

News release For Immediate Dissemination

25 March 2020

Macarthur seeks Venture Partner to further explore its nickel projects in Western Australia

Macarthur Minerals Limited (TSX-V: MMS) (ASX: MIO) (the "Company" or "Macarthur") updates on the potential for cobalt and nickel mineralisation at its Lake Giles Iron Ore Project in Western Australia, following recent rock chip sampling that coincided with the Company's magnetite infill drilling.

In 2018, a rock chip sampling program across the Snark prospect discovered samples containing the cobalt mineral asbolite with assays returning up to 2.6% cobalt and 2.0% nickel¹. In May 2018, a Moving Loop Electromagnetic (MLEM) geophysical survey was undertaken across the area that identified two compelling conductors coinciding with surface geochemical anomalies². In October 2019, the Company undertook further rock chip sampling confirming anomalous Nickel, Cobalt and Chromium grades that warrant further exploration.

Macarthur is currently focusing on its Lake Giles Iron Ore Project and is seeking a venture partner to further advance exploration of its nickel projects.

Cameron McCall, President and Executive Chairman of Macarthur Minerals commented:

"On the back of the Company's initial exploration for nickel and base metals, the Company has undertaken a comprehensive review of its previous drilling and soil sample assays and targeted several areas for on-ground exploration. Recent exploration was successful in extending the anomalous nickel and cobalt rock samples along the extent of the bedrock conductor identified in mid-2018. The Company is now in the process of seeking a venture partner interested in furthering this opportunity at Lake Giles."

Lake Giles Nickel and Cobalt Potential

The Company has successfully identified two prospective areas for nickel mineralisation at its Lake Giles Project, Snark and Moonshine North. The Project lies within the Yerilgee Archean Greenstone belt with geology consisting of volcanic sequences mainly comprising of high-Mg basalts, komatiitic and ultramafic flows with numerous interflow banded iron formations (BIFs). The ultramafic rocks at Lake Giles are considered a Kambalda komatiite type. The extensive komatiite sequences of thick olivine cumulate flow units and felsic-intermediate volcanism indicates that the area fits a regional geological criterion for hosting komatiite nickel sulphide deposits such as the Mt Keith, Maggie Hays and Nova nickel mines within the Kalgoorlie Terrane (Figure 1).

Snark Nickel and Cobalt Targets

Exploration by Amax Exploration ("Amax") in the 1970's identified a potential nickel sulphide target in the Snark area. Rock samples collected from a gossan on the edge of a strong induced polarisation ("IP") anomaly returned assays to a maximum of 1.04% nickel.

¹ Press Release filed to TSXV March 5, 2018, titled "2.6% Cobalt and 2.0% Nickel Discovered at Macarthur Minerals' Lake Giles Iron Ore Projects in WA"

² Press Release filed to TSXV August 28, 2018, titled "Macarthur Minerals Identifies Multiple Priority Metal Sulphide Targets at Lake Giles"



Subsequent exploration by Kalgoorlie Prospector, Mel Dalla-Costa, identified material suspected to be asbolite (a cobalt and nickel mineral) at the base of a 1.5m deep costean previously excavated by Amax.

Mapping completed by Keith Fox in 2002 for Internickel Australia Pty Ltd, identified two targets the subject of Macarthur's recent focus (Figure 2). Target A is based on aeromagnetic data showing a possible presence of lava channels. Macarthur collected several rock samples near this target focussing on the shallow costean excavated by Amax. Assay results returned up to 2.01% nickel and 2.61% cobalt (Table 1).

Target B defines a geophysical anomaly depicted from a historical aeromagnetic survey and recent MLEM survey described in further detail, below.

Snark Surface Geochemical and Drilling Anomalies

Macarthur has drilled several reverse circulation ("RC") holes in the vicinity of the targets described above and intersected anomalous nickel in holes LGRC0010 and LGRC0015 (Figure 2). Intercepts of interest include:

LGRC_0010 (288m): 128 meters @ 0.17% Ni (from 108m to 236m) including 1m @ 0.29% Ni

LGRC_0015 (168m): 106 meters @ 0.15% Ni (from 62m to 168m)

Rock chip samples have been collected across the Snark area and confirm anomalous nickel and cobalt across several areas. One area of interest includes float material containing the mineral asbolite returning assays up to 2.61% cobalt and 2.01% nickel (Table 1).

Table 1. Selected assays from the 2018 and 2019 rock chip sampling program.

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Sample ID	Co %	Ni %	Cu ppm	Mn %
SNRC001	1.68	1.11	240	24.58
SNRC002	2.61	2.01	230	23.95
SNRC003	1.92	1.33	270	22.00
SNRC004	1.57	1.12	250	14.47
SNRC005	0.74	0.55	90	6.72
SN10020	1.86	1.27	200	

All samples were collected at 781,596mE, 6,698,934mN, MGA94, Zone 50

Snark MLEM Conductor

The MLEM survey at Snark covered an area of 310 ha and comprised 14 lines extending 1.2km at 200m spacing. Data was collected from 13 stations per line for a total of 182 stations.

