

23 December 2022

ASX: AHK

Corporate Directory

Directors

Executive Chairman

Roger Jackson

Executive Director

Ben Emery

Non-Executive Director

Ian Mitchell

Projects

- Gunnawarra Nickel-Cobalt
- Mt Jesse Iron – Copper
- Pluton Gold



Contact Details

T: +61 82 80660601

E: info@arkmines.com.au

W: www.arkmines.com.au

Suite 9.04a, Level 9, MLC Centre,

19-29 Martin Place, SYDNEY

NSW 2000

REVISED MAIDEN JORC RESOURCE DELIVERED AT GUNNAWARRA NICKEL-COBALT PROJECT, NORTH QLD

REVISED ANNOUNCEMENT

At the request of ASX the Company now releases a revised Maiden JORC Resource Statement incorporating further information required pursuant to ASX Listing Rule 5.8.1 therein regarding sampling and drilling technology utilized by the Company in preparing the Statement.

HIGHLIGHTS

- Maiden JORC (2012) Edition compliant inferred mineral resource estimate has been completed for the Gunnawarra Nickel-Cobalt Project
- The mineral resource estimate totaling 1.341 million tonnes at .53% Ni, 602,000 tonnes Cobalt at .066% and 191,500 tonnes of Copper at .054% at a .4% Ni cut off was completed by Hawker geological consultants.
- Ark is also well-advanced with beneficiation test work which is also key to fast-tracking the project's commercialisation
- Majority of high-grade intersections are shallow with little to no overburden – provides clear pathway for fast-tracked project development
- Deposit remains open in numerous directions – further drilling is planned in early 2023

Ark Mines Ltd (ASX: AHK, "Ark" or the "Company") is pleased to report that the Company has completed an initial JORC (2012) inferred mineral resource estimate for the Gunnawarra Nickel-Cobalt Project located south of Mt Garnet NQ Australia.

The Gunnawarra JORC mineral resource area is located within EPM 26560 and is located 15 km south of Mt Garnet North Queensland.

As reported (see ASX announcement dated 1 December 2022), the recently completed 2nd phase drilling program targeted known Ni-Co mineralisation in shallow laterites as well as other potential mineralisation in some step out locations.

The timely completion of this drilling campaign has allowed the expedited delivery of a total JORC (2012) Mineral Resource Estimate at Gunnawarra of 1.341 million tonnes at .53% Ni, 602,000 tonnes Cobalt at .066% and 191,500 tonnes of Copper at .054% at a .1% Ni cut off (see below Table 1).

The mineral resource estimate was carried out by Hawker geological Consultants an independent consultant to the Company.

Across both Phase 1 and Phase 2 drilling programs (refer to figure 1), Ark completed a total of 2,844m of Reverse Circulation drilling at Gunnawarra and drilling will remain ongoing (weather permitting) into 2023 with a significant number of untested drill targets still remaining at the project.

Metal	Tonnes	Grade ppm	Tonnes Metal
Nickel	1,341,000	5350	7,200
Cobalt	602,000	660	400
Copper	191,500	540	100

TABLE 1: GUNNAWARRA INFERRED JORC 2012 RESOURCE
Cut off grade 1000 ppm Ni

MANAGEMENT COMMENTARY

Commenting on the delivery of the maiden JORC Resource for Gunnawarra, Executive Chairman Roger Jackson said: *“The Directors are pleased to confirm this maiden Mineral Resource Estimate for Gunnawarra. The grade underpins our confidence that the nickel project we are developing here has potential to be commercial. With further drilling, we believe we will be able to increase the size of the MRE given we understand there are other nearby targets. Near-term work streams will focus on more drilling and beneficiation test work with first results due early in the new year”.*

