23 May 2022

Initial Metallurgical Testing from Bardwell Produces Saleable Nickel-Cobalt Concentrate and Excellent Recoveries

Key Highlights

- **Conventional flotation concentration techniques** on disseminated mineralisation present in Bardwell diamond drill hole DDED21-076 has resulted in a saleable nickel-cobalt concentrate
    - **71.7% Ni recovered to rougher flotation concentrate**
    - The concentrate graded 11.29% Ni, 0.37% Co, 24.0% S, 38.2% Fe and 8.2% MgO with a **60% Ni recovery on open circuit basis** through rougher flotation and three stage cleaning circuit
- **Sulphides float readily at P_{80} of 120µm grind size following deslime**. From analysis of petrography and level of slimes produced, it appears that **coarser grind size optimisation is required**
    - Other testing underway includes different grind sizes and times, recovery from slimes, upgrade with regrind of concentrate and others
- Sulphide species of concentrate include millerite-violarite-pentlandite
- **Extremely low levels of nickel in silicate and nickel in oxides detected in sample**
- Analysis underway across lower grade mineralisation to determine beneficiation characteristics
- Optimisation of all metallurgical parameters underway and further updates to be provided on regular basis over the next 12 months
- Testing conducted at XPS Expert Process Solutions, a Glencore company, located at the XPS Technology Centre in Falconbridge (Ontario), Canada

Aston Minerals Limited (**ASX: ASO**, '**Aston Minerals**' or 'the **Company'**) is pleased to report results from the early-stage metallurgical testing of nickel-cobalt sulphide mineralisation from the Boomerang Nickel-Cobalt Target, Edleston Project, Canada.

Managing Director, Dale Ginn, commented "*The results we have obtained from our initial testing are comparable to the metallurgical recoveries of existing substantial nickel sulphide operations globally. The testing methods we undertook are all first pass conventional methods of flotation and are by no means optimised.*

"We are incredibly encouraged by the results and have identified multiple opportunities to improve upon the results including a combination of coarsening the grind size, grinding after flotation and utilisation of magnetic separation of the slimes produced from primary crushing."

Metallurgical Testing Overview

The first phase of metallurgical testing commenced in late Q1 2022 and represents the first beneficiation testing conducted on nickel-cobalt sulphide mineralisation from Bardwell. The testwork has demonstrated that the sulphide mineralogy is amenable to conventional flotation techniques. The flotation testing completed to date has only utilised open circuit testing and is only at the early stages in terms of optimisation of the liberation and floating parameters.

A 30kg sample of mineralisation from DDED21-076 was submitted for analysis with the head grade of the analysed sample approximating the overall nickel-cobalt abundance of the entire mineralised interval. The mineralised interval for DDED21-076 is a total of 163.5m at 0.51% Ni and 0.016% Co.

Table 1: Metallurgical Sample Head Grade Analysis

Hole	Ni%	Co%	S%	Fe%	MgO%
DDED21-076	0.53	0.016	0.98	6.00	40.2

Open circuit flotation testwork on the composite sample from DDED21-076 at grind size of 80% passing (P_{80}) 120µm produced a concentrate grade of:

- 11.29% Ni, 0.37% Co, 24% S, 38.2% Fe and 8.2% MgO

Forward Plan

- **Resource Definition Drilling:** Continue resource definition drilling at Bardwell which has currently tested a mineralised strike of ~1.5 km and remains open along strike and at depth.
- **Metallurgical Testing:** Testing of lower grade domains of mineralisation from Bardwell underway. Geomet model being developed based on increased metallurgical characteristics of mineralisation. Locked cycle testing to be conducted on both DDED21-076 and subsequent mineralisation.
- **Exploration Target**: Quantification of the mineralisation potential of Bardwell is being developed in detail with an exploration target range being evaluated.

About XPS Laboratories

XPS Expert Process Solutions, a Glencore company, is located at the XPS Technology Centre in Falconbridge (Ontario), Canada, and comprises a team of world-class metallurgists, engineers, geoscientists, technicians and technologists with real world experience in process development/optimisation, asset integrity management and mine/process automation.

XPS engages clients with focused, quality project plans that deliver sustainable value to the client's project or operation. XPS's strategy is to provide quality technical expertise for advanced exploration, mining projects and operational support. XPS employs industry best practices and advanced modeling and testing techniques to deliver practical and successful flowsheets, and processing solutions – adding value and reducing risk for our clients and partners.

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.

