

14 February 2019

# Substantial increase in Mineral Resource tonnage set to boost financial outcomes for Sconi Project

## HIGHLIGHTS:

- **Greenvale Mineral Resource tonnes increased by 63.2%**
- **Lucknow Mineral Resource tonnes increased by 94.6%**
- **Grade maintained across both deposits, with additional Resource tonnages boosting contained metal quantities for the project**
- **Expanded Mineral Resource to support longer Life of Mine**
- **Revised Mineral Resource expected to boost optimised BFS potential and increase financial outcomes for Sconi project**

Advanced battery materials developer, Australian Mines Limited (“**Australian Mines**” or “the **Company**”) (Australia ASX: AUZ; USA OTCQB: AMSLF; Frankfurt Stock Exchange: MJH) is pleased to announce an updated Mineral Resource estimate for the Company’s 100%-owned Sconi Cobalt-Nickel-Scandium Project in North Queensland, with the new Mineral Resource estimation anticipated to result in substantial flow-through benefits to the Project’s overall development economics.

The results from the recent expansion drilling program have delineated consistent high grade nickel and cobalt zones across the Project area, with some assays from the program exceeding the tenor of results<sup>1</sup> previously returned across the historic project, which have been the subject of evaluation for about half a century.

The Greenvale nickel deposit's in-situ material now stands at **24.40** million tonnes, up **63.2%** from 14.95 million tonnes in the previous estimate; and the adjacent Lucknow deposit's material now stands at **14.62** million tonnes, up **94.6%** from 7.51 million tonnes previously.

This re-estimation of the Sconi Mineral Resource was prepared by leading resource consultant group CSA Global, which completed a detailed review of previous and recent exploration data to estimate the new Mineral Resource, including Resource modelling information derived from the Company's base-case Bankable Feasibility Study (BFS)<sup>2</sup>.

The upgraded Mineral Resource Estimate results are set out in the tables below.

Classification	Tonnes (million tonnes)	Nickel equivalent (%)	Nickel (%)	Cobalt (%)
Measured	5.05	1.06	0.83	0.07
Indicated	17.24	0.90	0.73	0.05
Inferred	10.34	0.63	0.54	0.04
<b>TOTAL</b>	<b>32.63</b>	<b>0.84</b>	<b>0.69</b>	<b>0.05</b>

**Table 1:** Greenvale Mineral Resource (includes in-situ and stockpile material). Lower cut-off grade: Nickel equivalent 0.40% (See Appendix 3 of this report for "nickel equivalent" calculations).

Classification	Tonnes (million tonnes)	Nickel equivalent (%)	Nickel (%)	Cobalt (%)
Measured	5.05	1.06	0.83	0.07
Indicated	16.67	0.9	0.73	0.05
Inferred	2.70	0.87	0.74	0.04
<b>TOTAL</b>	<b>24.40</b>	<b>0.93</b>	<b>0.75</b>	<b>0.05</b>

**Table 2:** Greenvale Mineral Resource (in situ material only). Lower cut-off grade: Nickel equivalent 0.40% (See Appendix 3 of this report for "nickel equivalent" calculations).

<sup>1</sup> Australian Mines Limited, Growth potential of Sconi Cobalt-Nickel Project continues, released 21 January 2019

<sup>2</sup> Australian Mines Limited, BFS supports strong commercial case for developing Sconi, released 20 November 2018

Classification	Tonnes (million tonnes)	Nickel equivalent (%)	Nickel (%)	Cobalt (%)
Measured	-	-	-	-
Indicated	0.57	0.86	0.75	0.05
Inferred	7.64	0.55	0.47	0.04
<b>TOTAL</b>	<b>8.21</b>	<b>0.57</b>	<b>0.49</b>	<b>0.04</b>

**Table 3:** Greenvale Mineral Resource stockpile material. Lower cut-off grade: Nickel equivalent 0.40% (See Appendix 3 of this report for “nickel equivalent” calculations).

Classification	Tonnes (million tonnes)	Nickel equivalent (%)	Nickel (%)	Cobalt (%)
Measured	1.60	0.91	0.53	0.11
Indicated	12.63	0.83	0.47	0.11
Inferred	0.38	0.66	0.55	0.03
<b>TOTAL</b>	<b>14.62</b>	<b>0.83</b>	<b>0.48</b>	<b>0.11</b>

**Table 4:** Lucknow Mineral Resource. Lower cut-off grade: Nickel equivalent 0.55%. (See Appendix 3 of this report for “nickel equivalent” calculations).

Classification	Tonnes (million tonnes)	Nickel equivalent (%)	Nickel (%)	Cobalt (%)
Measured	1.62	1.17	0.73	0.15
Indicated	19.37	0.83	0.57	0.09
Inferred	7.48	0.70	0.53	0.07
<b>TOTAL</b>	<b>28.47</b>	<b>0.81</b>	<b>0.57</b>	<b>0.09</b>

**Table 5:** Kokomo Mineral Resource. Lower cut-off grade: Nickel equivalent 0.45%. (See Appendix 3 of this report for “nickel equivalent” calculations.)

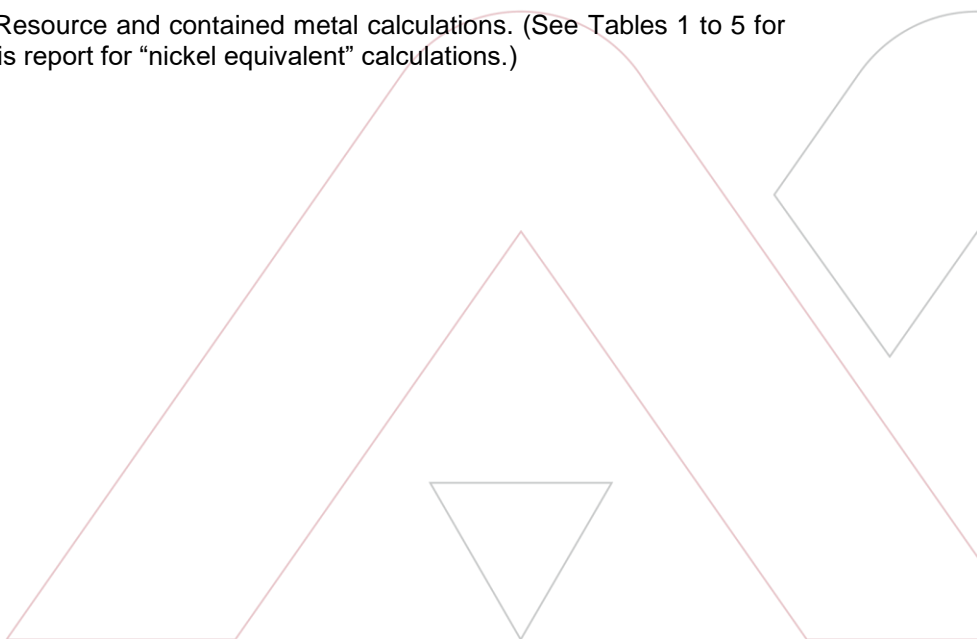
Australian Mines anticipates the revised Mineral Resource Estimate is likely to have a positive impact on the overall economics of the proposed future mining and processing operation at Sconi, which has already been shown to be commercially viable in the Company’s existing base case BFS.

The additional tonnage identified will form the basis of a revised mine plan and an optimised BFS, which will include an updated estimate of the company’s Ore Reserves and is expected to show an increase in Life of Mine along with an increase in throughput of higher-grade product from the Greenvale and Lucknow deposits.

The project's combined tonnage and contained metal are listed in Table 6 below.

Deposit	Resource category	Tonnes* (million tonnes)	NiEq (%)	Nickel (%)	Cobalt (%)	Eq metal (Tonnes)	Ni Metal (Tonnes)	Co metal (Tonnes)
Greenvale	Measured	5.05	1.06	0.83	0.07	53,530	41,915	3,535
	Indicated	17.24	0.90	0.73	0.05	154,932	125,966	8,620
	Inferred	10.34	0.63	0.54	0.04	65,510	55,888	4,136
	<b>Total</b>	<b>32.63</b>	<b>0.84</b>	<b>0.69</b>	<b>0.05</b>	<b>273,972</b>	<b>223,769</b>	<b>16,291</b>
Lucknow	Measured	1.60	0.91	0.53	0.11	14,560	8,480	1,760
	Indicated	12.63	0.83	0.47	0.11	104,829	59,361	13,893
	Inferred	0.38	0.66	0.55	0.03	2,508	2,090	114
	<b>Total</b>	<b>14.62</b>	<b>0.83</b>	<b>0.48</b>	<b>0.11</b>	<b>121,346</b>	<b>70,176</b>	<b>16,082</b>
Kokomo	Measured	1.62	1.17	0.73	0.15	18,954	11,826	2,430
	Indicated	19.37	0.83	0.57	0.09	160,771	110,409	17,433
	Inferred	7.48	0.7	0.53	0.07	52,360	39,644	5,236
	<b>Total</b>	<b>28.47</b>	<b>0.81</b>	<b>0.57</b>	<b>0.09</b>	<b>230,607</b>	<b>162,279</b>	<b>25,623</b>
Total	Measured	8.27	1.05	0.75	0.09	87,044	62,221	7,725
	Indicated	49.24	0.85	0.60	0.08	420,532	295,736	39,946
	Inferred	18.2	0.66	0.54	0.05	120,378	97,622	9,486
	<b>Total</b>	<b>75.71</b>	<b>0.83</b>	<b>0.60</b>	<b>0.08</b>	<b>627,954</b>	<b>455,579</b>	<b>57,157</b>

**Table 6:** Combined Sconi Mineral Resource and contained metal calculations. (See Tables 1 to 5 for cut-off grades and Appendix 3 of this report for “nickel equivalent” calculations.)



**Australian Mines Managing Director, Benjamin Bell, commented:** *“This Mineral Resource update for the Sconi Project is a major boost for the Company’s development plans, as we head towards our target of first construction activities at Sconi later this year, pending a final investment decision on the project.*

*“With an updated Mineral Resource, Australian Mines is positioned to become a significant cobalt, nickel and scandium supplier through the Sconi Project – a project that has already shown to be commercially viable via the November 2018 Bankable Feasibility Study. This updated Mineral Resource is likely to further enhance the economics of the Project, and in turn provide additional long-term benefits for our investors and off-take partner.*

*“The fact we have managed to almost double the Resource tonnage at the Lucknow Deposit, which will be our initial primary source of cobalt production, and added significant tonnes at the previously-mined Greenvale deposit is testimony to the world-class nature of the Sconi Project, as well as the scale and grade of the mineralisation contained within our broader tenement package.*

*“The Australian Mines team is committed to delivering the Sconi Project and looks forward to continuing a long tradition of large-scale mining in this region of Queensland, along with providing communities and the State with the flow-through benefits of employment and revenue creation.”*