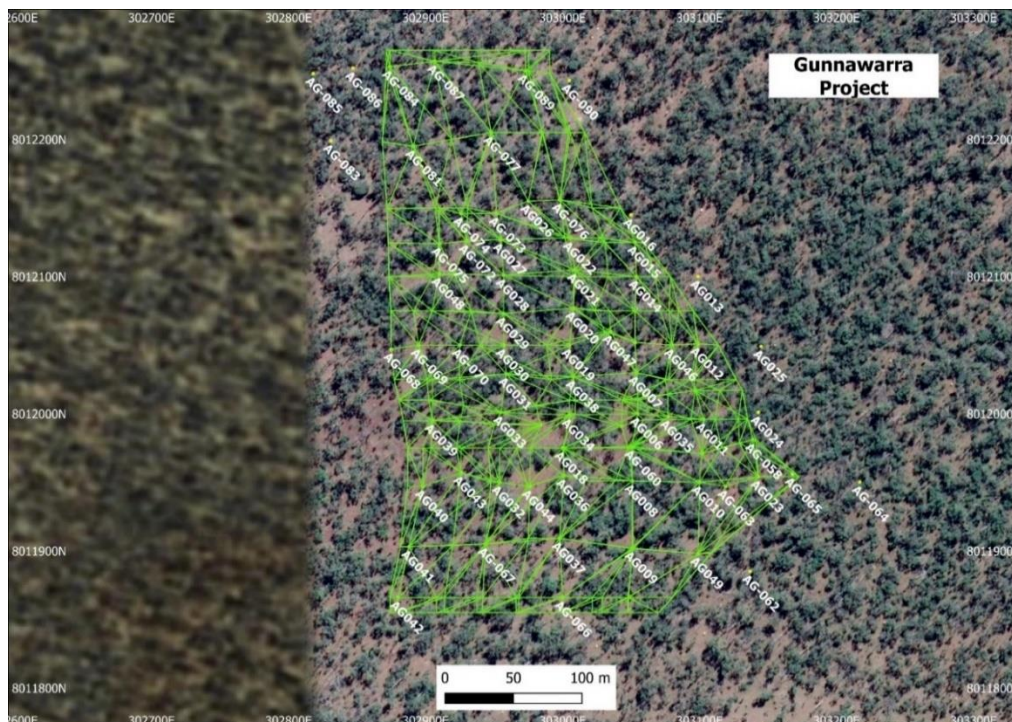


Figure 1: Drill hole collar plan with interpretation wireframe. This shows the hole numbers and locations. The wirelines link the resource material together.

GEOLOGY AND GEOLOGICAL INTERPRETATIONS

The Gunnawarra nickel-cobalt 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. This tectonic activity brings the ultramafic fragments into the Proterozoic Shield and the Tasman Orogenic Belt, comprising Proterozoic meta- sedimentary schists and meta-gabbros, Ordovician volcanogenic sediments and granitoids, and Devonian limestone overlain by Neogene basalt.

The Gunnawarra laterites, commonly occurring as plateaus of high ground, and were formed by a period of prolonged weathering that postdates the Cretaceous era. The nature of the laterites depends on the underlying lithology and always overly strongly weathered rocks. The Pod laterite does not sit on the high ground. It sits level with the ground.

SAMPLING AND SUB- SAMPLING TECHNIQUES

- 1763 1m (45 collars, Total 1763m.)
- 5.5inch face hammer RC drill chip sample were taken whilst drilling. Each 1m sample was then split via a 3 tier splitter into 2 large green plastic bags. (Bag A and B) stored onsite as reference samples, and numbered calico bags (12.5%) for laboratory analysis. The cyclone riffle splitter yielding 2kg to 3kg aliquots.
- Drill holes were fully sampled.
- Some 1m samples had poor recovery.
- Sample was reduced by jaw crush, pulverised and sub sampled to yield a 50g charge for fire assay and pulp for four acid digest.
- Chips were collected and stored in Chip trays 1 sample per meter.
- The chip trays were photographed.
- The chips were logged and digitally uploaded.

DRILLING TECHNIQUES

UDR650 – Multi-Purpose Drill Rig

- Truck Mounted on a MAN 8x8
- Capacity 900 metres NQ
- Capacity 250 metres RC
- 350/1050 Compressor and 8V Booster
- 350/1050 onboard compressor
- Automated Rod Handler with onboard rodbox
- Trailer mounted dust suppression unit

Support Trucks

- SCANIA 6 x 6 Rod Truck
- VOLVO 8 x 4 Compressor/Booster Truck
- ISUZU NPS 300 twin cab 4x4 support Truck (UHF/SAT/Mobile)

- Ark conducted 2 phases of RC drilling at the Gunnawarra project, using the same drill rig and the same geological team. RC drilling was used to obtain 1m samples that were collected in plastic buckets via an industry standard cyclone.
- 1m drill chips samples were obtained by RC using 5.5 inch face hammer
- All Holes were vertical therefore no down hole surveys were taken.
- Holes were generally drilled on either a 50m by 50m pattern but some areas were infilled to 25m by 25m.