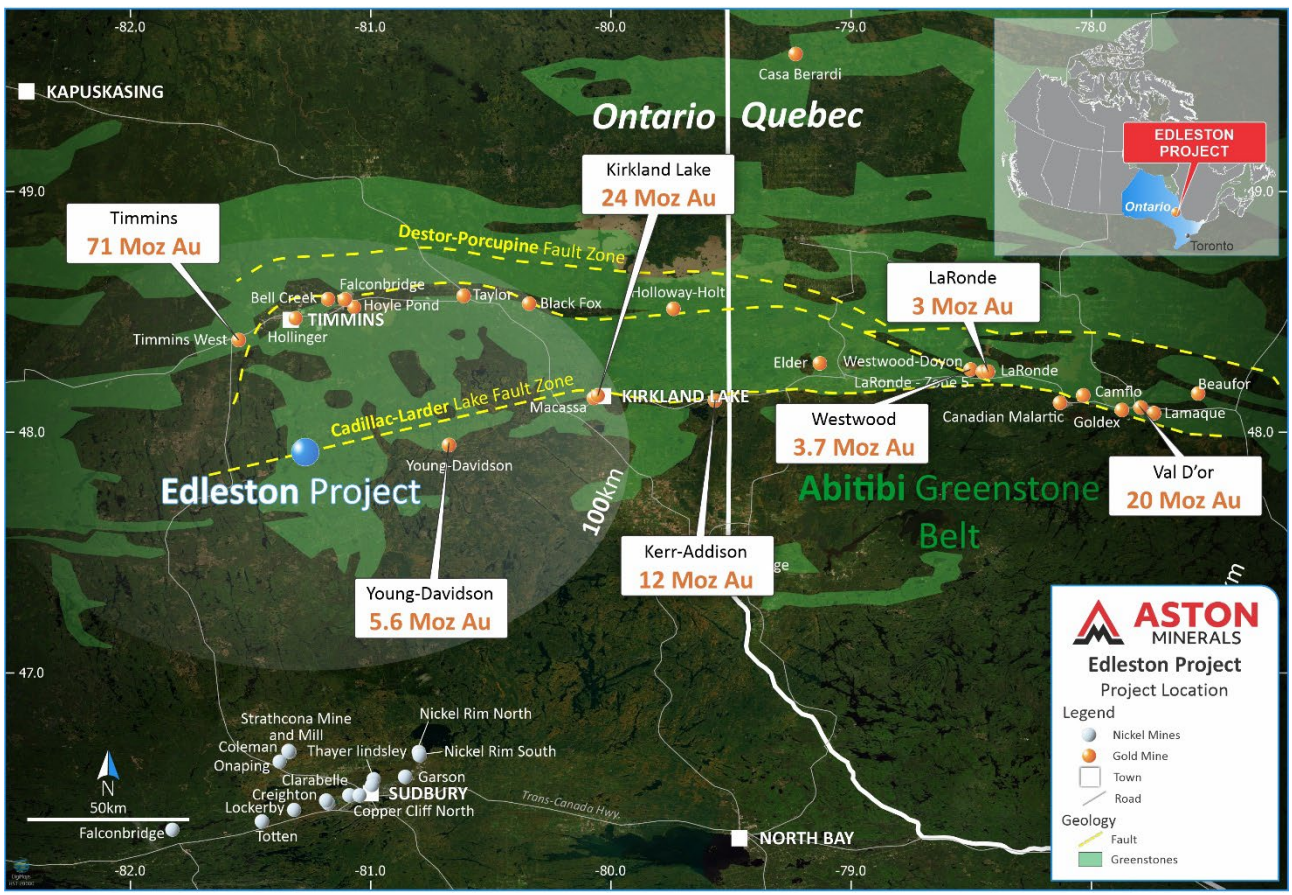

Figure 1: Edleston Project Location Plan

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 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.

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

Contacts

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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)
DDED21-076	HQ/NQ	477,782	5,303,527	355	310	-75	350

Hole	From (m)	To (m)	Interval (m)	Ni%	Co%
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.	A 30kg composite sample of half NQ diamond core of mineralisation from DDED21-076 was submitted to XPS Laboratories for metallurgical analysis
	· Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Half NQ diamond core was 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 mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	The sample intervals were composited in order to obtain a representative zone of mineralisation that approximated the head grade of the overall mineralised interval and was submitted to XPS laboratories for grinding and flotation beneficiation studies. A primary grind to P80 120um was utilised prior to flotation followed by a three stage cleaner with kinetic sampling.

Criteria	JORC Code explanation	Comments
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 Mineral Resource estimation, mining studies and metallurgical studies.	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.
	· 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.

Criteria	JORC Code explanation	Comments
	· 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 metallurgical analysis.
	· 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 XPS Laboratories with a primary grind of P80 passing 120µm.
	· Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The type of analysis conducted is aiming to target specific grind sizes to determine the level of liberation of sulphides.
	· 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.	Triplicate analysis by XPS was conducted to assess the variability of the mineralisation based on the predicted head grade. The results of the individual samples were consistent.
	· 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.	Four acid digest ICP total digestion was utilised. 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.
	· For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the	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

Criteria	JORC Code explanation	Comments
	analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	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.	Internal laboratory QAQC samples are utilised by XPS laboratories for the purposes of the metallurgical testing.
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.
	· 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.

Criteria	JORC Code explanation	Comments
	· 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.	Drilling at Bardwell has been completed on a nominal 100-200m along strike by 30-100m grid to date.
	· 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 drilling at Bardwell is sufficient and the degree of geological and grade continuity is understood to allow for mineral resource estimation to be conducted.
	· 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 introduced a sampling bias, this should be assessed and reported if material.	The drilling intercept reported is downhole. Further drilling is required to confirm the geometry of mineralisation.
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.

Criteria	JORC Code explanation	Comments
		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.
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.

Criteria	JORC Code explanation	Commentary
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 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.

Criteria	JORC Code explanation	Commentary
		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* o *down hole length and interception depth* o *hole length.*	Drill hole locations are described in the body of the text, in the appendix and on related Figures.
	· *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.

Criteria	JORC Code explanation	Commentary
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.
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 included in body of the announcement.

Criteria	JORC Code explanation	Commentary
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.*	Metallurgical test results are given in the body of the text.
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. Further details on subsequent metallurgical testing to be undertaken is included in the body of this release.
	· *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 including the location of samples and prospects are included in the body of this release.