured by measuring the volume by displacement of water and the weight of the fresh sample</li> <li>• Insitu density used in the Resource estimate was the weighted average laboratory core density for each particular lithology for that particular domain.</li> </ul>  |
| <p><i>Classification</i></p> | <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>• Determination of the Resource classes, were applied to the Mineral Resource with a digitized polygon boundary based on the spatial continuity of each geological domain around regular spaced drilling grids of 25, 50, 100, 200m from included points of observation in the final validated database. Also taken into account was the GPR grid lines between the drilling locations increasing confidence in interpretation of the laterization contact surface between the points of observation in the model. Resources were classified as follows; <ul style="list-style-type: none"> <li>• MEASURED - Areas of 25-50m of drilling spacing on a continuous grid pattern, where significant influence from Pass 1 dominate the search ellipsoids, with no extrapolation from the last line of drilling.</li> <li>• INDICATED - Areas of 50-100m of drilling spacing on a continuous grid pattern, where significant influence from Pass 1 and 2 dominate the search ellipsoids, with 50m extrapolation from the last line of drilling.</li> <li>• INFERRED - Areas of 100-200m of drilling spacing on a continuous grid pattern, where significant influence from Pass 1, 2 and 3 dominate the search ellipsoids, with 100m extrapolation from the last line of drilling. In some areas between holes greater than 200m the polygon was included</li> </ul> </li> </ul> |

| Criteria                                    | JORC Code explanation   | Commentary  |
|---|---|---|
|   |   | <p>into the Inferred category to allow for more practical polygon shape fit to the model area.</p> <ul style="list-style-type: none"> <li>• Bete Bete and APL mine areas were given the Resource class MINED OUT as it is considered mining depletion has sterilized these areas.</li> <li>• Another factor in selection of resource polygon limits used for the Mineral Resource was a review of the geostatistical inputs and the weighting on each category. This was done by comparing the influence of each pass within the polygon boundaries. The results show that 90% of the blocks in Measured class are interpolated by Pass 1 &amp; 2 and the Indicated class is approximately 90% interpolated by Passes 1, 2 and 3. These results give sufficient confidence in the polygon strategy respectively. The lowest class of Inferred still has majority portions of the first 3 passes with 30% of pass 4 which is considered acceptable in this selection</li> <li>• Bete Bete Far West and Bete West matched drill spacing criteria for Indicated Resource but were downgraded to Inferred status because of insufficient drilling over the entire area to give confidence to the Resource continuity for both thickness and grade.</li> </ul> |
| Audits or reviews                           | <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>• No external audits or reviews were done before release of the Mineral Resource statement for Nickel, dated 30<sup>th</sup> Aug 2022</li> <li>• Charles Watson and Tobias Maya provided several peer review during the report drafting process in collaboration with principle author Daniel Madre</li> </ul>   |
| Discussion of relative accuracy/ confidence | <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> </ul> | <ul style="list-style-type: none"> <li>• Sufficient exploration has been carried out at the Hengjaya project to delineate a significant deposit of laterite nickel. The drilling used for the Mineral Resource estimate is based on systematic drill grids ranging from 25 to 50 to 100m apart. The resource classifications are based on this spacing of points of observation. According to the geostatistical analysis, provides sufficient detail for the purpose of this report.</li> <li>• It is likely with further infill and exploration drilling in all domains the Mineral Resources estimated in this report will increase</li> <li>• Confidence of these estimates are greatly improved with the reconciliation of the historical mining of the same laterite nickel deposit since 2013. These comparisons show good correlation of</li> </ul>   |

| Criteria | JORC Code explanation   | Commentary   |
|----------|---|--|
|          | <ul style="list-style-type: none"> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul> | actual produced ores of high grade saprolite and predicted Resources. Long term supply contracts to refining facilities already in operation nearby significantly increase the potential for eventual economic extraction of the Hengjaya nickel laterite Mineral Resource |

## Section 4 Estimation and Reporting of Ore Reserves (Not Required)

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

| Criteria  | JORC Code explanation   | Commentary   |
|---|---|--|
| <i>Mineral Resource estimate for conversion to Ore Reserves</i> | <ul style="list-style-type: none"> <li>• <i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i></li> <li>• <i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Insert your commentary here...</li> </ul> |
| <i>Site visits</i>  | <ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li>• <i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>   | <ul style="list-style-type: none"> <li>•</li> </ul>                                |
| <i>Study status</i>   | <ul style="list-style-type: none"> <li>• <i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i></li> <li>• <i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul>                                |
| <i>Cut-off parameters</i>                                       | <ul style="list-style-type: none"> <li>• <i>The basis of the cut-off grade(s) or quality parameters applied.</i></li> </ul>   | <ul style="list-style-type: none"> <li>•</li> </ul>                                |
| <i>Mining factors or assumptions</i>                            | <ul style="list-style-type: none"> <li>• <i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></li> <li>• <i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li>• <i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></li> <li>• <i>The major assumptions made and Mineral Resource model used for</i></li> </ul> | <ul style="list-style-type: none"> <li>•</li> </ul>                                |

| Criteria                                    | JORC Code explanation   | Commentary  |
|---|---|---|
|   | <p><i>pit and stope optimisation (if appropriate).</i></p> <ul style="list-style-type: none"> <li>• <i>The mining dilution factors used.</i></li> <li>• <i>The mining recovery factors used.</i></li> <li>• <i>Any minimum mining widths used.</i></li> <li>• <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li>• <i>The infrastructure requirements of the selected mining methods.</i></li> </ul>  |   |
| <i>Metallurgical factors or assumptions</i> | <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 test work undertaken, the nature of the metallurgical domaining applied and the corresponding 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 test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul> | <ul style="list-style-type: none"> <li>•</li> </ul> |
| <i>Environmental</i>                        | <ul style="list-style-type: none"> <li>• <i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>   | <ul style="list-style-type: none"> <li>•</li> </ul> |
| <i>Infrastructure</i>                       | <ul style="list-style-type: none"> <li>• <i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul> |
| <i>Costs</i>                                | <ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li>• <i>The methodology used to estimate operating costs.</i></li> <li>• <i>Allowances made for the content of deleterious elements.</i></li> <li>• <i>The source of exchange rates used in the study.</i></li> <li>• <i>Derivation of transportation charges.</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul> |

| Criteria          | JORC Code explanation   | Commentary |
|-------------------|---|------------|
|                   | <ul style="list-style-type: none"> <li>The allowances made for royalties payable, both Government and private.</li> </ul>   |            |
| Revenue factors   | <ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>   | •          |
| Market assessment | <ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>   | •          |
| Economic          | <ul style="list-style-type: none"> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>   | •          |
| Social            | <ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>  | •          |
| Other             | <ul style="list-style-type: none"> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul> | •          |
| Classification    | <ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's</li> </ul>  | •          |



| Criteria                                   | JORC Code explanation  | Commentary  |
|--|--|---|
|  | <p><i>view of the deposit.</i></p> <ul style="list-style-type: none"> <li>• <i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>   |   |
| Audits or reviews                          | <ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul> |
| Discussion of relative accuracy/confidence | <ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level 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, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. 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>•</li> </ul> |