CRITERIA FOR CLASSIFICATION

- The Resource has been classified as Inferred at this point. Further data, including a registered survey, is required for an upgraded resource. Drill spacing was not a factor in the classification. Hole spaces were generally set out on a 50m by 50m basis. Where the grades were higher some infill drilling was undertaken to give a 25m by 25m spacing. Refer to Figure 1
- The resource area has been sufficiently interpreted by geological consultants and the geology matches grade and geological interpretations as anticipated.
- Criteria used in the interpretations were:
 - Interpretations were based on nickel values only.
 - A nominal 1000ppm nickel lower cut-off grade with flexibility for geological continuity.

ESTIMATION METHODOLOGY

- The models were created using Surpac software.
- Interpolation method used is Ordinary Kriging
- Grade cutting was not required as there were no adverse outliers assays that would have any significant impact.

Type	Northing	Easting	Elevation
Minimum Coordinates	8011850	302860	580
Maximum Coordinates	8012312	303210	680
User Block Size	14	10	5
Min. Block Size	3.5	2.5	1.25
Rotation	0	0	0
Total Blocks	84308		
Storage Efficiency %	94.29		

Attribute Name	Type	Decimals	Background	Description
ads	Float	3	-99	
bv	Float	3	-99	
Classification	Integer	-	0	inferred=1, indicated=2 measured=3
co_id2	Real	3	0	inverse distance squared uncut for cobalt
co_ok	Real	3	0	ordinary kriged uncut value for cobalt

cu_id2	Real	3	0	inverse distance squared uncut for copper
cu_ok	Real	3	0	ordinary kriged uncut value for copper
density	Real	2	0	interpolated density values
dns	Float	3	-99	
ke	Float	3	-99	
kv	Float	3	-99	
lode	Integer	-	0	lode represents wireframe number = 1
ni_id2	Real	3	0	inverse distance squared uncut for nickel
ni_ok	Real	3	0	ordinary kriged uncut value for nickel
nos	Integer	-	-99	
pass_no	Integer	-	0	Ni_ok interpolation pass number
sg	Float	2	0	Interpolated into the model from downhole data

SAMPLE ANALISIS METHOD

- Drill samples were sent to NAL laboratories in Pine Creek.
- Received sample weights were recorded by NAL for the original and duplicate samples. Sample prep procedure was to sort samples as per the sample logs provided by ARK onto drying trolleys. Samples were dried at 120C for eight hours, cooled and weighed so that a "Dry Weight" was reported. Samples were then Roll crushed two a nominal 1.6 mm and 250 gram split as the assay sample taken using a Jones Riffle Splitter. The split sub-sample was pulverised to a nominal 75Um in a Labtecncics LM2 pulveriser.
- Assay procedure as follows: A 300 mg sample aliquot was weighed on an analytical balance and digested in HCl/HNO3/HClO4/HF acids in a Teflon vessel to fumes of perchloric acid, the digest was cooled and leached in conc HCl and then diluted to volume with demineralised water, mixed and the elements assayed using ICP-OES. Each rack of fifty assays contains one blank, four standards [CRM's] and five duplicate [control] samples, the repeat rate is 1 in 8 samples. NAL used GEOSTATS CRM's as their reference standards, CRM's used are GBM 302-5, GBM 903-5, GBM908-10 and GBM311-6.
- All techniques used are considered total.

Field duplicates were assayed at approximately 1 in 25 frequency

Gunnawarra Resource				
Classification	Metal	Tonnes	Grade ppm	Tonnes Metal
Measured	Nickel	0	0	0
	Cobalt	0	0	0
	Copper	0	0	0
Indicated	Nickel	0	0	0
	Cobalt	0	0	0
	Copper	0	0	0
Inferred	Nickel	1,341,000	5350	7,200
	Cobalt	602,000	660	400
	Copper	191,500	540	100

MINING AND METALLURGICAL METHODS

- No mining reviews have been undertaken
- No metallurgical test work has been undertaken

RESOURCE PARAMETERS

The mineral resource estimate is based on a number of factors and assumptions:

- The data was supplied by Ark in excel files.
- No validation work was conducted.
- Mineralised outlines were interpreted by HGS within the coordinates:
 - 8011850N – 8012312N
 - 302860E – 303210E
 - 580mRL – 680mRL
- The interpretation was used in compositing the sample data.
- Sample data was composited over 1m intervals for nickel, copper and cobalt.
- A surface topography profile was created by HGS using drill hole collars.
- Geological block models were constructed by HGS using Surpac. The primary model cell sizes are 14m N, 10m East and 5m RL.
- 727 samples bulk densities were supplied by Ark and interpolated into the model.
- Ordinary Kriging interpolation method was used for the evaluation of nickel, copper and cobalt.
- No high-grade cutting was conducted.
- The resource is classified as **inferred** due to no QAQC data, Hole collars picked up using a hand-held GPS and some surface collar RL position issues.
- This announcement has been approved by the Board of Ark Mines Ltd.

MINERAL RESOURCE STATEMENT

The resource estimates are classified in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC, 2012). The Gunnawarra estimate was completed by Andrew Hawker of HGS Australia. Mr Hawker has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Hawker consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The resource is classified as Inferred. The classification was considered appropriate based on drill hole spacing, sample intervals, geological interpretation and representativeness of all available assay and density data. The classification reflects the low confidence in short range grade estimations in the model. The resource is based on the interpolated block gunnawarra_model_dec2022.mdl

For further Information please contact:

Roger Jackson
Executive Chairman
info@arkmines.com.au

Ben Emery
Executive Director
info@arkmines.com.au

Released through: Ben Jarvis, Six Degrees Investor Relations, +61 413 150 448

Or visit our website and social media www.arkmines.com | www.twitter.com/arkmineslimited
| www.linkedin.com/company/ark-mines-limited/

About Ark Mines Limited

Ark Mines is an ASX listed Australian mineral exploration company focused on developing its 100% owned projects located in the prolific Mt Garnet and Greenvale mineral fields of Northern Queensland. The Company's exploration portfolio consists of three high quality projects covering 65km² of tenure that are prospective for copper, iron ore, nickel-cobalt and porphyry gold:

Mt Jesse Copper-Iron Project

- Project covers a tenure area of 12.4km² located ~25km west of Mt Garnet
- Centered on a copper rich magnetite skarn associated with porphyry style mineralization
- Three exposed historic iron formations
- Potential for near term production via toll treat and potential to direct ship

Gunnawarra Nickel-Cobalt Project

- Comprised of 11 sub-blocks covering 36km²
- Borders Australian Mines Limited Sconi project - the most advanced Cobalt-Nickel-Scandium project in Australia
- Potential synergies with local processing facilities with export DSO Nickel/Cobalt partnership options

Pluton Porphyry Gold Project

- Located ~90km SW of Cairns near Mareeba, QLD covering 18km²
- Prospective for gold and associated base metals (Ag, Cu, Mo)
- Porphyry outcrop discovered during initial field inspection coincides with regional scale geophysical interpretation

Forward Looking Statements and Important Notice

This report contains forecasts, projections and forward-looking information. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions it can give no assurance that these will be achieved. Expectations and estimates and projections and information provided by the Company are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are out of Vertex Minerals' control.

Actual results and developments will almost certainly differ materially from those expressed or implied. Vertex Minerals has not audited or investigated the accuracy or completeness of the information, statements and opinions contained in this announcement. To the maximum extent permitted by applicable laws, Ark Mines makes no representation and can give no assurance, guarantee or warranty, express or implied, as to, and takes no responsibility and assumes no liability for the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omission from, any information, statement or opinion contained in this report and without prejudice, to the generality of the foregoing, the achievement or accuracy of any forecasts, projections or other forward looking information contained or referred to in this report.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities.