**\*\*\*ENDS\*\*\***

**For further information:**

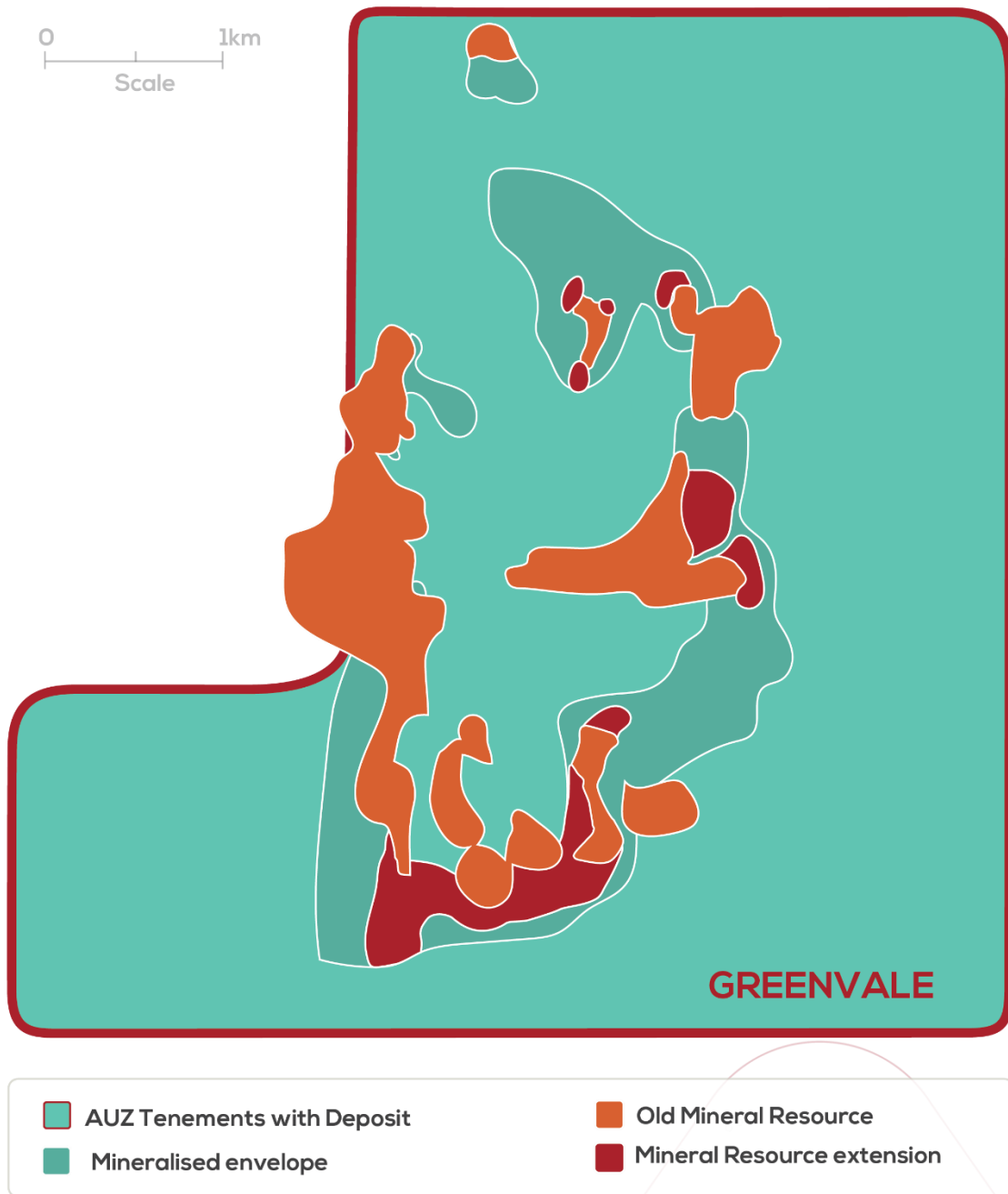
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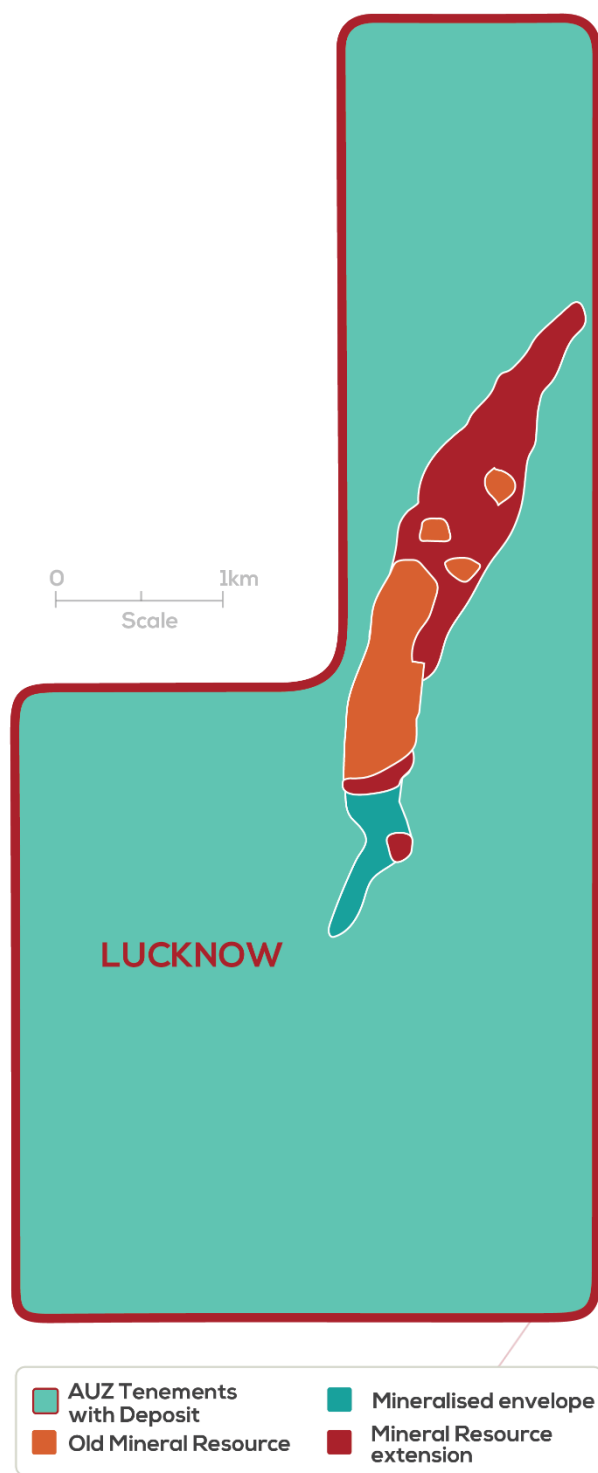
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**Figure 1:** The Sconi Project's Greenvale deposit, which was recently drill-tested by Australian Mines. Areas highlighted show extension to deposit as a result of this revised Mineral Resource estimate



**Figure 2:** The Lucknow deposit is located 8 kilometres south-east of the Sconi Project's Greenvale mine site (and preferred location of the Sconi processing plant) and consists of a 5-kilometre long zone of prospective geology. Areas highlighted show extension to deposit as a result of this revised Mineral Resource estimate

## Appendix 1

### JORC Code 2012 Edition and ASX Listing Rule Requirement

The Company governs its activities in accordance with the industry best practice. The Mineral Resource and Ore Reserve for the Sconi Project is reported according to the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code 2012 Edition), Chapter 5 of the ASX Listing Rules and ASX Guidance Note 31.

Material information summaries for each of the contributors to the updated Mineral Resources Statements reported in this announcement are provided in Sections 1 to 3 of Table 1 in the report appended to this announcement in accordance with ASX Listing Rule 5.8 and the Assessment and Reporting Criteria, JORC Code 2012 Edition requirements.

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global Pty Ltd and a Member of the Australian Institute of Geoscientists. Mr Williams has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Williams consents to the disclosure of information in this report in the form and context in which it appears.





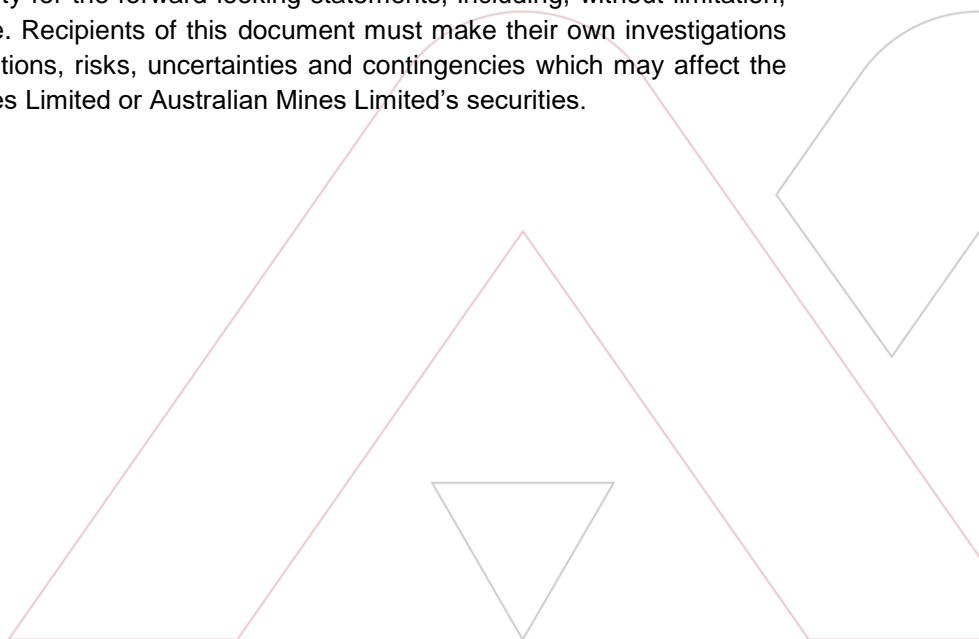
## Appendix 2

### Forward Looking Statements

This announcement contains forward looking statements. Forward looking statements can generally be identified by the use of forward looking words such as, 'expect', 'anticipate', 'likely', 'intend', 'should', 'could', 'may', 'predict', 'plan', 'propose', 'will', 'believe', 'forecast', 'estimate', 'target', 'outlook', 'guidance', 'potential' and other similar expressions within the meaning of securities laws of applicable jurisdictions.

There are forward looking statements in this announcement relating to the outcomes of the Bankable Feasibility Study for the Sconi Project announced to the market in November 2018. Actual results and developments of projects and the market development may differ materially from those expressed or implied by these forward looking statements. These, and all other forward looking statements contained in this announcement are subject to uncertainties, risks and contingencies and other factors, including risk factors associated with exploration, mining and production businesses. It is believed that the expectations represented in the forward looking statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, drilling and productions results, resource estimations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

Any forward-looking statement is included as a general guide only and speak only as of the date of this document. No reliance can be placed for any purpose whatsoever on the information contained in this document or its completeness. No representation or warranty, express or implied, is made as to the accuracy, likelihood or achievement or reasonableness of any forecasts, prospects, returns or statements in relation to future matters contained in this document. Australian Mines does not undertake to update or revised forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements. To the maximum extent permitted by law, Australian Mines Limited and its Associates disclaim all responsibility and liability for the forward looking statements, including, without limitation, any liability arising from negligence. Recipients of this document must make their own investigations and inquiries regarding all assumptions, risks, uncertainties and contingencies which may affect the future operations of Australian Mines Limited or Australian Mines Limited's securities.



## Appendix 3

### CSA Global Pty Ltd Mineral Resource estimate report for the Sconi Project





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## EXECUTIVE SUMMARY

CSA Global Pty Ltd (CSA Global) was engaged by Australian Mines Limited (Australian Mines) to update and report Mineral Resource estimates (MREs) for the Scandium-Cobalt-Nickel (SCONI) Project located in Queensland. The MREs were previously reported in 2018 as part of their Feasibility Study (FS). MREs were updated for the Greenvale and Lucknow deposits based upon new sampling results. The Kokomo MRE was not updated. The Mineral Resources are reported in accordance with the guidelines of the JORC Code (2012 Edition)<sup>1</sup>. Nickel Equivalent (NiEq) calculations and cut-off grades have been updated for reporting purposes.

The MREs are presented in Table 1, reported above NiEq cut-off grades of 0.4% (Greenvale), 0.55% (Lucknow) and 0.45% (Kokomo).

Table 1: Mineral Resource statement – SCONI Project

Deposit	JORC Classification	Tonnes* (Mt)	NiEq %	Nickel %	Cobalt %
Greenvale	Measured	5.05	1.06	0.83	0.07
	Indicated	17.24	0.90	0.73	0.05
	Inferred	10.34	0.63	0.54	0.04
	<b>Total</b>	<b>32.63</b>	<b>0.84</b>	<b>0.69</b>	<b>0.05</b>
Lucknow	Measured	1.60	0.91	0.53	0.11
	Indicated	12.63	0.83	0.47	0.11
	Inferred	0.38	0.66	0.55	0.03
	<b>Total</b>	<b>14.62</b>	<b>0.83</b>	<b>0.48</b>	<b>0.11</b>
Kokomo	Measured	1.62	1.17	0.73	0.15
	Indicated	19.37	0.83	0.57	0.09
	Inferred	7.48	0.70	0.53	0.07
	<b>Total</b>	<b>28.47</b>	<b>0.81</b>	<b>0.57</b>	<b>0.09</b>

\* Tonnages rounded to the nearest 10 Kt. Differences may occur in totals due to rounding.

