10 March 2022

Petrology confirms that nickel is associated with sulphides: pentlandite-millerite-heazlewoodite

Key Highlights

- Initial petrographic analysis conducted on seven drill core samples from DDED21-075 and 076 has **confirmed sulphide affinity with respect to nickel mineralisation**
  - Partial digest versus total digest methods have demonstrated **93% liberation of nickel across all drill holes to date**, confirming nickel is associated with sulphides
- The analysis has provided further context to the substantial nickel assay results to date and increased confidence that the nickel mineralisation is associated with conventional sulphide species that are **highly amenable to extraction**
- Nickel sulphide assemblage includes pentlandite-millerite-heazlewoodite. Estimated nickel tenor from scanning electron microprobe **ranges from 8.4% to 62.0% Ni**
- Lack of nickel associated with silicates is a result of the olivine minerals undergoing complete serpentisation
- No nickel alloys or arsenopyrite (or other arsenide minerals) identified at Bardwell
- **30kg sample of mineralisation from DDED21-076 submitted for sighter metallurgical testwork**. Metallurgical testing aims to confirm a broader distribution of Ni sulphide species through drill intersections, in-situ grain size and conventional flotation testing
  - DDED21-076 intersected **163.5m at 0.52% Ni and 0.016% Co from 186.5m ending in mineralisation**
- Millerite-heazlewoodite-pentlandite assemblage is produced from BHP's Mt Keith and Yakabindie Operations
- Resource definition drilling ongoing at Bardwell targeting 1.2km of strike

Table 1: Empirical Formulas for Nickel Sulphide Minerals Identified at Edleston

Nickel Sulphide Mineral	Formula	Abbreviation	Ni%	S%	Fe%
Millerite	NiS	Mlr	62.0	35.0	<3
Heazlewoodite	Ni_3S_2	Hzl	72.0	27.0	<2
Pentlandite	$(Ni, Fe)_9 S_8$	Pn	33.5	33.0	30

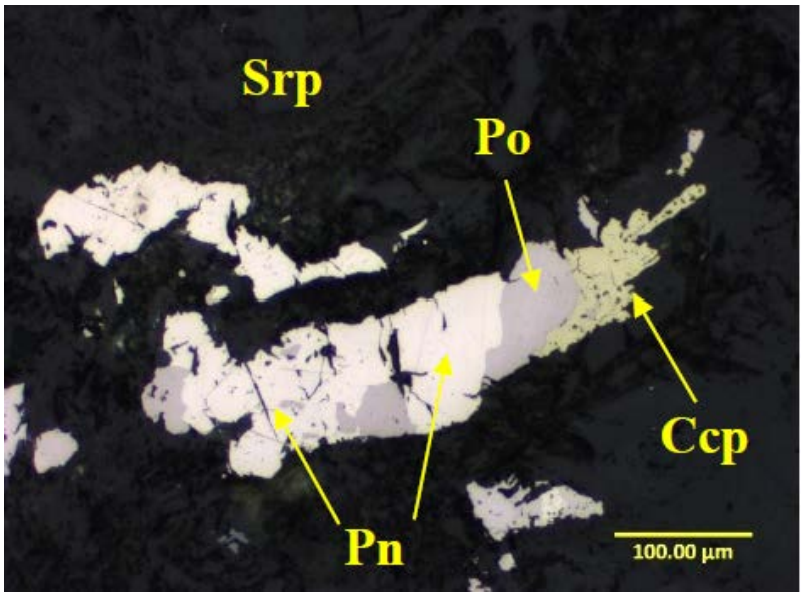

Figure 1: Photomicrographs (RL) of sulphide masses composed of a ternary mineral assemblage of pyrrhotite (po), pentlandite (Pn), and chalcopyrite (Ccp)