JORC Code, 2012 Edition – Table 1

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"> • <i>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.</i> • <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> • <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • 1763 1m 5.5inch face hammer RC drill chip sample was split by rig- mounted cyclone riffle splitter yielding 2kg to 3kg aliquots. • Drill holes were fully sampled. • Some 1m samples had poor recovery (refer to Appendices 2). • Sample was reduced by jaw crush, pulverised and sub sampled to yield a 50g charge for fire assay and pulp for four acid digest.
Drilling techniques	<ul style="list-style-type: none"> • <i>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).</i> 	<ul style="list-style-type: none"> • 1m drill chips samples were obtained by RC using 5.5 inch face hammer (45 collars, Total 1763m.). • Large air pack with air booster. <p>UDR650 – Multi-Purpose Drill Rig</p> <ul style="list-style-type: none"> • Truck Mounted on a MAN 8x8 • Capacity 900 metres NQ • Capacity 250 metres RC • 350/1050 Compressor and 8V Booster • 350/1050 onboard compressor • Automated Rod Handler with onboard rodbox • Trailer mounted dust suppression unit

Support Trucks

- SCANIA 6 x 6 Rod Truck
- VOLVO 8 x 4 Compressor/Booster Truck
- ISUZU NPS 300 twin cab 4x4 support Truck (UHF/SAT/Mobile)

Drill sample recovery

- *Method of recording and assessing core and chip sample recoveries and results assessed.*
- *Measures taken to maximise sample recovery and ensure representative nature of the samples.*
- *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.*
- Recoveries were monitored visually in field and received sample weights recorded at NAL.
- Recoveries were maximised using an auxiliary and booster compressor delivering sample through a cyclone directly to a levelled rig mounted rifle splitter.
- Some wet sample was encountered (riffle splitter bypassed) but all instances were logged. No bias related to water is noted
- QAQC analysis is not yet complete but as yet no correlation. Survey has been completed after the maiden MRE was completed

Logging

- *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.*
- *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*
- *The total length and percentage of the relevant intersections logged.*
- Qualitative geological logging was carried out on all holes with Ark Mines geological logging protocols at the time were followed to ensure consistency in drill logs between the geological staff.
- Chips were logged for weathering, lithologies (primary and proto), mineralogy, colour and grainsize for each 1m interval. Chip trays (with chips) were photographed and retained for correlation with grade data.
- Of 1763m drilled, 1763m have been logged in metre intervals.
- The main logged materials were Hm (hematite rich soil), Lat (ferruginous laterite), Lsi (ferruginous laterite with silica boxwork), Sapr (saprolite), and Serp (serpentinite – fresh).
- The full sample lengths were logged.

Code	Lithology
LAT	Laterite
Sch	Schist
Si Sch	Siliceous Schist
Gr Sch	Graphitic Schist
Mi Sch	Mica Schist
Qz Mi Sch	Quartz Mica Schist
Si Mi Sch	Silicious Mica Schist

Chl Sch	Chlorite Schist
Slt	Siltstone
Si Slt	Siliceous Siltstone
Mi Slt	Micaceous Siltstone
Gr Slt	Graphitic Siltstone
Si Mi Slt	Siliceous Micaceous Siltstone
Si Gr Slt	Siliceous Graphitic Siltstone
Fe Slt	Ferruginous Siltstone
Mg	Magnesite
Qzt	Quartzite
Mi Qzt	Micaceous Quartzite
Gr Qzt	Graphitic Quartzite
Mt	Magnetite
Qz Br	Quartz Breccia
Fe Br	Ferruginous Breccia
Br	Breccia
VQZ	Vein Quartz
Myl	Shear Mylonite
Gr Myl	Shear graphitic mylonite
FG	Fault Gouge
Gr FG	Graphitic fault gouge
Peg	Pegmatite
Gnt	Granite
mGnt	Microgranite
Apl	Aplite
Serp	Serpentonite
Cly	Clay
Snd	Sand
Soil	Soil
Grv	Gravel
Fill	Fill
Sapr	Saprolite
Shr	Shear
Flt	Fault
N/S	No Sample

Sub-sampling techniques and sample preparation

- *If core, whether cut or sawn and whether quarter, half or all core taken.*
 - *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*
 - *For all sample types, the nature, quality and appropriateness of the*
- Chip samples were taken by metre, recovered dry and split by riffle splitter to yield 2kg to 3kg aliquots.
 - Duplicates samples from all metre intervals were taken with field duplicates sent for assay at 1 in 25.
 - RC drill samples referred to in this report were 2 to 3kg chip samples crushed / pulverized using