NiEq grades are calculated according to the following formula:

$$\text{NiEq} = \frac{[(\text{nickel grade} \times \text{nickel price} \times \text{nickel recovery}) + (\text{cobalt grade} \times \text{cobalt price} \times \text{cobalt recovery})]}{(\text{nickel price} \times \text{nickel recovery})}$$

The formula was derived using the following commodity prices and recoveries:

<sup>1</sup> Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).



- Forex US\$:A\$ = 0.71
- Nickel – A\$27,946/t and 94.8% recovery
- Cobalt – A\$93,153/t and 95.7% recovery
- Prices and recoveries effective as at 10th February 2019.
- Metal recovery data was determined by variability test work of nickel and cobalt solvent extraction during the inhouse pilot plant test work program. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades as reported from the Mineral Resource model. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples to determine economic cut off grades.

It is the opinion of Australian Mines that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold. Detail supporting the formula are provided further on in this document.

The Competent Person and Australian Mines believe there are reasonable prospects for eventual economic extraction of the Mineral Resources. Consideration was given to the relatively shallow depth of the mineralisation, existing infrastructure near to the project including sealed road access, power, labour and water, and positive results from the 2018 Feasibility Study.

## MINERAL RESOURCE ESTIMATE

The following is a summary of the pertinent information used in the MRE with further details provided in JORC Table 1, which is included as Appendix A.

### Geology and Geological Interpretation

The SCONI cobalt-nickel laterite deposits have formed on ultramafic rocks that include serpentinites, meta-gabbros and pyroxenites. These occur as fragments of lower crust material rich in iron, magnesium and nickel, and are thought to be emplaced by shears and faults. The Greenvale, Lucknow and Kokomo cobalt-nickel laterite deposits formed on serpentinites, meta-gabbros and pyroxenites. It is likely that these laterites formed by a period of prolonged weathering post the Cretaceous era. Ultramafic rocks have a high background level of nickel and cobalt (i.e. 500–2,000 ppm nickel and 60–100 ppm cobalt) and the process of lateritisation has concentrated the nickel and cobalt to grades which could possibly be exploited economically.

At Greenvale, the serpentinites are interpreted as being formed in shear zones at the top and edges of the meta-gabbro. Through the central sections of the Greenvale and Lucknow deposits, the serpentinite and the resultant laterite are generally flat lying with shallow depth. The serpentinites and resultant mineralisation become steeper with several structures dipping up to 70° on the edges of the deposits. A pisolite horizon comprising spherical iron pebbles occurs in some holes. This horizon is generally less than 1 m thick and overlies the nickel laterite. The upper laterite zone is iron-rich and depleted in nickel with grades ranging from 0.1% to 0.4% nickel. Below this zone is a thin layer of silicon-rich laterite and below is a limonitic-rich zone, high in iron with elevated nickel values between 0.4% and 2% nickel. High cobalt grades, usually associated with manganese, also occur within the limonite zone. Below the limonite zone is a saprolite zone which has much lower iron content and commonly contains high-grade nickel but generally low cobalt. This zone is a weathered ultramafic, predominantly grey to greenish-grey in colour, has low clay content, is much harder and is low in iron and nickel, but high in magnesium. Nickel and cobalt have been enriched from the ultramafic rocks by both residual and supergene processes.

Three geological domains were interpreted for the Greenvale deposit based upon the geological logs of drill samples. An interpretation of the nickel distribution resulted in the delineation of a domain

constraining >0.6% nickel. An interpretation of the cobalt distribution resulted in the delineation of a domain constraining >0.03% cobalt.

The Lucknow deposit is a well-defined 4.7 km long x 450 m wide (300 m to 700 m) lateritic profile that has extensive relief changes due to erosion. The laterite profile at Lucknow is not as well developed as that at Greenvale. The laterite is not as thick, only reaching depths between 30 m and 35 m, and averaging 20–25 m in thickness. The overall nickel tenor at Lucknow is much lower than Greenvale, however cobalt grades are significantly higher. The laterite profile at Lucknow is capped by a pisolitic layer which in part is poorly cemented and characterised by cobble sized hematitic rocks or pebble size pisolite. This layer can be between a few centimetres to 3–4 m thick. Below this is a hematite-rich laterite clay which varies in colour from a dark brown/red colour to a more yellowish colour. The zone can contain either high nickel and cobalt grades or high scandium. At the base of the haematite/limonite zone is a narrow, 2–5 m wide saprolite zone which lies immediately above a grey-brown-pinkish pyroxenite. High grade cobalt-nickel zones at Lucknow are patchy and only occur in discrete pods within a blanket of low-grade nickel laterite. Iron content is generally higher than that seen at Greenvale, averaging between 25% iron and 40% iron.

The Lucknow geological models were coded for geological, nickel and scandium domains. An interpretation of the nickel distribution resulted in the delineation of a domain generally capturing sample grades of >0.3% nickel. A separate domain for cobalt capturing mineralisation where cobalt is >0.03% was modelled. The scandium domain was modelled using sample grades of > 60 ppm.

The Kokomo deposit is an elongated north-northeast trending body bounded by predominantly siltstones on the eastern and western margins. The margins display marked increase in nickel and cobalt content. This enrichment is a result of the topography and the water flow during laterite formation that resulted in greater enrichment. This process of enrichment was probably also enhanced by potential structures along the ultramafic boundaries that would have assisted deeper weathering and greater water flow during lateritisation.

The Kokomo geological models were coded for geological, and nickel and scandium domains. Four geological domains were interpreted based upon the geological logs of drill samples. An interpretation of the nickel distribution resulted in the delineation of a domain generally capturing sample grades of nickel >0.3%. This domain also captures cobalt (%) mineralisation and where cobalt is >0.03% and outside the nickel domain, the nickel interpretation was extended to capture the cobalt mineralisation. This has resulted in some dilution of the nickel domain.

Representative cross sections through Greenvale, Lucknow and Kokomo are presented Figure 1, Figure 2 and Figure 3 respectively.

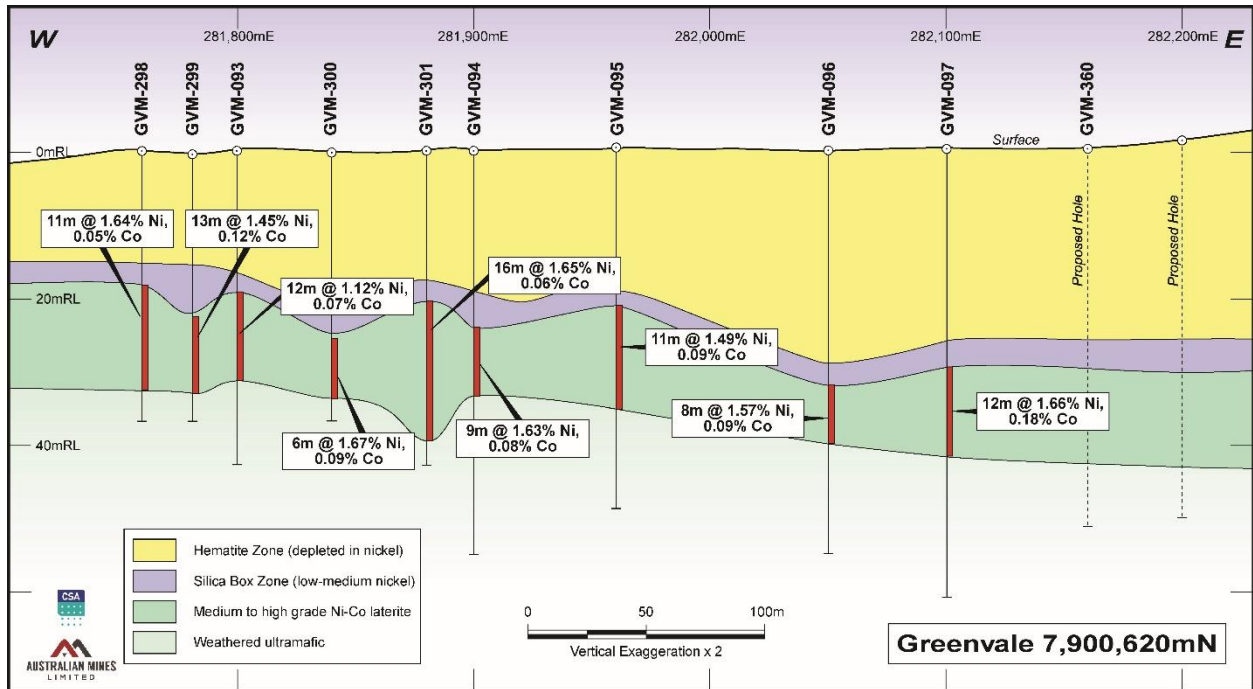


Figure 1: Greenvale cross section showing geological profile (vertical exaggeration x2)

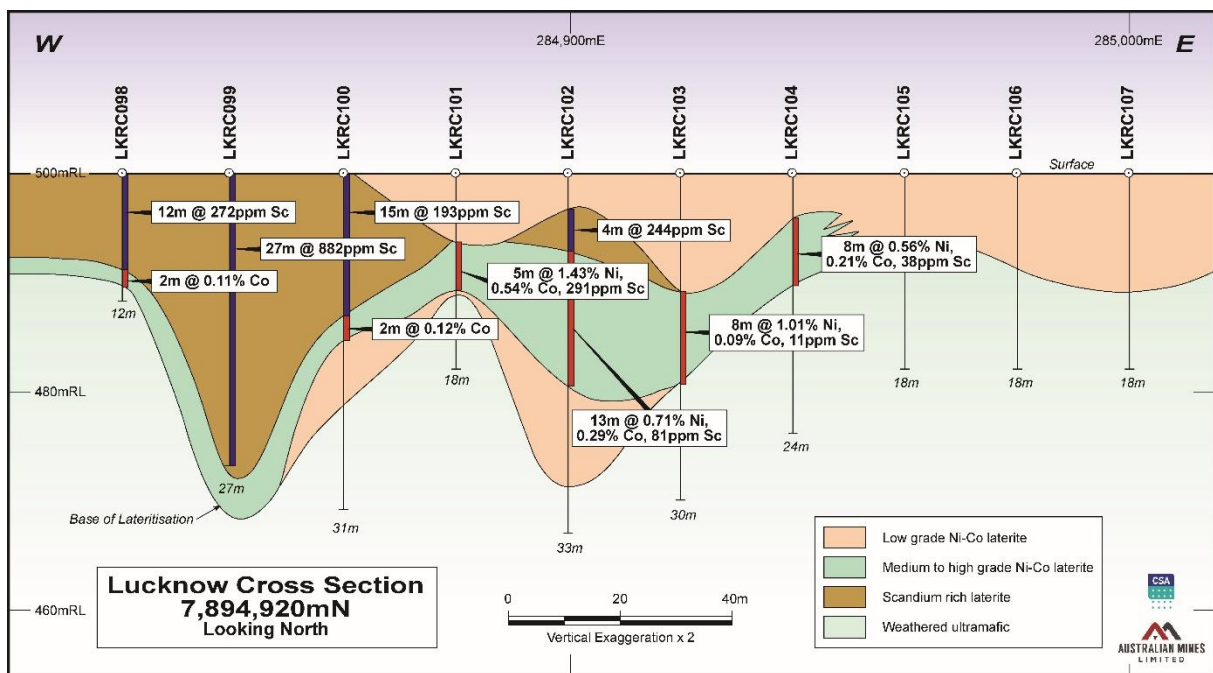


Figure 2: Lucknow cross section, showing geological profile (vertical exaggeration x2)