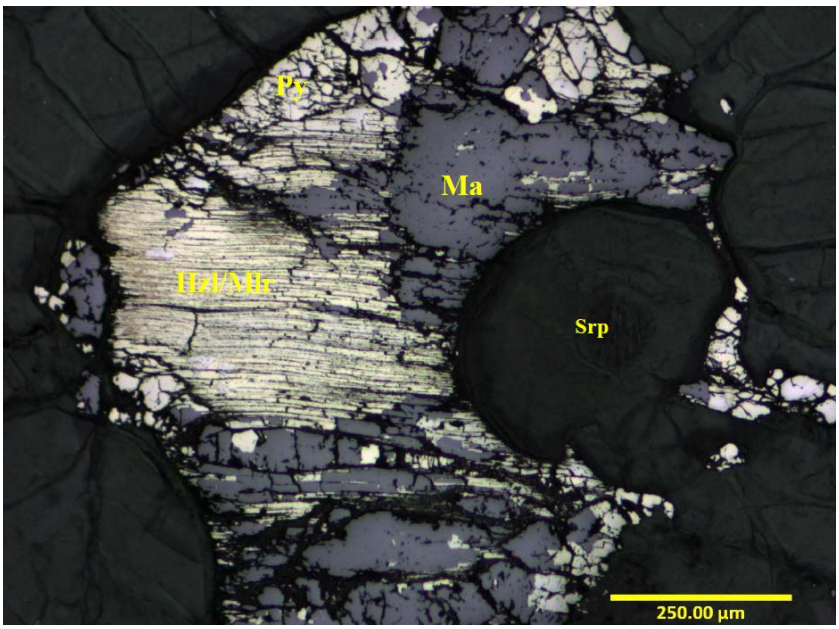

Figure 2: Photomicrograph (RL) showing the dominant mode of Ni-sulphide mineralisation, consisting chiefly of magnetite (Mag), pyrite (Py; light grey/white) and heazlewoodite/millerite (Hzl; pale yellow) filling interstices between serpentinized olivine grains.

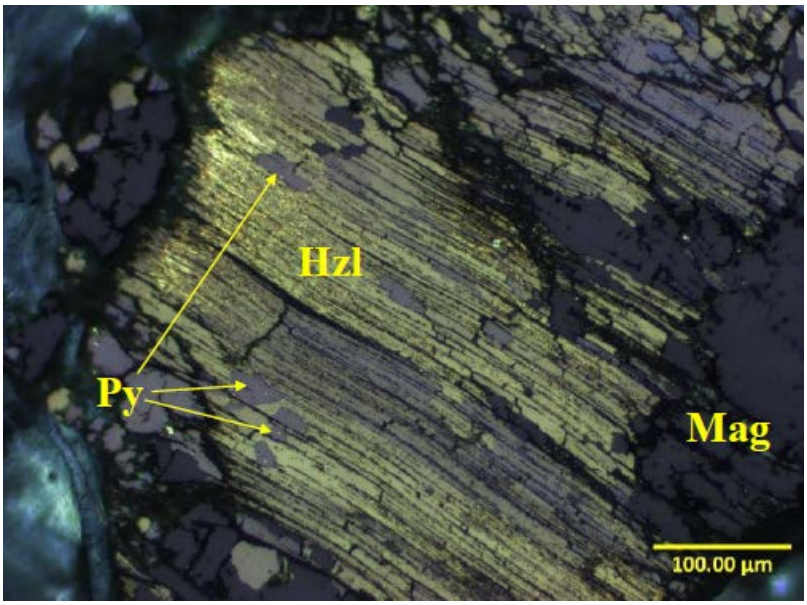

Figure 3: Photomicrograph (RL, partially crossed polars) Ni-sulphide identified as heazlewoodite (Hzl) displaying lamellar features; also visible are pyrite (Py) inclusions and massive anhedral magnetite (Mag)