	<p><i>sample preparation technique.</i></p> <ul style="list-style-type: none"> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>
<p>Quality of assay data and laboratory tests</p>	<p>standard lab protocols.</p> <ul style="list-style-type: none"> • Field duplicates from RC samples were taken at a rate of approximately 1 to 2 samples per drill hole. Field duplicates were taken at the rig by spear sampling selected retained B samples. • Quality assurance of the sampling was carried out by submitting quality control samples including a duplicate sample collected at the rig. The Competent Person is satisfied that the sampling system is up to industry standard. <ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> • <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i> <ul style="list-style-type: none"> • Drill samples were sent to NAL laboratories in Pine Creek. • Received sample weights were recorded by NAL for the original and duplicate samples. Sample prep procedure was to sort samples as per the sample logs provided by ARK onto drying trolleys. Samples were dried at 120C for eight hours, cooled and weighed so that a “Dry Weight” was reported. Samples were then Roll crushed two a nominal 1.6 mm and 250 gram split as the assay sample taken using a Jones Riffle Splitter. The split sub-sample was pulverised to a nominal 75Um in a Labtecnicos LM2 pulveriser. • Assay procedure as follows: A 300 mg sample aliquot was weighed on an analytical balance and digested in HCl/HNO3/HClO4/HF acids in a Teflon vessel to fumes of perchloric acid, the digest was cooled and leached in conc HCl and then diluted to volume with demineralised water, mixed and the elements assayed using ICP-OES. Each rack of fifty assays contains one blank, four standards [CRM’s] and five duplicate [control] samples, the repeat rate is 1 in 8 samples. NAL used GEOSTATS CRM’s as their reference standards, CRM’s used are GBM 302-5, GBM 903-5, GBM908-10 and GBM311-6. • All techniques used are considered total. • Field duplicates were assayed at approximately 1 in 25 frequency.
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data</i> <ul style="list-style-type: none"> • All intercepts have been verified by Company CP. No independent CP has verified the significant intersections. • No twinning analysis has been undertaken. There are historic proximal holes that may be accessed at a later time.

	<p><i>verification, data storage (physical and electronic) protocols.</i></p> <ul style="list-style-type: none"> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • Primary data (geological logging + sample intervals) entered directly onto spreadsheet at the rig with cross verification of hardcopy sample ledger using Ark Mines protocols. • No adjustment to assay data applied.
<p>Location of data points</p>	<ul style="list-style-type: none"> • <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> • All collar coordinates will be surveyed by licensed surveyors Twine Surveys using RTKdGPS with accuracy in x and y of 20mm, and in z of 20cm. • No Down hole surveys were undertaken due to the shallow holes and the vertical orientation of the drill holes. • Survey results will be reported in MGA2020 zone 55 and in MGA94 zone 55 for compatibility with historic project data. • The collar locations in this report are hand-held GPS surveyed. • The GPS locations are considered to be an approximate location of the actual collar coordinates. • Topographic control outside the planned high accuracy RTK collar survey is by hydrologically enforced SRTM.
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> • <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> • Drill spacing was set to approximately 50 m x 50 m in Indicated areas. Drill spacing within centre of the drilling area was reduced to 25m by 25m. • Samples were not composited at the sampling stage. • These factors plus historic holes with incomplete sampling result in some data gaps that require infill. • Variography to determine appropriateness of grade continuity for resource estimation has not yet been carried out. • No resource or reserve is reported.
<p>Orientation of data in relation to geological structure</p>	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<ul style="list-style-type: none"> • Drill holes were drilled vertically which is considered to minimize any potential sampling bias with the laterite host lithology. Some late-stage faulting may be present, but any offset of laterite and / or mineralisation cannot be predicted at the Mineral Resource drill-out level. • Any sampling bias resultant from the orientation of drilling and possible structural offsets of mineralisation is considered to be minimal.