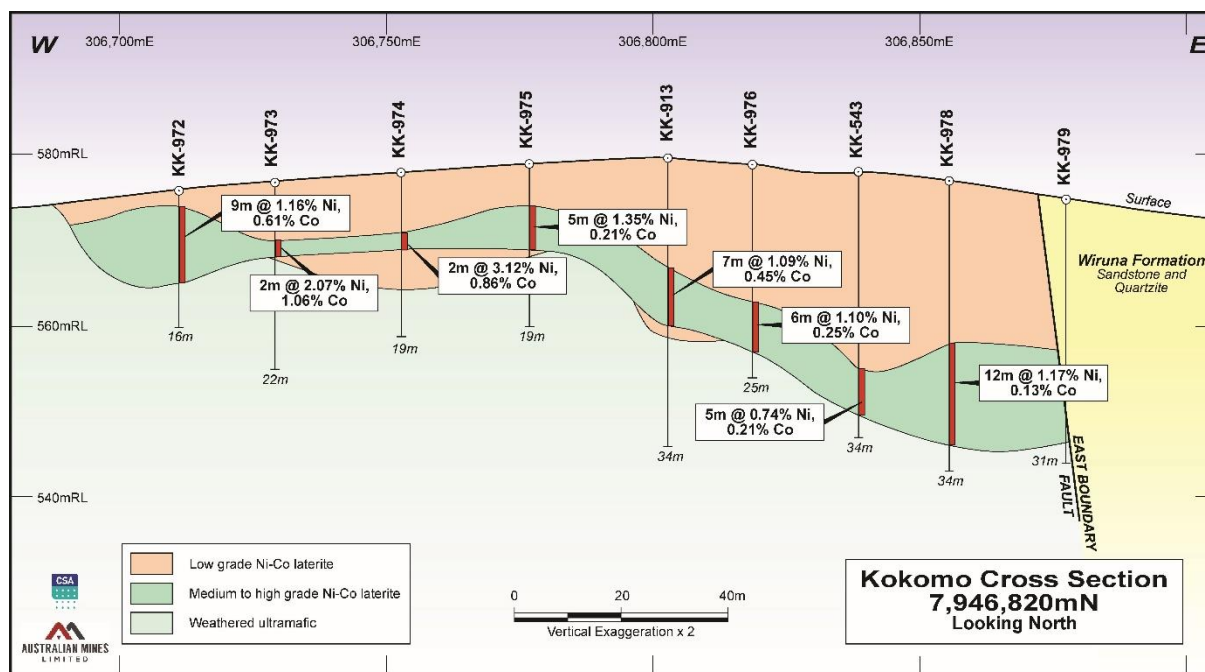


Figure 3: Kokomo cross section, showing geological profile (vertical exaggeration x2)

## Drilling Techniques

Drilling supporting the MREs at SCONI were predominantly reverse circulation (RC) and diamond (DD) coring methods, with some aircore (AC) drilling.

The DD holes were drilled to provide samples for metallurgical testwork, and apart from being geologically logged, they were not assayed and provide limited support for the MREs.

RC holes that were utilised in the MRE were drilled by Australian Mines and Metallica Minerals Limited (Metallica) at Greenvale (1,143 holes for 33,469 m) and Lucknow (957 holes for 20,672 m). RC holes that were utilised in the Kokomo MRE were drilled by Metallica (1,056 holes for 28,787 m).

AC drillholes were drilled by Australian Mines at Greenvale (104 holes for 3,039 m) and Lucknow (38 holes for 839 m). All holes supporting the MRE are Greenvale (1,247 holes for 36,508 m) and Lucknow (995 holes for 21,511 m).

## Sampling and Subsampling

RC holes drilled by Metallica in 2010 and 2011 were sampled at 1 m drill lengths and passed through a rig-mounted cyclone and collected in large plastic bags positioned beneath the cyclone. Samples for dispatch to the analytical laboratory were collected using a spear, with between 1.5 kg and 3 kg collected.

RC and AC holes drilled by Australian Mines in 2018 were sampled at 1 m drill lengths and passed through a rig-mounted cyclone and collected in calico bags via a rig mounted riffle splitter.

Drilling generally used high air pressure to keep the lateritic samples dry and to maintain good sample recovery. Recovery in the mineralised intervals was deemed to be good to excellent.

## Sample Analysis Method

Drill samples were originally sent to ALS (some of the 2010 program) and later to SGS (including the 2018 drill samples) for geochemical analyses. ALS samples were dried then pulverised in a LM5 Mill to achieve a nominal 85% passing 75 µm. A pulp sample was then taken and split down to achieve a 0.5 g sample which was digested in a mixture of three acids (nitric, perchloric and hydrofluoric). The residue was then



leached in hydrochloric acid and the elemental concentrations of the solution were determined by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES). Internal standards were used to monitor quality control (QC).

SGS sample preparation followed a similar subsampling process. The pulp samples were digested in four-acid to effect as near to total solubility of the metals as possible, with the solution presented to an ICP for element quantification.

Sampling and laboratory performance were monitored by way of certified reference materials (CRMs) and field duplicates.

For the 2010 and 2011 samples, CRM results were generally good. Field duplicates were taken by the spear method, by the same sampler who collected the original spear sample. The analytical results for the main constituent elements were plotted against the original sample assay result, with low to minimal variability observed. Quality assurance (QA) of the spear sampling was carried out using a riffle splitter for 221 samples and assay results were compared with the spear sample assays (originals) and showed good correlation. Selected pulps from the Greenvale and Lucknow 2010 RC drill program (196 pulp samples), originally assayed by SGS, were sent to ALS Laboratories (Townsville) for umpire analyses. Combined Greenvale-Lucknow results for nickel and cobalt show a very slight high-grade bias (original versus umpire assay).

For the 2018 drill samples, CRM results were acceptable. Field duplicates were taken by passing the bulk sample through another riffle splitter at the rig, with 300 duplicate samples taken during the program.

QC results are deemed to be acceptable by the Competent Person and support the use of the RC and AC samples in the MREs.

### Resource Estimation Methodology

Block models with block sizes 10 m (X) x 10 m (Y) x 5 m (Z) were constructed for each of the deposits, with sub-celling used at wireframe interfaces. The block sizes are approximately half the drill spacing within areas with tightest drill spacing, and are considered appropriate to support Measured classification. Blocks were flagged according to the geological and mineralisation envelopes.

All drillhole assay samples were composited to 1 m intervals. Composited sample data were statistically reviewed to determine appropriate top-cuts which varied between the three deposits. Log probability plots were used to determine the top-cuts, and the very high-grade samples were reviewed in Datamine by the current Competent Person to determine if they were clustered with other high-grade samples.

Downhole and directional variograms were modelled for nickel, cobalt, scandium, iron, magnesium, manganese, aluminium, chromium and calcium. Low relative nugget effects were modelled for these with short ranges generally 15–30 m associated with sills between 55% and 75% of the population variance. Longest ranges for nickel and cobalt were modelled in the saprolite unit, in excess of 100 m at Greenvale and 50 m at Lucknow. Sample populations were statistically analysed to determine if the populations should be split at the regolith (limonite / saprolite) interface, with nickel populations demonstrating a population break, but not for cobalt. Major variogram directions were aligned along the strike of the host geological units.

Grades were interpolated for all the grade variables by ordinary kriging, with local dip variations honoured by using Datamine's Dynamic Anisotropy functionality. Blocks in the Greenvale model were estimated using a search ellipse of 60 m (major) x 30 m (semi-major) x 5 m (minor) dimensions, with a minimum of 8 and maximum of 16 samples from a minimum of four drillholes per cell interpolation. Blocks in the Lucknow model were estimated using a search ellipse of 40 m (major) x 20 m (semi-major) x 5 m (minor) dimensions, with a minimum of 8 and maximum of 16 samples from a minimum of four drillholes per cell interpolation. Grade interpolation in the Kokomo model used between eight and 12 samples per block



estimate. Larger search radii were used to interpolated grades in the Kokomo model. Search radii were increased, and the minimum number of samples reduced in subsequent sample searches if cells were not interpolated in the first pass. Cell discretization of 3 x 3 x 1 (X, Y, Z) was employed. The nickel and cobalt mineralisation domains were used as a hard boundary during grade interpolation.

The Greenvale deposit dumps and stockpiles were interpolated using inverse distance squared.

The interpolated grades were validated by way of review of cross sections (block model and drill samples presented with same colour legend); swath plots, and comparison of mean grades with de-clustered data.

Density was measured from core billets from diamond drillholes using the caliper method. The billets were then weighed to provide a wet bulk density. Moisture content was measured by a metallurgical laboratory and used to derive the dry bulk density values for each sample. Density values per lithological unit varied slightly between the three deposits. Dry bulk density values were assigned to the lithological domains.

### Classification Criteria

Classification of the Mineral Resource models was carried out taking into account the geological understanding of the deposit, quality of the data, bulk density data and drillhole spacing.

The Greenvale, Lucknow and Kokomo Mineral Resources are classified as a combination of Measured, Indicated and Inferred, with sufficiently detailed and reliable geological and sampling evidence to confirm geological and grade continuity in the Measured volumes.

For the Greenvale Mineral Resource, the Measured Mineral Resource is supported by regular drill pattern spacing of 20 m (EW) x 20 m (NS). Measured Resources located in the central part of the deposit are supported by 20 m (EW) x 40 m (NS). The Indicated Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 40 m (NS). The Inferred Mineral Resource is supported by regular drill pattern spacing of 80 m (EW) x 80 m (NS). The waste dumps are classified as Inferred. The oversize stockpile is classified as Indicated.

For the Lucknow Mineral Resource, the Measured Mineral Resource is supported by regular drill pattern spacing of 20 m (EW) x 20 m (NS). The Indicated Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 40 m (NS) and the Inferred Mineral Resource is supported by regular drill pattern spacing of 80 m (EW) x 80 m (NS).

For the Kokomo Mineral Resource, the Measured Mineral Resource is supported by regular drill pattern spacing of 20 m (EW) x 25 m (NS). The Indicated Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 50 m (NS) and the Inferred Mineral Resource is supported by a regular drill pattern spacing of 40 m (EW) x 100 m (NS).

All available data was assessed and the Competent Person's relative confidence in the data was used to assist in the classification of the Mineral Resources.

### Cut-off Grades

A marginal cut-off grade was determined using costs and recovery data as provided to CSA Global by Orelogy.

The Mineral Resource is reported above cut-off grades of 0.4% NiEq (Greenvale), 0.55% NiEq (Lucknow) and 0.45% NiEq (Kokomo). Metal Equivalent formulae and supporting data are determined in the knowledge that the Mineral Resources are multi-element and nickel and cobalt grades are combined using a NiEq cut-off grade where:

$$NiEq = [(nickel\ grade \times nickel\ price \times nickel\ recovery) + (cobalt\ grade \times cobalt\ price \times cobalt\ recovery) / (nickel\ price \times nickel\ recovery)]$$

The formula was derived using the following commodity prices and recoveries:

- Forex US\$:A\$ = 0.71
- Nickel – A\$27,946/t and 94.8% recovery
- Cobalt – A\$93,153/t and 95.7% recovery
- Prices and recoveries effective as at 10th February 2019.
- Metal recovery data was determined by variability test work of nickel and cobalt solvent extraction during the inhouse pilot plant test work program. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades as reported from the Mineral Resource model. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples to determine economic cut off grades.

It is the opinion of Australian Mines that all the elements included in the Metal Equivalent calculation have a reasonable potential to be recovered and sold.

### **Mining and Metallurgical Methods and Parameters**

The Greenvale deposit was historically mined by open pit methods and the MRE is appropriately depleted using the surveyed voids. No mining factors were applied to the Mineral Resource block models prior to handover for mining studies. Any mining will be by open pit mining methodologies.

Metal recovery data was determined by variability test work of nickel and cobalt solvent extraction during the inhouse pilot plant test work program. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades as reported from the Mineral Resource model. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples to determine economic cut off grades.

### **Competent Person Statement**

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global Pty Ltd and a Member of the Australian Institute of Geoscientists (#4176). Mr Williams has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Williams consents to the disclosure of information in this report in the form and context in which it appears.