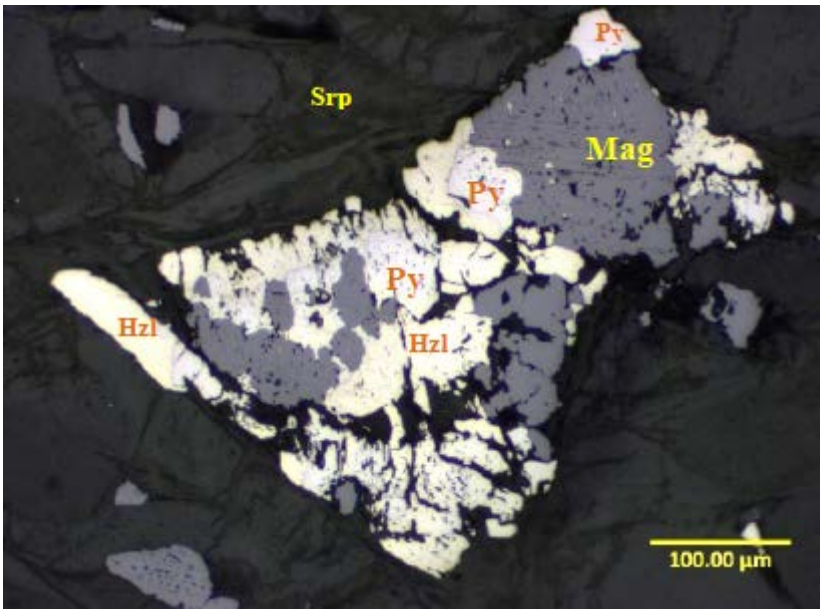

Figure 4: Photomicrograph (reflected light; RL) showing the dominant mode of Ni-sulphide mineralisation, consisting chiefly of magnetite (Mag), pyrite (Py; light grey/white) and heazlewoodite/millerite (Hzl; pale yellow)

Aston Minerals Limited (**ASX: ASO**, '**Aston Minerals**' or 'the **Company'**) is pleased to provide an update on the initial petrographic analysis of nickel sulphide mineralisation from the Boomerang Nickel-Cobalt Target, Edleston Project, Canada.

Managing Director, Dale Ginn commented: "*The petrographic analysis conducted has provided a definitive confirmation of the species of nickel sulphide present at Edleston. The nickel sulphide minerals identified at Edleston are commonly processed and recovered from multiple substantial nickel mining operations including that of BHP's Mt Keith and Yakabindie Operations. Of particular note is the lack of nickel alloy minerals, arsenopyrite and other arsenic bearing minerals at Bardwell. This correlates well with the nickel liberation analysis conducted previously by the Company which demonstrated that 96-100% of nickel was liberated at Bardwell from hole DDED21-076. Through*

the combination of both these independent methods of analysis we can conclude that the nickel is associated with sulphides and not with silicates or alloy minerals.

30kg of mineralised drill core has been submitted for metallurgical testing which aims to determine the optimal grind size for sulphide liberation and to conduct initial floatation testing.

We look forward to providing further updates with respect to both our current drilling underway at Bardwell and metallurgical testing updates as results become available."

Overview of Petrographic Analysis

Seven drill core samples were submitted to Process Mineralogical Consulting Ltd (PMC) for petrographic examination. Each sample was macroscopically examined and prepared as a polished thin section which were taken from representative zones of mineralogical and textural interest. All prepared polished thin sections were examined with a petrographic microscope in transmitted and reflected light. Additionally, interactive Scanning Electron Microscope (SEM) was completed to identify very fine-grained phases and provide further confirmation of optical observations.

Table 2: Samples Selected for Petrographic Analysis

Hole	From	To	Total Sulphide% (Estimate)	Nickel Tenor% (Estimate)	Heazlewoodite/millerite	Pentlandite	Awaruite
DDED21-076	283.1	283.18	7-10%	20.4	**X**		
	344.83	344.91	7-10%	34	X		
	347.4	347.5	7-10%	34	**X**	x	
DDED21-075	19.75	19.83	7-10%	8.4		**X**	
	179.51	179.59	<1%	62	**X**		
	668.93	669.0	<1%	33.5	**X**		
	728.93	729.0	<1%	33.5	**X**		Tr

Figure 5: Hand specimen photograph with polished thin section outline– DDED21-076, 347.40 – 347.50m

The samples of mineralisation were selected on the basis that they represented a broad spectrum of grades encountered from drilling to date.