The survey identified two bedrock conductors at Snark, SC01 and SC02 (Figure 2). SC01 is interpreted on most of the MLEM lines and is coincident with a magnetic high. On survey line 72150N, a good response was observed with well-defined twin peaks and decay analysis showing good exponential shape at late time which is characteristic of a bedrock conductor. SC01 is considered a high priority for drill testing and a drill hole, SC01_DH has been planned to intersect the conductor at 162m.

Conductor SCO2 is only interpreted on the northernmost lines and is not coincident with a magnetic anomaly indicating a potential sedimentary source. The anomaly possesses good characteristics however the strike extent and lack of coincident magnetic anomaly are detractive qualities and indicative of a possible stratigraphic/sedimentary source.



Snark is considered a high priority nickel target to be tested by drilling. Interpretation and drill hole planning was conducted by Newexco with a drill hole planned to intersect the conductor at the point where it displays a high EM response (Table 2).

An initial drilling program to a depth of 200 m is warranted to further understand the nickel potential of this conductor.

Table 2. Planned drill hole to intersect MLEM conductor at Snark.

Hole ID	Easting	Northing	Dip	Azimuth	Length	Intersection
SC01_DH	782743	6698662	60	50	200	162

Next Steps for work on tenements

The Company has identified two areas prospective for sulphide hosted base metal deposits based on historical drill results. Most historical drilling for the Company's Lake Giles Iron Projects has been relatively shallow (<60m) and regionally, Kambalda style nickel mineralisation has only been found at depth. However, in several deep diamond holes, zones of semi-massive sulphide have been intersected. The interpretation of historical aeromagnetic data suggests possible presence of lava channels and Komatiite flows which are favourable for nickel-sulphide deposits.

The Company is seeking a venture partner to further the understanding of the nickel potential of the tenements with a drilling program warranted on targets identified to date.

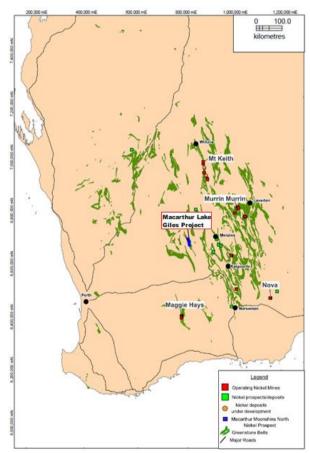


Figure 1. Macarthur Lake Giles Project Location and surrounding major Nickel Projects.



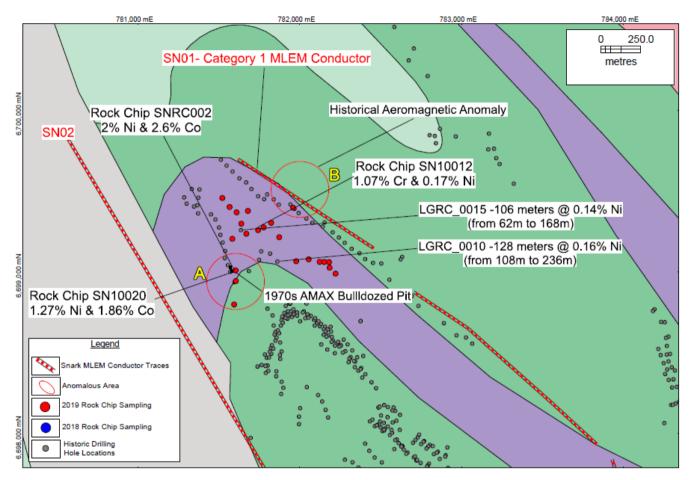


Figure 2. Location of rock samples containing elevated cobalt and nickel and Macarthur Minerals drill holes containing intercepts of anomalous nickel.

On behalf of the Board of Directors, Mr Cameron McCall, Executive Chairman

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Competent person

The information in this press release that relates to Exploration Results and Mineral Resources estimates is based on information compiled by Mr Andrew Hawker, BSc. Geol, MAusIMM and MAIG. Mr Hawker is a member of the Australian Institute of Geoscientists, and has sufficient experience relevant to the style of mineralization and type of deposit under consideration and to the activity they are undertaking 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 (the "JORC Code"). Mr Hawker is a consultant to the Company and consents to the inclusion of the Exploration Results in the form and context in which they appear.



Company profile

Macarthur is an iron ore development, gold and lithium exploration company that is focused on bringing to production its Western Australia iron ore projects. The Lake Giles Iron Project mineral resources include the Ularring hematite resource (approved for development) comprising Indicated resources of 54.5 million tonnes at 47.2% Fe and Inferred resources of 26 million tonnes at 45.4% Fe; and the Moonshine magnetite resource of 710 million tonnes (Inferred). Macarthur has prominent (~1,281 square kilometer tenement area) gold, lithium and copper exploration interests in Pilbara region of Western Australia. In addition, Macarthur has lithium brine Claims in the emerging Railroad Valley region in Nevada, USA.