# Appendix 1: JORC 2012 Table 1

## Greenvale and Lucknow

### *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>RC samples of 1 m drill length were passed through a rig mounted cyclone and collected in calico bags at the rig mounted riffle splitter and represents a sub sample of the entire meter.</li> <li>Holes drilled in 2010 and 2011 were sampled by laying the sample bag on its side and using a long trowel (“spear”).</li> <li>Between 1.5 kg and 3 kg of sample was collected.</li> <li>Diamond core was not submitted for analysis.</li> <li>Quality assurance of the sampling was carried out on the samples with a duplicate sample collected at the rig using a riffle splitter. The test work compared one in 50 holes and the samples were analyzed after the assays for both samples were returned and show good correlation. The Competent Person is satisfied that the sampling system is up to industry standard.</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>Drilling supporting the Mineral Resource estimate was reverse circulation (RC) and some air core (AC), completed from 2010 through 2011 and in 2018. Holes predating 2010 were not included in the Mineral Resource estimate due to quality assurance issues.</li> <li>Historical drilling (pre-Metallica Minerals, dating to early 1970’s) was a mix of rotary air-blast (RAB), AC and RC, however these were not used in any manner to support the Mineral Resource estimate.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>RC and AC drilling generally used high air pressure to keep the lateritic samples dry and to maintain good sample recovery. Recovery in the mineralised intervals was deemed to be good to excellent.</li> <li>Relationships between sample recovery and grade could not be determined without original sample weight data, however the CP does not believe a material relationship exists.</li> </ul>

<p>Logging</p>	<ul style="list-style-type: none"> <li>• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• An Australian Mines consulting geologist was present at all times during drilling and sampling.</li> <li>• Australian Mines geological logging protocols at the time were followed to ensure consistency in drill logs between the geological staff.</li> <li>• RC chips were logged for weathering, lithologies (primary and proto), mineralogy, color and grainsize. RC chip trays (with chips) were photographed.</li> <li>• The interpreted weathering and fresh zone domains were also logged; ferruginous pisolite, limonite, saprolite, weathered ultramafic and fresh ultramafic. These logs were correlated with assays.</li> <li>• The full sample lengths were logged.</li> </ul>
<p>Sub-sampling techniques and sample preparation</p>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• RC and AC samples were dispatched to the analytical laboratory in Townsville.</li> <li>• The CP considers the riffle splitter sampling method to be an appropriate sampling method, based upon test work from the Greenvale and Lucknow deposit.</li> <li>• Samples were dry.</li> <li>• Field duplicates from RC samples were taken at a rate of 1:50, approximately 1 sample per drill hole. Field duplicates were taken by passing the bulk sample through another riffle splitter at the rig.</li> <li>• No records were kept regarding the sample sizes for either the original or duplicate samples. A total of 300 field duplicate samples were taken at Greenvale and Lucknow.</li> <li>• Sample sizes are considered to be appropriate to the grain size of the material being sampled.</li> </ul>
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill samples were sent to SGS in Townsville. This laboratory conforms to Australian Standards ISO9001 and ISO 17025.</li> <li>• SEG samples were dried then pulverized in LM5 Mill to achieve a nominal 85% passing 75um. The pulp sample is digested in 4-acid to effect as near to total solubility of the metals as possible, with the solution presented to an ICP for element quantification. Internal standards were used to monitor Quality Control.</li> <li>• The processes are considered total.</li> <li>• Australian Mines used three Certified Reference Materials (CRMs) to monitor the accuracy of the metal analyses. The CRMs were certified for Ni, Cu and Zn, but not for Fe, Mg, Sc or Co. Ni displayed reasonable precision and accuracy with the exception of one CRM, which showed a low bias.</li> <li>• Field duplicates (n=300) are discussed in Sub-sampling section.</li> <li>• The QA procedures and results show acceptable levels of accuracy and precision were established.</li> </ul>

<p>Verification of sampling and assaying</p>	<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>Australian Mines geological personnel independently reviewed selected RC drill intersections and verified their suitability to be included in the drilling results.</li> <li>The mineralisation is not visual and any significant intersections are apparent from the sample analyses.</li> <li>Twinned RC holes were used at both Greenvale and Lucknow.</li> <li>Selected RC drill hole collars were surveyed in the field with a hand-held GPS unit, and the surveyed coordinates (easting and northing) were within 10 m of the coordinates surveyed by DGPS.</li> <li>The GPS locations are considered to be an approximate location of the actual collar coordinates.</li> <li>Assay data recorded as negative values in the database were ‘less than detection’ and adjusted to zero values for the announcement.</li> </ul>
<p>Location of data points</p>	<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 drill holes drilled by Australian Mines have been surveyed at the end of the program by independent surveying companies, using DGPS to provide accurate surveyed coordinates. Down hole surveys were not required due to the shallow depths of most holes.</li> <li>All grid coordinates are in Map Grid of Australia (MGA) coordinates, with the grid being MGA Zone 55 South.</li> <li>The topographic Digital Terrain Model (DTM) was prepared using data sourced from WorldView-2 satellite imagery dated December 2010.</li> </ul>
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drill spacing was set to 40 m x 40 m grid where topography allowed. Some areas were drilled at 20 m x 40 m to allow a greater level of confidence to be formed. Other no core areas on the edge of the deposit were drilled at a nominal 80 m x 80 m spacing.</li> <li>Samples were not composited at the sampling stage.</li> </ul>
<p>Orientation of data in relation to geological structure</p>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Drill holes were drilled vertically which is considered to minimize any potential sampling bias with the saprolitic host lithology. Some late stage faulting may be present, but any offset of saprolite and / or mineralisation cannot be predicted at the Mineral Resource drill-out level.</li> <li>Any sampling bias resultant from the orientation of drilling and possible structural offsets of mineralisation is considered to be minimal.</li> </ul>
<p>Sample security</p>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Drill samples were under the care and supervision of Australian Mines staff at all times until transportation by local couriers to the analytical laboratories in Townsville.</li> </ul>
<p>Audits or reviews</p>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>The drilling procedures, sampling methodologies, sample analyses and the drill hole database were audited by Expedio data management.</li> </ul>

## Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<p><i>Mineral tenement and land tenure status</i></p>	<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>The Sconi Mineral Resource is covered by Mining Lease Application MLA10368. Once the lease is granted it will be 100% owned by Greenvale Operations Pty Ltd, covering an area of 1088 Ha. The MLA was lodged on 20<sup>th</sup> April 2012. Exploration Permits EPM 25834 and 25865 cover and extend beyond the boundaries of the MLA. EPM 25834 was granted 6/1/2016 and expires 5/1/2021, and is held by NORNIC Pty Ltd. EPM25865 was granted on 15/12/2015 and expires 24/12/2020, and is held by Greenvale Operations Pty Ltd.</li> <li>Australian Mines negotiated an ILUA with the Native Title claimants of the area (Gugu Badhun) signed on 24<sup>th</sup> Feb 2005 and is valid for 20 years. Australian Mines finalized a Mining ILUA with the Gugu Badhun people for ML10368, lodged in July 2012. This ILUA includes a cultural heritage component that covers Australian Mines duty of care for this tenement.</li> </ul>
<p><i>Exploration done by other parties</i></p>	<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 Greenvale deposit is centered on the Greenvale Mine, which operated between 1974 and 1992. The orebody was a nickel laterite grading 1.56% Ni and 0.12% Co.</li> <li>The Greenvale deposit has been subjected to several drilling programs since the deposit was mined. Anaconda drilled 23 RC holes (733 m) in 1998. Few holes intersected Ni mineralization. Straits Resources drilled 141 RC holes (5,935 m) in 2007/08. These holes are not included in the database which supports the Mineral Resource estimate due to quality assurance concerns.</li> </ul>
<p><i>Geology</i></p>	<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>The Sconi Mineral Resource is contained within a saprolite, developed by weathering process over fragments of ultramafic basement rocks. Ni and Co have been enriched from the ultramafic rocks by both residual and supergene processes. Sc is less enriched at Greenvale than the other deposits, however higher Sc levels are recorded from drill samples obtained from the waste dumps, allowing these dumps to be assessed for inclusion in the Mineral Resource.</li> <li>Serpentinities are interpreted as being formed in shear zones at the top edges of a meta-gabbro. Through the central regions of the deposit the serpentinite and resultant saprolite are generally flat lying at shallow depth and become steeper with several structures dipping up to 70° on the edges of the deposit. Weathering is preferentially superimposed on the softer serpentinite, resulting in the formation of limonite hosted nickel mineralisation and the formation of cobalt mineralisation, via the scavenging of cobalt by the accumulation of MnO near the base of the weathering profile.</li> </ul>
<p><i>Drill hole Information</i></p>	<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</i></li> </ul>	<ul style="list-style-type: none"> <li>Exploration Results are not being reported.</li> </ul>