Figure 6: DDED21-076- Drill core sample 344, 1.47% Ni at 332.66m

The petrographic analysis has provided further context to the substantial nickel assay results to date and provides increased confidence that the nickel mineralisation is associated with conventional sulphide species. Of particular note is the fact that only trace detection of awaruite, a nickel alloy mineral, was identified in a single sample from DDED21-075. DDED21-075, located 3.5 km to the north of Bardwell intersected 730.9m at 0.23% Ni and 0.010% Co, starting at 13.1m ending in mineralisation.

The presence of awaruite identified in petrography from hole DDED21-075 correlates well with the comparison of aqua regia versus 4 acid digest results. DDED21-075 reported 91% liberation which based on the petrographic observations is likely due to iron alloy minerals comprising the majority of the 9% of nickel that wasn't liberated. In contrast, at Bardwell, DDED21-076 reported 96-100% liberation with the only nickel associated minerals being sulphides.

Table 3: Comparison of Aqua Regia (partial digest) versus 4 Acid Digest (total digest)

Hole	From (m)	Interval (m)	Ni % Aqua Regia ICP	Ni % 4 Acid Digest	% Liberation Ni
DDED21-075	13.1	730.9	0.21	0.23	91
DDED21-076	67.5	282.5	0.42	0.43	98
DDED21-076	186.5	163.5	0.5	0.52	96
DDED21-076	331.7	18.3	0.66	0.66	100

Initial Metallurgical Testing:

A 30kg sample of mineralisation from DDED21-076 has been submitted for initial metallurgical testing. The metallurgical testing aims to confirm a broader distribution of nickel sulphide species, in-situ grain size analysis and conventional flotation testing. The mineralisation from DDED21-076 formed part of the intercept of 163.5m at 0.52% Ni and 0.016% Co from 186.5m and ended in mineralisation.

Edleston Project Overview, Ontario, Canada (100% ASO)

The Edleston Project is located approximately 60km via road to the south of Timmins, Ontario, Canada. The towns of Timmins and Kirkland Lake are located close by and host significant former and current producers, with required services and skilled labour available to support exploration and development of the Project.