Sample security	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • Drill samples were under the care and supervision of Ark Mines staff at all times until transportation by local couriers to the analytical laboratories in Pine Creek. • Ark Mines have continued the secure holdings of chip trays and duplicates.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • Independent audit of RC data is currently underway.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> • <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> • <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> 	<ul style="list-style-type: none"> • EPM 26560 Gunnawarra is 100% owned by Ark Mines Limited. • There are no third party agreements • No known issues impeding on the security of the tenure of Ark Mines ability to operate in the area exist.
Exploration done by other parties	<ul style="list-style-type: none"> • <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> • The area was first drilled by Norninco and then Metallica
Geology	<ul style="list-style-type: none"> • <i>Deposit type, geological setting and style of mineralisation.</i> 	<p>Geology specific to site consists of these pre-Cambrian Halls Reward metamorphic rocks overlain by the Sandalwood Serpentinite (Proterozoic injections) and intruded by the Gunnawarra Bump Granite (pale pinkish, medium-grained porphyritic biotite monzogranite) in the late Carboniferous to early Permian. These rocks are buried by the Pleistocene vesicular to massive olivine “Depression” Basalt forming the northern and western margins of the area peripheral to Bell Creek and are largely obscured by late tertiary to Quaternary lateritic soils and alluvium.</p> <p>The Sandalwood Serpentinite forms four outcrops of low topographical highs within EPM 26560, and trends north-west, south of Bell Creek. These are superficially separated by alluvium and/or lateritic clays. At Greys Creek in EPMA 26599, narrow serpentinite belts are associated with the Greys Creek Ultramafic Complex.</p>

Criteria	JORC Code explanation	Commentary
		<p>Deep chemical weathering during the Cainozoic caused the formation of a laterite profile which, where developed over the ultramafic units, contain enhanced nickel and cobalt values. Nickel enrichment >1% is concentrated both in layers in a ferruginous pisolithic laterite found in depressions adjacent to the Serpentinite outcrop and in the underlying weathered Serpentinite. The duricrust varies in depth up to 5m thick. Magnesite is commonly present in the lower parts of the duricrust. The duricrust is underlain either by hard, barren silicified Serpentinite or locally deeply weathered Serpentinite, the latter probably developed along fracture zones.</p>
<p>Drill hole Information</p>	<ul style="list-style-type: none"> • <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"> ○ <i>easting and northing of the drill hole collar.</i> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.</i> ○ <i>dip and azimuth of the hole.</i> ○ <i>down hole length and interception depth.</i> ○ <i>hole length.</i> • <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i> 	<ul style="list-style-type: none"> • Refer to Table in Appendix B
<p>Data aggregation methods</p>	<ul style="list-style-type: none"> • <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high</i> 	<ul style="list-style-type: none"> • No high or Low-grade top/bottom-cut has been applied at this pre-resource stage of data processing. • All reported grade averages are sample length

Criteria	JORC Code explanation	Commentary
	<p><i>grades) and cut-off grades are usually Material and should be stated.</i></p> <ul style="list-style-type: none"> • <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> • <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<p>weighted averages.</p> <ul style="list-style-type: none"> • Ni Equivalent grades were based on \$82,000 USD per tonne Cobalt value and \$27,000 USD per tonne Nickel value. X3 factor.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • Whilst the laterite mineralisation is generally considered to be horizontal. The thickness and depth will vary. This deposit tends to have deep gullies of laterite.
Diagrams	<ul style="list-style-type: none"> • <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> • There are no sections for this announcement. • Sections are under construction.
Balanced reporting	<ul style="list-style-type: none"> • <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> • All results are reported.
Other substantive exploration data	<ul style="list-style-type: none"> • <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results;</i> 	<ul style="list-style-type: none"> • All data material to this report that has been collected to date has been reported textually, graphically or both. • Absent material data including bulk density, metallurgical results, water table height and

Criteria	JORC Code explanation	Commentary
	<p><i>geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p>	<p>geotechnical characteristics is absent from the historical data record recovered so far, and current data is still undergoing analysis. These data are not relevant to the current pre-resource drill data release.</p>

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> 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. Data validation procedures used. 	<ul style="list-style-type: none"> The database was created by HGS Australia for the purpose of conducting a resource evaluation. The resource evaluation was conducted by HGS Australia.
<i>Site visits</i>	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> No site visits were conducted by HGS Australia.
<i>Geological interpretation</i>	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> The resource area has been sufficiently interpreted by geological consultants and the geology matches grade and geological interpretations as anticipated. Criteria used in the interpretations were: <ul style="list-style-type: none"> Interpretations were based on nickel values only. A nominal 1000ppm nickel lower cut-off grade with flexibility for geological continuity. Sections extended 10m beyond the last interpreted section.
<i>Dimensions</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Mineralised outlines were interpreted by HGS within the coordinates: <ul style="list-style-type: none"> 8011850N – 8012312N 302860E – 303210E 580mRL – 680mRL
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> The models were created using Surpac software. Interpolation method used is Ordinary Kriging Grade cutting was not required as there were no adverse outliers assays that would have any significant impact. Model sizes and parameters are:

Criteria

JORC Code explanation

Commentary

- include a description of computer software and parameters used.*
- *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*
 - *The assumptions made regarding recovery of by-products.*
 - *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*
 - *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
 - *Any assumptions behind modelling of selective mining units.*
 - *Any assumptions about correlation between variables.*
 - *Description of how the geological interpretation was used to control the resource estimates.*
 - *Discussion of basis for using or not using grade cutting or capping.*
 - *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*

Type	Northing	Easting	Elevation
Minimum Coordinates	8011850	302860	580
Maximum Coordinates	8012312	303210	680
User Block Size	14	10	5
Min. Block Size	3.5	2.5	1.25
Rotation	0	0	0
Total Blocks	84308		
Storage Efficiency %	94.29		

Attribute Name	Type	Decimals	Background	Description
ads	Float	3	-99	
bv	Float	3	-99	
Classif-ication	Integer	-	0	inferred=1, indicated=2 measured=3
co_id2	Real	3	0	inverse distance squared uncut for cobalt
co_ok	Real	3	0	ordinary kriged uncut value for cobalt
cu_id2	Real	3	0	inverse distance squared uncut for copper
cu_ok	Real	3	0	ordinary kriged uncut value for copper
density	Real	2	0	interpolated density values
dns	Float	3	-99	
ke	Float	3	-99	
kv	Float	3	-99	
lode	Integer	-	0	lode represents wireframe

Criteria	JORC Code explanation	Commentary
----------	-----------------------	------------

				number = 1
ni_id2	Real	3	0	inverse distance squared uncut for nickel
ni_ok	Real	3	0	ordinary kriged uncut value for nickel
nos	Integer	-	-99	
pass_no	Integer	-	0	Ni_ok interpolation pass number
sg	Float	2	0	Interpolated into the model from downhole data

Pass	Block Size	Samples	Max Search
Number	(m)	min-max	(m)
1	15m	30-40	30
2	15m	5-40	60
3	15m	2-40	100

Moisture

- Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*

- Tonnages were estimated n a dry basis.

Cut-off parameters

- The basis of the adopted cut-off grade(s) or quality parameters applied.*

- Univariate statistics were conducted, but an upper cut-off grade was not required.

Mining factors or assumptions

- 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*

- Resource economics identifies the probable lower cut-off to be 4000ppm Ni.

Criteria	JORC Code explanation	Commentary
	<p><i>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></p>	
<p><i>Metallurgical factors or assumptions</i></p>	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> No metallurgical data was made available.
<p><i>Environmental factors or assumptions</i></p>	<ul style="list-style-type: none"> <i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i> 	<ul style="list-style-type: none"> No assessments have been made yet.
<p><i>Bulk density</i></p>	<ul style="list-style-type: none"> <i>Whether assumed or determined. If assumed, the basis for the</i> 	<ul style="list-style-type: none"> Bulk densities for 727 samples were conducted from the April drill program and

Criteria	JORC Code explanation	Commentary
	<p><i>assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <ul style="list-style-type: none"> • <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i> • <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i> 	<p>interpolated into the model. Densities ranged from 1.83t/m³ to 3.92 t/m³ with an average of 2.77 t/m³.</p>
Classification	<ul style="list-style-type: none"> • <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> • <i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i> • <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<ul style="list-style-type: none"> • Due to not having all of the QAQC data (in particular not having surveyed hole collars but GPS surveys) the resource can only be classified as INFERRED. The company has subsequently completed the survey of the hole collars. This will be supplied to the Resource Geologist. • The results reflect the competent person's view. .
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> • No available
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> • <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</i> 	<ul style="list-style-type: none"> • The competent person has confidence in the interpretation with regards to accuracy for the classification announced. • The interpolation process was run in inverse distance squared to compare a complex algorithm to a simple one. • A background value based on statistical determination was used for the lower grade cut-off for interpretation. • The competent person is confident of the accuracy of the resource

Criteria	JORC Code explanation	Commentary
	<p><i>affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> • <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> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	

Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	JORC Code explanation	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> • <i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i> • <i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i> 	<ul style="list-style-type: none"> • No reserves are present