	<p>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.</p>	
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration Results are not being reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>The Ni mineralisation is hosted in limonitic and saprolitic profiles which are relatively thin and laterally extensive. They present a vertical grade profile as a result of the weathering processes that reduce with depth. Vertical RC drilling completed to date provides the best drilling orientation.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Maps and figures depicting drill collar locations and limits of lateritic mineralisation were presented in ASX announcements in late 2018.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration Results are not being reported.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>A total of five wide diameter (900mm) drill holes were drilled into both the Powerline and The Edge deposits to sample representative material for successful pilot plant metallurgical test work conducted in 2018. Results from this work are not included in the Mineral Resource estimate.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Australian Mines have not planned further exploration test work apart from the current exploration program.</li> <li>The current exploration program equates to 50% of all holes drilled at the Greenvale mine since 1962.</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
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The 2010 and 2011 drill database was audited prior to the 2013 Mineral Resource (as reported in 2018) and any issues were resolved prior to preparation of the Mineral Resource. Validation of digital versus hard copy data were carried out by the previous Competent Person. No material issues were reported at the time.</li> <li>The 2018 drill database was validated by CSA Global prior to use in the Mineral Resource estimate, and the database was found to be clean with no validation issues.</li> <li>CSA Global checked the drillhole files for errors prior to Mineral Resource estimation, including for absent collar data, multiple collar entries, absent survey data, overlapping intervals, negative sample lengths, and sample intervals which extended beyond the hole depth defined in the collar table. No errors of any material significance were detected.</li> <li>The following elemental data were imported into Datamine from the database: Ni, Co, Sc, Fe, Mg, Mn, Cr, Ca and Al. Stoichiometric calculations were used to convert Fe to FeO, Mg to MgO, Mn to MnO, Ca to CaO, Al to Al<sub>2</sub>O<sub>3</sub>, and Cr to Cr<sub>2</sub>O<sub>3</sub>, with the oxides used in grade interpolation.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person carried out a site visit from 9 through 11 October 2017.</li> <li>The outcome of the site visit was that data has been collected in a manner that supports reporting an MRE in accordance with the guidelines of the JORC Code, and controls on the mineralisation are relatively well-understood. The project location, infrastructure and local environment were appraised as part of JORC's "reasonable prospects" test.</li> <li>The water filled pits at Greenvale were noted and discussions later held with Mining Engineers involved in the Feasibility Study, so that appropriate density assignments and other adjustments could be made to the Mineral Resource block model.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The nickel laterite geology is well understood and the data at the deposit conforms to the expected laterite sequence. The laterite profile is developed from weathering processes with significant lateral continuity in the profile. This can have local variation in thickness and grade as a result of weathering processes. This is expected for laterite deposits where mining is expected to adapt to the local changes. The Mineral Resource classification is based on drill spacing and it is anticipated that future infill drill programs will reduce volume uncertainty.</li> <li>The Competent Person's confidence in the geological interpretations is reflected by the classification of the Mineral Resource.</li> <li>Geological logs of drill samples and sample assays were used to interpret the geological</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>models.</p> <ul style="list-style-type: none"> <li>Alternative models for the saprolitic and lateritic profiles might be proposed with future work programs; however, it is not anticipated that these will impart any material differences to the tonnage or interpolated grade distribution of resultant models.</li> <li>The geological interpretation of the weathering profiles controls the interpretation of the mineralisation envelopes for nickel.</li> <li>The geological models were interpreted and modelled by the Competent Person. Three geological domains were interpreted based upon the geological logs of drill samples. Weathered ultramafic basement (LITHZONE=1) is defined as the lower zone of consistent logging of basement lithologies (predominantly weathered peridotite and pyroxenite). Saprolite (LITHZONE=2) is interpreted as the material between the basement and high iron zones. Limonite (LITHZONE=3) consists of the majority of higher-grade iron samples and low grade Mg samples.</li> <li>An interpretation of the nickel distribution resulted in the delineation of domains constraining &gt;0.6% nickel (Greenvale) and &gt;0.3% (Lucknow).</li> <li>An interpretation of the cobalt distribution resulted in the delineation of domains constraining &gt;0.03% for both deposits.</li> <li>Scandium domains were modelled at Lucknow using a lower cut-off of 60 ppm Sc. Scandium was not modelled at Greenvale.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Greenvale Mineral Resource is approximately 2,700 m in strike length, between 150 m and 1,300 m in plan width, and extends to a depth of approximately 50 m below surface.</li> <li>The Lucknow Mineral Resource is approximately 3,900 m in strike length, between 150 m and 350 m in plan width, and extends to a depth of approximately 50 m below surface.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></li> </ul>	<ul style="list-style-type: none"> <li>Datamine Studio RM was used for the geological modelling, block model construction, and grade interpolation and validation.</li> <li>A block model with block sizes 10 m (X) x 10 m (Y) x 5 m (Z) was constructed. Sub-celling was not used. The block sizes are approximately half the tightest drill spacing, which generally supports a Measured classification. Blocks were flagged according to the geological and mineralisation envelopes.</li> <li>Drill sample data were flagged by the mineralisation and weathering domain envelopes, with variables LITHZONE, NIZONE and COZONE used. Drillholes were sampled at 1 m intervals and the drill samples were accordingly composited to 1 m lengths. Composited sample data were statistically reviewed to determine appropriate top-cuts, with top-cuts applied for nickel and cobalt. Log probability plots were used to determine the top-cuts, and the very high-grade samples were reviewed in Datamine by the Competent Person to determine if they were clustered with other high-grade samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> <li>• <i>Any assumptions about correlation between variables.</i></li> <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 drillhole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The composited drill samples were input into variogram modelling. Normal scores variograms were selected for modelling because they presented the best structured variograms for the Greenvale assays. Downhole and directional variograms were modelled for nickel, cobalt, scandium, iron, magnesium, manganese, aluminium, chromium and calcium. Low relative nugget effects were modelled for these (nickel 20%, cobalt 30%, scandium &lt;10%), with short ranges generally 10–25 m associated with sills between 55% and 75% of the population variance. Longest ranges were modelled in the saprolite unit, in excess of 100 m. Variograms used all data in the weathering domains and were not constrained within the nickel or scandium envelopes. Major variogram directions were 0°, which approximates the strike of the host geological units.</li> <li>• Grades were interpolated for all the grade variables by ordinary kriging, with local dip variations honoured by using Datamine’s Dynamic Anisotropy functionality. Blocks in the Greenvale model were estimated using a search ellipse of 60 m (major) x 30 m (semi-major) x 5 m (minor) dimensions, with a minimum of 8 and maximum of 16 samples from a minimum of four drillholes per cell interpolation. Blocks in the Lucknow model were estimated using a search ellipse of 40 m (major) x 20 m (semi-major) x 5 m (minor) dimensions, with a minimum of 8 and maximum of 16 samples from a minimum of four drillholes per cell interpolation. Grade interpolation in the Kokomo model used between eight and 12 samples per block estimate. Larger search radii were used to interpolated grades in the Kokomo model. Search radii were increased, and the minimum number of samples reduced in subsequent sample searches if cells were not interpolated in the first pass. Cell discretization of 3 x 3 x 1 (X, Y, Z) was employed. The nickel and cobalt mineralisation domains were used as a hard boundary during grade interpolation.</li> <li>• Grade interpolation for the in-situ Mineral Resources was by ordinary kriging; for the dumps and stockpiles at Greenvale, inverse distance squared was used.</li> <li>• The Mineral Resource model was an update of the 2018 Mineral Resource, with minor modifications made to the geological interpretations after taking into account significant increase in number of drill samples from the 2018 drilling. A new metal equivalents formula has been applied for the reporting of this MRE.</li> <li>• No by-products are anticipated to be recovered. Scandium has not been included in the mineral processing stream for the Feasibility Study</li> <li>• The interpolated grades were validated by way of review of cross sections (block model and drill samples presented with same colour legend); swath plots, and comparison of mean grades from de-clustered drillhole data.</li> <li>• Some correlation is observed between nickel and cobalt. Scandium does not appear to be statistically correlated to the other elements.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural</i></li> </ul>	<ul style="list-style-type: none"> <li>• Tonnages are estimated on a dry basis. Moisture content measurements were derived from</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>moisture, and the method of determination of the moisture content.</i>	the difference between the dry and wet weights of the RC drill samples, as determined by SGS Laboratory in Townsville, Queensland.
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>A marginal cut-off grade was determined using costs and recovery data as provided to CSA Global as part of the Feasibility Study.</li> <li>The Greenvale MRE is reported above a marginal cut-off grade of 0.4% NiEq and the Lucknow MRE is reported above a cut-off grade of 0.55% NiEq. Metal Equivalent formulae and supporting data are discussed in the report and are determined from the knowledge that the Mineral Resources are multi-element and combine nickel and cobalt grades using a nickel equivalent cut-off grade where:</li> <li><math>NiEq = [(nickel\ grade \times nickel\ price \times nickel\ recovery) + (cobalt\ grade \times cobalt\ price \times cobalt\ recovery) / (nickel\ price \times nickel\ recovery)]</math></li> <li>The following formulae was derived using the following commodity prices and recoveries:</li> <li>Forex US\$:A\$ = 0.71</li> <li>nickel - A\$27,946/t and 94.8% recovery</li> <li>cobalt - A\$93,153/t and 95.7% recovery.</li> <li>Prices and recoveries effective as at 10 February 2019.</li> <li>Metal recovery data was determined by variability test work of nickel and cobalt solvent extraction during the inhouse pilot plant test work program. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades as reported from the Mineral Resource model. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples to determine economic cut off grades.</li> <li>The Kokomo MRE has not been updated and the NiEq grade has not been updated from the 2018 MRE, with no additional testwork having been completed since that time.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No mining factors have been applied to the resource block model prior to handover for mining studies. Any mining will be by open pit mining methodologies.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider</i></li> </ul>	<ul style="list-style-type: none"> <li>Metal recovery data as determined by variability testwork of nickel and cobalt leach extraction. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades. Lower recoveries of between 85% and 90% were achieved</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></p>	<p>from some lower-grade samples.</p>
<p><b>Environmental factors or assumptions</b></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 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.</li> </ul>	<ul style="list-style-type: none"> <li>Mining of the lateritic and saprolitic ore is proposed to be from relatively shallow open pits. The lithologies are highly weathered with most sulphides species already oxidised.</li> <li>Disposal of mine tailings and mining waste can possibly be into pre-existing mine voids.</li> <li>It is anticipated that any future environmental impacts and waste disposal from mining and processing will again be correctly managed as required under the regulatory permitting conditions.</li> </ul>
<p><b>Bulk density</b></p>	<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> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Determined through the Caliper Method for dry bulk density by a combination of direct measurement of the volume of whole PQ diamond drill core and reverse circulation metallurgical drill holes. Measurements were taken from multiple down hole intersections (137 at Greenvale and 70 at Lucknow) from a total of six separate drill holes across all main lithological domains. Both a wet and dry specific gravity data was determined through measured moisture content.</li> <li>Dry bulk density data was obtained to reach the required confidence for the main geological material types of iron laterite, haematitic (red) laterite, mottled laterite, saprolite, silica boxwork and weather ultramafic. Broader-based lithological domains were then identified and earmarked for potential economic extraction which in turn incorporated the different characteristics of these material types in terms of mineralogy, void spaces, alteration zones and moisture content.</li> <li>Both deposits (Greenvale and Lucknow) were assessed separately based on general lithological domains and geological setting. Therefore, using the individual sample measurements, an average density value estimate for both wet and dry material was determined for each domain at each deposit. With this assumption, a combined or blended density estimate of, for example, laterite and saprolite as one mined bulk commodity was considered.</li> <li>Dry bulk density values assigned are as follows:</li> <li>Greenvale – weathered ultramafic (1.9 t/m<sup>3</sup>), saprolite (1.52 t/m<sup>3</sup>), Limonite (1.52 t/m<sup>3</sup>), dumps (waste 1.2 t/m<sup>3</sup>, crusher oversize stockpile 1.75 t/m<sup>3</sup>).</li> <li>Lucknow – saprolite (1.68 t/m<sup>3</sup>), limonite (1.7 t/m<sup>3</sup>).</li> </ul>
<p><b>Classification</b></p>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource has been classified following due consideration of all criteria contained</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>confidence categories.</i></p> <ul style="list-style-type: none"> <li>• <i>Whether appropriate account has been taken of all relevant factors (i.e. 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>	<p>in Section 1, Section 2 and Section 3 of JORC 2012 Table 1.</p> <ul style="list-style-type: none"> <li>• Data quality and confidence in the geological interpretation support the classification. Wireframe solids for Measured and Indicated volumes were used to assign classification values (RESCAT; 1 = Measured, 2 = Indicated, 3 = Inferred, 4 = unclassified).</li> <li>• The Measured Mineral Resource is supported by regular drill pattern spacing of 20 m (EW) x 20 m (NS). Measured Resources in the central part of the deposit are supported by 20 m (EW) x 40 m (NS).</li> <li>• The Indicated Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 40 m (NS).</li> <li>• The Inferred Mineral Resource is supported by regular drill pattern spacing of 80 m (EW) x 80 m (NS).</li> <li>• The waste dumps are classified as Inferred. The oversize stockpile is classified as Indicated.</li> <li>• Blocks not interpolated are not classified.</li> <li>• The final classification strategy and results appropriately reflect the Competent Person’s view of the deposit.</li> </ul>
<p><b>Audits or reviews</b></p>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mineral Resource models were internally peer reviewed by CSA Global prior to release of results to Australian Mines. CSA Global reviewed the data collection, QAQC, geological modelling, statistical analyses, grade interpolation, bulk density measurements and resource classification strategies.</li> </ul>
<p><b>Discussion of relative accuracy/ confidence</b></p>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No detailed studies have been completed using simulation or probabilistic methods that could quantify relative accuracy of the resource estimates.</li> <li>• Laterites can have significant short-range variation in material types and grade due to local variations in weathering processes. However, on a broader scale they demonstrate consistency in lateral extent. As a result, drilling demonstrates a regional grade and volume rather than local certainty. Hence drill spacing, as used for the Mineral Resource classification, is the prime indicator of estimation risk, therefore used to delineate Mineral Resource classification volumes.</li> </ul>