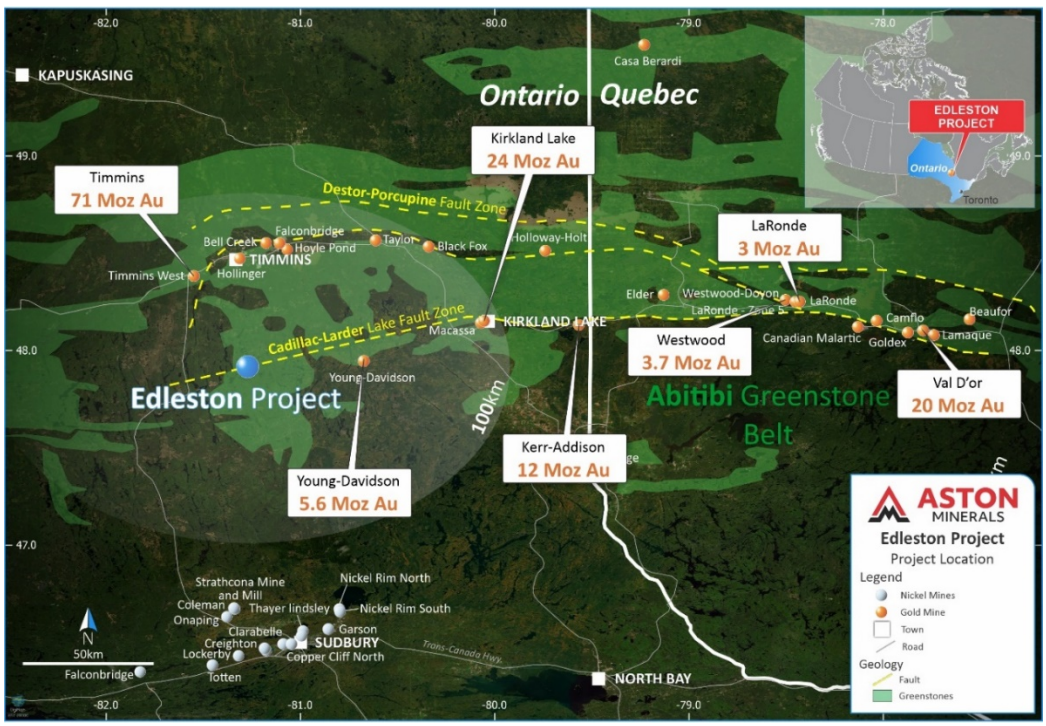

Figure 7: Edleston Project Location Plan

The Project is located within the Abitibi Greenstone Belt of Archean metavolcanic and medisedimentary units that have been steeply folded with axes trending in general east-west orientation.

The Boomerang Target is interpreted to be a Dunite/Peridotite unit over >6.5km of strike which has undergone extensive serpentinisation. This process of is responsible for the reaction of olivine to produce magnetite and brucite, resulting in a strongly reducing environment whereby nickel is released from decomposition of olivine. The nickel which has been released is typically partitioned into low sulphur nickel sulphide minerals. Due to the magnetite association with mineralisation, a 3D inversion model of magnetics has been generated and has been utilised to assist with targeting.

Contacts

For more information, please contact:

Dale Ginn
Managing Director
dale@astonminerals.com

Rob Jewson
Corporate Director
rob@astonminerals.com

This announcement has been authorised for release by the Board of Aston Minerals Ltd.

Competent Person's Statement

The information in this announcement that relates to the Exploration Results for Edleston Project is based on information compiled and fairly represented by Mr Robert Jewson, who is a Member of the Australian Institute of Geoscientists and Executive Director of Aston Minerals Limited. Mr Jewson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Jewson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. The Company confirms there has been no new information that materially effects the results as they were first reported.

Appendix 1: Diamond Drill Collar Details, Intercept Intervals & Individual Sample Intervals

Hole	Size	Easting	Northing	Elevation	Azimuth	Dip	Final Depth (m)
DDED21-075	HQ	479,209	5,305,727	365	200	-45	744
DDED21-076	HQ/NQ	477,782	5,303,527	355	310	-75	350

Hole	From (m)	To (m)	Interval (m)	Ni%	Co%
DDED21-075	13.1	744	730.9	0.23	0.010
DDED21-076	67.5	350	282.5	0.43	0.014
DDED21-076	186.5	350	163.5	0.51	0.016
DDED21-076	331.7	350	18.3	0.66	0.014

Appendix 2: 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	Comments
Sampling techniques	· 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.	Half NQ/HQ diamond drill core was submitted for analysis.
	· Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core was cut into two equal halves with one submitted for analysis.
	· Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or	Sample intervals was based on geological observations. Minimum core width sampled was 0.3m and maximum 1.5m. Samples were submitted to ALS Laboratories Vancouver.

Criteria	JORC Code explanation	Comments
	mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	· 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).	Standard tube NQ and HQ Diamond drilling was undertaken.
Drill sample recovery	· Method of recording and assessing core and chip sample recoveries and results assessed.	Field geologists measure core recoveries for every drill run completed. The core recovered is physically measured by tape measure and the length is recorded for every "run". Core recovery is calculated as a percentage recovery. Core recovery is logged and recorded into the database.
	· Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond drilling by nature collects relatively uncontaminated core samples. These are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.
	· 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.	There is no significant loss of material reported in the mineralised parts of the diamond core to date.
Logging	· Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	Drill holes were logged for lithology, alteration, mineralisation, structure and weathering by a geologist. Data is then captured in a database appropriate for mineral resource estimation.