## Kokomo

### Section 1: Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Drillhole data supporting the Mineral Resource were drilled by Metallica in 2000–2009 (1,056 RC holes for 28,787 m, and 10 DD holes for 521.5 m). The DD holes were drilled for metallurgical testwork samples which were assayed but not used for grade interpolation in the MRE. The assays were used to compare the sampling and chemical analyses from adjacent DD and RC drillholes.</li> <li>RC samples of 1 m drill length were passed through a rig-mounted cyclone and collected in large plastic bags positioned beneath the cyclone. The action of the cyclone adequately homogenises the sample collected in the bag. Representative 1.5 kg to 3 kg samples were collected in calico bags for dispatch to the analytical laboratory by laying the plastic bag on its side and using a long trowel ("spear").</li> <li>Diamond core was not sampled by Metallica personnel, instead it was delivered whole for metallurgical testwork.</li> <li>QA of the spear sampling was carried out at a later date using a riffle splitter, with a 3:1 mass reduction. The testwork used 19 holes from the 2008 drill program (221 samples) and assay results were compared with the spear sample assays (originals) which show good correlation.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, 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>	<ul style="list-style-type: none"> <li>Drilling supporting the Mineral Resource was predominantly by RC with minor diamond core drilling. Historical drilling (pre-Metallica, dating to early 1970s) was a mix of RAB and RC; however, these were not used in any manner to support the MRE.</li> <li>Diamond core was NQ diameter and was not oriented.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Metallica RC drilling generally used high air pressure to keep the lateritic samples dry and to maintain good sample recovery. Recovery in the mineralised intervals was deemed to be good to excellent. RC samples were not weighed and advice to the Competent Person was provided by former Metallica geological staff who were involved with the drilling.</li> <li>Relationships between sample recovery and grade could not be determined without original sample weight data; however, the Competent Person does not believe a material relationship exists.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <li>• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>• A Metallica geologist was present at all times during drilling and sampling. Metallica’s geological logging protocols at the time were followed to ensure consistency in drill logs between the geological staff.</li> <li>• RC chips were logged for weathering, lithologies (primary and proto), mineralogy, colour and grain size. RC chip trays (with chips) were photographed.</li> <li>• Diamond core were also logged for structure (alpha and betas, when observed). Diamond core was photographed.</li> <li>• The interpreted weathering and fresh zone domains were also logged; hematitic iron-rich soil, ferruginous laterite +- silica boxwork, saprolite, weathered ultramafic and fresh ultramafic. These logs were correlated with assays.</li> <li>• The full sample lengths were logged.</li> </ul>
<b>Subsampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• RC speared samples were dispatched to the analytical laboratory.</li> <li>• The Competent Person considers the spear sampling method to be an appropriate sampling method, based upon later testwork to compare it with riffle split samples.</li> <li>• Samples were dry.</li> <li>• Field duplicates from RC samples were taken at a rate of 1:60, approximately one sample per drillhole. No field duplicate sample was taken if field XRF readings showed barren samples. Field duplicates were taken by spear method by the same sampler who took the original spear sample. No records were kept regarding the sample weights for either the original or duplicate samples. A total of 698 field duplicate samples were taken at Kokomo.</li> <li>• QA of the spear sampling was carried out at a later date using a riffle splitter, with a 3:1 mass reduction. The testwork used 19 holes from the 2008 drill program (221 samples) and assay results were compared with the spear sample assays (originals) which show good correlation.</li> <li>• Diamond drillholes are considered to be twinned drillholes to adjacent RC holes. Sample geological logs correlate well.</li> <li>• Sample sizes are considered to be appropriate to the grain size of the material being sampled.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>• Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill samples were originally sent to ALS and then to SGS. Both labs conform to Australian Standards ISO9001 and ISO 17025.</li> <li>• ALS samples were dried then pulverised in LM5 Mill to achieve a nominal 85% passing 75um. A pulp sample was then taken and split down to achieve a 0.5 g sample which was digested in a mixture of three acids (nitric, perchloric and hydrofluoric). The residue is then leached in hydrochloric acid and the solution’s elemental concentrations determined by ICP-AES. Internal standards were used to monitor QC.</li> <li>• SGS samples followed a similar subsampling process. The pulp sample is digested in four-acid to effect as near to total solubility of the metals as possible, with the solution presented to an</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>ICP for element quantification.</p> <ul style="list-style-type: none"> <li>The analytical procedures are considered total analysis techniques.</li> <li>Metallica used five CRMs to monitor the accuracy of the metal analyses. The CRMs were certified for nickel, copper and zinc, but not for scandium or cobalt. Results are generally good, with failures due to mis-match of CRMs or analytical issues; no action was taken at the time because the CRM errors were deemed to be of insufficient magnitude to require re-analysis of pulps.</li> <li>Selected pulps from the 2008 program were sent to ALS Townsville for umpire analyses. Comparative results for nickel, cobalt and scandium are considered by the Competent Person to be good.</li> <li>The QAQC procedures and results show acceptable levels of accuracy and precision were achieved.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Australian Mines geological personnel independently reviewed selected RC drill intersections and verified their suitability to be included in the estimation of Mineral Resources. The mineralisation is not visual, and any significant intersections are apparent from the sample analyses.</li> <li>Two diamond holes were drilled at Kokomo on northing section 7,947,535 mN and were twinned with RC hole KK-049. The diamond holes were drilled to obtain samples for metallurgical testwork. Assays for nickel for holes KK-049 and KKDH-003 are generally similar although some variance is noted, and whether this is due to the mineralogical nugget effect or sampling error is yet to be ascertained. These two holes also were drilled into a deeper zone of saprolitic mineralisation, whilst KKDH-004 (offset by 12 m) penetrated barren saprolite at a shallower depth.</li> <li>The original assay certificates, collar surveys and geological logs are archived with the Mineral Resource files.</li> <li>Selected RC drillhole collars were surveyed in the field by the Competent Person (Mineral Resources) during the 2017 site inspection with a handheld GPS unit, and the surveyed coordinates (easting and northing) were within 10 m of the coordinates surveyed by differential GPS. The precise location of the drill collars is not known due to the holes having been rehabilitated since the drill programs were completed. The GPS locations are considered to be an approximate location of the actual collar coordinates.</li> <li>Assay data are recorded as negative values in the database where “less than detection” and have been adjusted to equate to half the analytical detection limit for the elements in question. The exception is scandium, where database values of &lt;-6 ppm were assigned as “absent” assay.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drillholes (collar and downhole 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 drillholes were surveyed by independent surveying companies, using differential GPS to provide accurate surveyed coordinates. Downhole surveys were not required due to the shallow depths of most holes.</li> <li>• All grid coordinates are in MGA coordinates, with the grid being MGA Zone 55 South.</li> <li>• The topographic DTM was prepared using data sourced from an airborne survey flown in September 2008. An AutoCAD contour file with surveyed spot heights, including the surveyed drillhole collar coordinates and elevations, were used to model a DTM, and was considered adequate to estimate Mineral Resources for Kokomo.</li> </ul>
<b>Data spacing and distribution</b>	<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>• Several sets of drill spacing are noted at Kokomo, often overlapping. The broadest scale of drilling is 40 m (EW) x 100 m (NS), with closer spaced drill grids of 40 m (EW) x 50 m (NS), and 20 m (EW) x 25 m (NS). The local drill grids played a key role in the classification of the Mineral Resources, and therefore the Competent Person considers the data spacing to be sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource classification categories adopted for Kokomo.</li> <li>• Samples were not composited at the sampling stage.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• Most drillholes were drilled vertically which is considered to minimise any potential sampling bias with the saprolitic host lithology. Some late stage faulting may be present, but any offset of saprolite and/or mineralisation cannot be predicted at the Mineral Resource drill-out level.</li> <li>• Any sampling bias resultant from the orientation of drilling and possible structural offsets of mineralisation is considered to be minimal and fall within the tolerances built into the Mineral Resource categorisations.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill samples were under the care and supervision of Metallica staff at all times until transportation by local couriers to the analytical laboratories in Townsville.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• The drilling procedures, sampling methodologies, sample analyses and the drillhole database were audited by Golder in 2009. Some minor issues were noted and resolved by Metallica at the time, and prior to estimation of Mineral Resources by Golder. Golder considered all data processed to be acceptable.</li> <li>• CSA Global carried out a high-level review prior to reporting of Mineral Resources (this report) and did not note any material deficiencies in the quality of work undertaken during Metallica's work programs. CSA Global focused on the spear sampling methodology employed by Metallica and consider the spear sampling was carried out to a high level, ensuring a representative sample was obtained from each 1 m drill interval.</li> </ul>

## Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Kokomo Mineral Resource is covered by mining lease ML10342. This lease is 100% owned by Sconi Mining Operations Pty Ltd and has an area of 4.19 km<sup>2</sup>. The mining lease was granted on 14 April 2013 and expires on 30 April 2034. EPM25833 surrounds the mining lease and was granted on 20 August 2015 for a period of five years.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The Kokomo deposit has been subjected to several drilling programs since the deposit was first identified in the early 1970s, up until Metallica purchased the property from Dominion Metals Ltd in 1995. The drill information from pre-Metallica work programs was not available for the MRE.</li> <li>The deposit was first drilled by Laloma Corporation NL (Laloma) in the early 1970s, exploring for base metals, including nickel and cobalt. Laloma drilled 50 shallow and widely spaced RAB holes on the laterite capping the ultramafic rocks. This drill information was not available for the MRE.</li> <li>Queensland nickel Managements Pty Ltd (QNM) drilled the deposit in 1992, totalling 56 holes for 928 m, which intersected some thick intersections of high grade cobalt-nickel mineralisation. This drill information was not available for the MRE.</li> <li>Dominion Metals Ltd completed 29 RAB and 53 RC holes between 1993 and 1995. The Dominion holes were not included in the MRE due to QC issues with the collar surveys and the assays. Metallica's drill programs cover the ground drilled by Dominion therefore the suppression of the Dominion holes is not expected to affect the quality of the MRE.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Kokomo Mineral Resource is contained within a laterite, developed by weathering process over fragments of ultramafic basement rocks. nickel, cobalt and scandium have been enriched from the ultramafic rocks by both residual and supergene processes.</li> <li>The ultramafic complex and overlying nickel laterite form an elongated north-northeast trending body bounded by predominantly siltstones on the eastern and western margins. These margins display a marked increase in nickel, scandium and cobalt content.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Drillhole information</b>	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:                             <ul style="list-style-type: none"> <li>○ easting and northing of the drillhole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ downhole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• Drillhole information from Metallica drill programs were used to support the MRE. The locations of drill samples, and the geological logs of these samples were used to build the geological model, and with the sample analyses, support the MRE.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Exploration results are not reported here, with all Metallica drillholes used to support the MRE.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• The nickel mineralisation is hosted in saprolitic profiles which are relatively thin and laterally extensive. They present a vertical grade profile as a result of the weathering processes that reduce with depth. Vertical RC drilling completed to date provides the best drilling orientation.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• Maps and figures depicting drill collar locations and limits of lateritic mineralisation are presented in the body of this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration results are not reported here, with all Metallica drillholes used to support the MRE.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Three bulk density sampling methods were employed in 2008 to determine the most appropriate method, results from which would support the MRE.</li> <li>36 shallow test pits were excavated, with the pit volume accurately calculated and the mass of material excavated determined. Wet bulk densities were calculated from these. A moisture content was determined from adjacent drill samples (pre-existing drillholes) which was used to derive the DBD for the pits.</li> <li>The calliper method was used to determine density, with diamond drill core used. Competent sticks of core were squared off at the ends and the volume calculated and the core then weighed.</li> <li>Volume of friable core was calculated by using a sand box to measure the volume of core accommodated within a known volume of sand. The core samples were weighed to derive the wet density, with known moisture content of samples from adjacent holes used to determine the DBD.</li> <li>The core calliper data were ultimately chosen to support the MRE and are supported by data from the Bell Creek deposit (Metallica) which are similar in values for dry density, per lithological type.</li> <li>Other relevant exploration work includes ore and waste characterisation testwork for environmental studies, with a view to assessing the potential impact of long term on-site stockpiles. No bulk samples have been taken from Kokomo for metallurgical testwork. No geotechnical work has been carried out to date. Some groundwater monitoring bores are in place but are not currently being monitored. Fauna and flora studies as part of the EIS were completed in 2013.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Australian Mines has not planned further exploration testwork to improve or increase the quality of the Mineral Resource at Kokomo due to the recent depressed market for nickel and have no plans at this time for further geological exploration, with all geological work focusing on the Feasibility Study.</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
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Golder audited the assay database and resolved any issues prior to preparation of the Mineral Resource in 2009. Validation of digital versus hard copy data were carried out by the previous Competent Person. No material issues were reported by Golder at the time.</li> <li>CSA Global checked the drillhole files for errors prior to Mineral Resource estimation, including absent collar data, multiple collar entries, absent survey data, overlapping intervals, negative sample lengths, and sample intervals which extended beyond the hole depth defined in the collar table. No errors of any material significance were detected.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person carried out a site visit from 9 to 11 October 2017.</li> <li>The outcome of the site visit was that data has been collected in a manner that supports reporting an MRE in accordance with the guidelines of the JORC Code, and controls to the mineralisation are relatively well-understood. The project location, infrastructure and local environment were appraised as part of JORC's "reasonable prospects" test.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>nickel laterite geology is well understood and the data at the deposit conforms to the expected laterite sequence. The laterite profile is developed from weathering processes with significant lateral continuity in the profile. This can have local variation in thickness and grade as a result of weathering processes. This is expected for laterite deposits where mining is expected to adapt to the local changes. The Mineral Resource classification is based on drill spacing and it is anticipated that future infill drill programs will reduce volume uncertainty.</li> <li>The Competent Person's confidence in the geological interpretations is reflected by the classification of the Mineral Resource.</li> <li>Geological logs of drill samples and sample analytical results were used to interpret the geological models.</li> <li>Alternative models for the saprolitic and lateritic profiles might be proposed with future work programs; however, it is not anticipated that these will impart any material differences to the tonnage or interpolated grade distribution of resultant models.</li> <li>The geological interpretation of the weathering profiles controls the interpretation of the mineralisation envelopes for nickel and scandium.</li> <li>The geological models were interpreted and prepared by Metallica and reviewed by the previous Competent Person. Four geological domains were interpreted based upon the geological logs of drill samples. Weathered ultramafic basement (ZONE_LAT=1) is defined as the lower zone of consistent logging of basement lithologies (predominantly weathered peridotite and pyroxenite). Saprolite (ZONE_LAT = 2) is interpreted as the material between</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>the basement and high iron zones. This domain is dominated by material logged as siliceous saprolite. High-iron laterite (ZONE_LAT = 3) consists of the majority of higher grade iron samples and is defined at a geochemical cut-off of 30% iron. Alluvium (ZONE_LAT = 4) irregularly covers the laterite and is defined by lithological logs of alluvium and supported by geological mapping and geomorphology.</p> <ul style="list-style-type: none"> <li>An interpretation of the nickel distribution resulted in the delineation of an envelope constraining &gt;0.3% nickel. This envelope also captures most of the cobalt mineralisation, however where cobalt mineralisation is located outside of the nickel envelope, the nickel interpretation was expanded to capture the cobalt mineralisation. This has resulted in local dilution of the nickel mineralisation within the nickel envelope.</li> <li>Scandium mineralisation is more variable than nickel and cobalt and studies to date show no direct relationship between scandium, and nickel and cobalt. Scandium can occur spatially above, within or below nickel mineralisation and at times extends into the basement, alluvium or laterally into surrounding sedimentary units. An envelope constraining &gt;60 ppm scandium was interpreted by Golder and Metallica in 2008 and was reviewed by the current Competent Person and deemed appropriate for use in the current MRE.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>The Kokomo Mineral Resource is approximately 4,800 m in strike length, between 330 m and 770 m in plan width, and extends to a depth of approximately 40 m below surface.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. 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>Vulcan Envisage was used for block model construction, and grade interpolation and validation. Datamine Studio RM was also used to validate the resource model for the current reporting of the Mineral Resource.</li> <li>A block model with block sizes 10 m (X) x 10 m (Y) x 1 m (Z) was constructed. Sub-celling was not used. The block sizes are approximately half the tightest drill spacing, which generally support Measured classification. Blocks were flagged according to the geological and mineralisation envelopes.</li> <li>Drill sample data were flagged by the mineralisation and weathering domain envelopes, with variables ZONE_LAT, ZONE_NI and ZONE_SC used. Most drillholes were sampled at 1 m intervals and the drill samples were composited to 1 m lengths. Composited sample data were statistically reviewed to determine appropriate top-cuts, with the following top-cuts applied: nickel (3% and 1%, mineralisation and non-mineralisation domains), cobalt (2% and 0.4%), and scandium (650 ppm and 100 ppm). Log probability plots were used to determine the top-cuts, and the very high-grade samples were reviewed in Datamine to determine if they were clustered with other high-grade samples.</li> <li>The block model and drill sample locations were translated into an unfolded space due to the undulations of the geological surfaces interpreted at Kokomo. The unfolded sample locations were input into variogram modelling. Correlograms were selected for analyses because they</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 drillhole data, and use of reconciliation data if available.</i></li> </ul>	<p>presented the best structured variograms for the Kokomo assays. Downhole and directional experimental correlograms were modelled for nickel, cobalt, scandium, iron, magnesium, manganese, aluminium, chromium, calcium and copper. Low relative nugget effects were modelled for each of these (10% to 20%), with short ranges generally 10–25 m associated with sills between 55% and 75% of the population variance. Longest ranges were modelled in the saprolite unit, up to 400 m. Correlograms used all data in the weathering domains and were not constrained within the nickel or scandium envelopes. Major correlogram directions were 025° which approximates the strike of the host geological units.</p> <ul style="list-style-type: none"> <li>• The block model was unfolded into translated space prior to grade interpolation. Grades were interpolated for all the grade variables by ordinary kriging. A three-pass estimation strategy was used; pass 1 used a search ellipse of 60 m (major) x 30 m (semi-major) x 2.5 m (minor) dimensions. A minimum of eight and maximum of 12 samples from a minimum of four drillholes were used to interpolate a cell. If a cell could not be interpolated in pass 1, then pass 2 parameters of a search ellipse of 120 m (major) x 60 m (semi-major) x 4 m (minor) dimensions. A minimum of six and maximum of 12 samples from a minimum of three drillholes were used to interpolate a cell. If a cell could not be interpolated in pass 2, then pass 3 parameters of a search ellipse of 180 m (major) x 90 m (semi-major) x 20 m (minor) dimensions. A minimum of one and maximum of 12 samples from no minimum of drillholes were used to interpolate a cell. For all block estimates, a maximum of three composited samples per hole was used. Cell discretization of 3 x 3 x 1 (X, Y, Z) was employed. The nickel and scandium mineralisation envelopes were used as a hard boundary during grade interpolation. Blocks that could not be interpolated due to insufficient data were assigned very low grades (e.g. 0.01% nickel); these blocks were located at the peripheries of the domains and predominantly in the basement domain.</li> <li>• The Mineral Resource model was an update of the 2008 model, with similar geological interpretations and grade interpolation techniques used. The current model (prepared in 2009) was based upon an additional 349 drillholes which increased the model volumes.</li> <li>• No by-products are anticipated to be recovered.</li> <li>• The interpolated grades were validated by way of review of cross sections (block model and drill samples presented with same colour legend); swath plots, and comparison of mean grades from de-clustered drillhole data.</li> <li>• Some correlation is observed between nickel and cobalt. Scandium does not appear to be statistically correlated to the other elements.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Tonnages are estimated on a dry basis. Moisture content measurements were derived from the difference between the dry and wet weights of the RC drill samples, as determined by SGS Laboratory in Townsville, Queensland.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>A marginal cut-off grade was determined using costs and recovery data as provided to CSA Global as part of the Feasibility Study. The Kokomo marginal cut-off grade is higher than for Greenvale and Lucknow due to the increased costs for hauling ore from Kokomo to the processing centre at Greenvale.</li> <li>The Mineral Resource is reported above cut-off grades of 0.45% NiEq. Metal Equivalent formulae and supporting data are discussed in the report and are determined from the knowledge that the Mineral Resources are multi-element and combine nickel and cobalt grades using a NiEq cut-off grade where: <ul style="list-style-type: none"> <li><math display="block">\text{NiEq} = \left[ \frac{(\text{nickel grade} \times \text{nickel price} \times \text{nickel recov} / 100) + (\text{cobalt grade} \times \text{cobalt price} \times \text{cobalt recov} / 100)}{(\text{nickel price} / 100)} \right]</math></li> </ul> </li> <li>The following formulae was derived using the following commodity prices and recoveries:</li> <li>Forex US\$:A\$ = 0.75 <ul style="list-style-type: none"> <li>nickel – A\$23,516/t and 90% recovery</li> <li>cobalt – A\$88,185/t and 90% recovery.</li> </ul> </li> <li>Prices and recoveries effective as at 2 July 2018.</li> <li>Metal recovery data as determined by variability testwork of nickel and cobalt leach extraction. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No mining factors have been applied to the resource block model prior to handover for mining studies. Any mining will be by open pit mining methodologies.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>Metal recovery data as determined by variability testwork of nickel and cobalt leach extraction. Results typically achieved between 90% and 99% from samples with nickel and cobalt grades aligned with expected mine grades. Lower recoveries of between 85% and 90% were achieved from some lower-grade samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Environmental factors or assumptions</b>	<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 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.</li> </ul>	<ul style="list-style-type: none"> <li>Mining of the lateritic and saprolitic ore will be from relatively shallow open pits. The lithologies are highly weathered with most sulphides species already oxidised.</li> <li>Disposal of mine tailings and mining waste can possibly be into pre-existing mine voids.</li> <li>Dry and wet season environmental surveys were previously carried out for fauna and flora surveys, archaeological surveys, surface water sampling and dust monitoring, as part of the project's EIS and pre-feasibility studies.</li> <li>It is anticipated that any future environmental impacts and waste disposal from mining and processing will again be correctly managed as required under the regulatory permitting conditions.</li> </ul>
<b>Bulk density</b>	<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> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>DBD was measured using several methods, using several types of test material, to provide a basis for deriving the density data used in the Mineral Resource. The methods included calliper (direct measurement of volume of whole PQ diameter diamond core); sand box core (indirect measurement of volume by placing incompetent core samples in a sand box of known volume, then removing the core and replacing with the required volume of sand); and surface pits (shallow pits with volumes calculated by volume of sand required to fill the pit; the excavated material is weighed).</li> <li>The average density for the significant geological codes (sample lithological logs) were derived from calliper, sand pits and surface pits, as discussed in Section 2 of this Table. The DBD was assigned to each drill sample per lithological logged code and interpolated into the block model using the NN technique.</li> <li>The following NN interpolations were carried out (DBD in t/m<sup>3</sup>): LITH = 1 (LFe, DBD = 1.5), LITH = 2 (LSi, 1.9), LITH = 4, 5 (LSap, Mg, 2.1), LITH = 7 (WUm, 1.7), LITH = 8 (Ser, 2.0), LITH = 9 (Cly, 1.5), LITH = 10, 11 (Grn, Apl, 2.1), LITH &gt;=12, 13, 14, 15 (SndSt, Msh, All, Soil, 2.0)</li> <li>The average dry density per ZONE_LAT interpolated for Kokomo are 1.79 t/m<sup>3</sup> (ZONE_LAT = 1), 1.89 t/m<sup>3</sup> (ZONE_LAT = 2), 1.68 t/m<sup>3</sup> (ZONE_LAT = 3). ZONE_LAT = 4 was assigned a DBD of 2.0 t/m<sup>3</sup>, and this zone is not classified as a Mineral Resource. Blocks not coded with ZONE_LAT (default = 0) were assigned a DBD of 1.7 t/m<sup>3</sup>.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person’s view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC 2012 Table 1.</li> <li>• Data quality and confidence in the geological interpretation support the classification. Wireframe solids for measured and indicated volumes were used to assign classification values (RESCAT; 1 = Measured, 2 = Indicated, 3 = Inferred, 4 = unclassified).</li> <li>• The Measured Mineral Resource is supported by regular drill pattern spacing of 20 m (EW) x 25 m (NS).</li> <li>• The Indicated Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 50 m (NS).</li> <li>• The Inferred Mineral Resource is supported by regular drill pattern spacing of 40 m (EW) x 100 m (NS).</li> <li>• Block classifications are downgraded if number of holes used per block estimate do not meet a set threshold.</li> <li>• Blocks not interpolated are not classified.</li> <li>• The resultant classified block model, when viewed in section, generally shows consistent classification schema, however there irregularly appears a mild case of “spotted dog”, resultant from the use of grade interpolation outputs to over-ride classification assignments in some instances. The Competent Person is of the opinion the volumes with an irregular distribution of classification will not affect mine planning studies untowardly.</li> <li>• The final classification strategy and results appropriately reflect the Competent Person’s view of the deposit.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mineral Resource block model was prepared in 2009 by Golder and reported according to the JORC Code (2004). The model was internally peer reviewed by Golder prior to release to Metallica. The same model was reviewed by CSA Global (this report) in preparation for use in the current FS and is to be reported according to the JORC Code (2012). CSA Global reviewed the data collection, QC, geological modelling, statistical analyses, grade interpolation, bulk density measurements and resource classification strategies. No material flaws were noted by CSA Global and the 2009 model is considered fit for purpose to be used in mine planning studies.</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><b>Discussion of relative accuracy/ confidence</b></p>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No detailed studies have been completed using simulation or probabilistic methods that could quantify relative accuracy of the resource estimates.</li> <li>• Laterites can have significant short-range variation in material types and grade due to local variations in weathering process. However, on a broader scale they demonstrate consistency in lateral extent. As a result, drilling demonstrates a regional grade and volume rather than local certainty. Hence drill spacing, as used for the Mineral Resource classification, is the prime indicator of estimation risk, therefore used to delineate Mineral Resource classification volumes.</li> </ul>