Criteria	JORC Code explanation	Comments
	Mineral Resource estimation, mining studies and metallurgical studies.	
	· Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All cores are photographed in the core tray, with individual photographs taken of each tray both dry and wet. Logging conducted is both qualitative and quantitative.
	· The total length and percentage of the relevant intersections logged.	All drill holes were logged in full.
Sub-sampling techniques and sample preparation	· If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond drill core was cut in half. Half the core was submitted for analysis and the remaining half was stored securely for future reference and potentially further analysis if ever required.
	· If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Only diamond core drilling completed.
	· For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation was completed by ALS Laboratories in Vancouver using their standard preparation method. Samples were crushed to 80% passing 2mm, riffle split and pulverized to 95% passing <75µm.
	· Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Standard preparation procedure inclusive of internal laboratory internal crushing and pulverizing tests were utilised by ALS Laboratories.

Criteria	JORC Code explanation	Comments
	· 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.	Field duplicate samples were taken at the rate of 1:25 samples. Standard reference materials and blanks were similarly inserted at the rate of 1:25 before and after predicted high grade intervals multiple blanks were inserted to ensure that there was no cross sample contamination. QAQC verified that the blank material reported below detection and thus no cross contamination between samples.
	· Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to the mineralisation style and grain size of the material.
Quality of assay data and laboratory tests	· The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Both four acid digest ICP total digestion and ICP two acid (aqua regia) partial digestion methods were utilised on all samples. This was aiming to determine an indicative proportion of sulphide versus silicate associated nickel on the basis of the partial digestion method being ineffective at liberating silicate hosted nickel mineralisation. The high degree of correlation indicated between the two results is indicative of a high proportion of sulphide associated mineralisation. ICP total digestion method involved analysis of a pulp by gently heating in a mixture of ultrapure $HF/HNO_3/HClO_4$ until dry and the residue dissolved in dilute ultrapure HNO_3.

Criteria	JORC Code explanation	Comments
		ICP partial digestion method involved analysis of a pulp digested with 8:1 ultrapure HNO_3:HCl for 1 hour at 95°C.
	· 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.	An Olympus Vanta VMR pXRF in Geochem mode was utilised to assist with identification of nickel sulphide minerals.. Readings were collected over 40 second intervals for all 3 beams. The instrument is calibrated according to the manufacturer's specifications and a calibration check is performed daily to confirm the unit is operating within expected parameters as well as a performance test against a certified reference material. The manufacturer's most recent certificate of calibration is dated July 28, 2021 with nickel performance calibrated from OREAS 74a and GBM 398-4 certified reference materials.
	· 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.	Standard reference materials and blanks were inserted routinely at the rate of 1:25 samples.
Verification of sampling and assaying	· The verification of significant intersections by either independent or alternative company personnel.	Results were reviewed by the chief geologist, managing director and competent person.
	· The use of twinned holes.	None of the current holes being drilled are considered to be twin holes.
	· Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All data was recorded in field logging sheets, digitsed then imported into a validated database.

Criteria	JORC Code explanation	Comments
	· Discuss any adjustment to assay data.	No adjustments were performed to assay data.
Location of data points	· 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.	Drill collar locations were surveyed using a differential GPS.
	· Specification of the grid system used.	All collar locations are reported in NAD83- 17N grid system.
	· Quality and adequacy of topographic control.	Topographic control on collars was derived from a LIDAR survey completed across the Project. LIDAR is considered to be industry best practice for this stage of exploration.
Data spacing and distribution	· Data spacing for reporting of Exploration Results.	Diamond drill holes are drilled selectively directly targeting mineralisation based on regional orientations known along strike.
	· 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.	The spacing of the area being targeted by drilling underway at present is too broad for being able to estimate a mineral resource.
	· Whether sample compositing has been applied.	Sample compositing has been applied. Results reported are length weighted averages.
Orientation of data in relation to geological structure	· Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Based on the logging of the drilling and interpretation of the geology the drilling completed is interpreted to be perpendicular to the trend of mineralisation.
	· If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have	The drilling intercept reported is downhole. Further drilling is required to confirm the geometry of mineralisation.

Criteria	JORC Code explanation	Comments
	introduced a sampling bias, this should be assessed and reported if material.	
Sample security	· The measures taken to ensure sample security.	Diamond drill core is transported from site by contractors to a secured core processing facility for logging and sampling. Samples are subsequently sent by a contractor to the assay laboratory.
Audits or reviews	· The results of any audits or reviews of sampling techniques and data.	No audits are documented to have occurred in relation to sampling techniques or data.

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	· *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.*	The Edleston Project is 100% owned by a wholly owned subsidiary of Aston Minerals Ltd. A 2% net smelter return royalty applies across the Project. 1% of the net smelter return royalty can be purchased for $1,000,000 across the mining claims and 1% of the net smelter return royalty can be purchased for $1,000,000 across the Leased Claim.
	· *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.*	Open file verification has been conducted to confirm licenses are in full force.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	· *Acknowledgment and appraisal of exploration by other parties.*	Exploration reported was completed by 55 North Mining Inc (Formerly SGX Resources Inc.). Activities completed include magnetic surveys, VLF/IP surveys, extensive diamond drilling.
Geology	· *Deposit type, geological setting and style of mineralisation.*	Regionally, Edleston appears to lie along the potential western extension of the Cadillac-Larder fault zone along which a number of major gold deposits are located. Geophysical and geological work has demonstrated that the Edleston Zone sits within the north limb of the host unit/horizon that stretches over 10 km to the east. This unit is broadly folded back toward the south and east immediately to the west of the deposit continuing under and near the contact with shallow sedimentary cover. The host rock is an altered and sheared ultramafic that exhibits extensive silicification and contains quartz-carbonate in veins, veinlets and fracture fill. A revised geological interpretation based on the information obtained from recent drilling and reprocessed magnetics coverages was undertaken. Through this process the extent and intense magnetic response of the Boomerang Target was recognised. Magnetic inversion modelling of the Boomerang Target was undertaken to further constrain the geometry and extent of the dunite/peridotite complex. It is interpreted that this

Criteria	JORC Code explanation	Commentary
		dunite/peridotite body extends for a strike of 5km, is 500 to >1,500m wide and extends to depths of well over 500m. The exploration model applied to conduct targeting of this body is analogous to Dumont and Crawford Nickel-PGE-Cobalt Deposits. Nickel sulphide mineralisation at these deposits was formed through the serpentinisation of a dunite unit (rock composed of >90% olivine). Through the reaction of olivine with water, extensive magnetite is developed hence providing such a strong magnetic response and potentially allowing for a direct exploration targeting method to be applied. Through this process of serpentinisation nickel is liberated from olivine within a strongly reducing environment and the liberated nickel is partitioned into low sulphur nickel sulphide minerals.
Drill hole Information	· *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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole*	Drill hole locations are described in the body of the text, in the appendix and on related Figures.

Criteria	JORC Code explanation	Commentary
	o *down hole length and interception depth* o *hole length.*	
	· *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.*	All information has been reported. At present no sampling or analysis has been completed.
Data aggregation methods	· *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.*	Length weighted averages are reported in the highlights and body of the announcement. A full listing of the individual intervals is reported in the body of the release above.
	· *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.*	Length weighted averages have been applied where necessary to calculate composite intervals. Calculations were performed in excel using the sumproduct function to calculate the length weighted average grades.
	· *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No metal equivalence are reported.
Relationship between mineralisation widths and intercept lengths	· *These relationships are particularly important in the reporting of Exploration Results.* · *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* · *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').*	Intervals of alteration and mineralisation reported are apparent widths. Further drilling is required to understand the geometry of mineralisation and thus the true width of mineralisation.

Criteria	JORC Code explanation	Commentary
Diagrams	· *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.*	Maps and plans have been previously reported in relation to the drilling described. The update provided is intended to provide further context to the nickel drilling results previously provided.
Balanced reporting	· *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.*	All information has been reported.
Other substantive exploration data	· *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.*	Petrographic analysis has been included in the body of the release which forms a pre cursor to conducting initial metallurgical testing.
Further work	· *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Further exploratory drilling along the strike length of the Boomerang target is proposed to be undertaken in conjunction with metallurgical testing.
	· *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Maps and plans have been previously reported in relation to the drilling described.