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Caution Regarding Forward Looking Statements

Certain of the statements made and information contained in this press release may constitute forward-looking information and forward-looking statements (collectively, "forward-looking statements") within the meaning of applicable securities laws. All statements herein, other than statements of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future, including but limited to statements regarding: the proposed strategy regarding core mining, road and rail inputs at the Project; anticipated increases in annual production at the Project; anticipated decreases in Project costs; the possible reclassification of current inferred mineral resources on the Project as indicated mineral resources in the future; expected completion of the FS on the Project containing a new reserve calculation and a new economic assessment; the granting of a license for the Menzies rail siding; the status of the MRRT; and plans to secure mining approvals under the Mining Act, are forward-looking statements. The forward-looking statements in this press release reflect the current expectations, assumptions or beliefs of the Company based upon information currently available to the Company. With respect to forward-looking statements contained in this press release, assumptions have been made regarding, among other things, the reliability of information prepared and/or published by third parties that are referenced in this press release or was otherwise relied upon by the Company in preparing this press release. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and no assurance can be given that these expectations will prove to be correct as actual results or developments may differ materially from those projected in the forward-looking statements. Factors that could cause actual results to differ materially from those in forward-looking statements include but are not limited to: unforeseen technology changes that results in a reduction in iron or magnetite demand or substitution by other metals or materials; the discovery of new large low cost deposits of iron magnetite; the general level of global economic activity; future changes in strategy regarding core mining, road and rail inputs with respect to the Project; final Project costs varying from those determined from the EOI program; failure to successfully negotiate a BOO arrangement for the Project; failure to complete the FS; failure of the FS to reflect currently anticipated increases annual production and decreases in expected costs at the Project; the results of infill drilling being insufficient to reclassify current inferred mineral resources on the Project as indicated mineral resources; failure to receive a license for the Menzies rail siding; failure to repeal the MRRT; and failure to obtain mining approvals under the Mining Act. Readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. The forward-looking statements contained in this press release are made as of the date of this press release and except as may otherwise be required pursuant to applicable laws, the Company does not assume any obligation to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.



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	 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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. 	Macarthur's Lake Giles Snark Prospect was sampled using diamond core and reverse circulation percussion drilling from surface. A total of 856 RC holes and 29 diamond holes have been drilled at this prospect. Diamond recoveries were recorded by measuring the length of drill core retrieved per metre of drill penetration. RCP samples were weighed and a recovery (%) was estimated per metre of drill penetration. RCP drilling was used to obtain 1 m samples with a 3 kg sample split submitted to the assay laboratory and pulverised to produce a 30 g pulp charge for XRF analysis. Random rock chips were taken from outcropping rocks of interest. Multiple rock chips were taken from samples to ensure representivity.
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). 	RCP drill holes were drilled by Orbit Drilling using a Hydco 350 mounted on a 2008 Tatra 8x8 truck
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. 	Diamond core recoveries were recorded by measuring the length of drill core retrieved per metre of drill penetration. RCP samples were weighed and a recovery (%) was estimated per metre of drill penetration. If sample recoveries were observed becoming sub-optimal by the project geologist, the information was relayed to the driller who adjusted the drilling penetration rate, or other sample recovery drill rig characteristics such as air compression, in order to improve sample recovery. A geologist was present at the drill rigs at all times whilst drilling procedures were under way, and who logged all drill samples. In heavily fractured zones with strong groundwater flow recovery can suffer with appropriate measures being taken.



Criteria	JORC Code explanation	Commentary
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. 	All holes have been logged in detail for lithology, alteration, mineralization, oxidation state, structure and veining. RCP cuttings were logged for various geological attributes including rock type by the mineral composition, mineralization by veining and visible minerals, and alteration including oxidation. Logging is considered sufficient to support geologic modelling and Mineral Resource estimates. Rock, Quality Designation (RQD) and Rock Mass Quality (RMQ) logs were kept for geotechnical purposes to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. DD core was logged similar to RCP however in more detail and photographed at the Macarthur Camp.
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 sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	Diamond core was cut using an Almonte electric core saw in competent ground and hand split in clay at either 1 m intervals or to geological contacts. RCP samples were collected at the rig using riffle splitters. Samples were generally dry with some areas wet due to perched water tables. Industry standard diamond and RC drilling techniques were used and are considered appropriate for use in Mineral Resource estimation. For RC drilling, sample quality was maintained by monitoring sample volume and by cleaning the splitters on a regular basis. Field duplicates were taken every 20 meters for RC drilling. Quarter splits of core have been taken and recorded as duplicates in the database. Sample sizes are considered appropriate for the style of mineralization based on the style of mineralization, the thickness and consistency of the intersections, the sampling methodology, and assay value ranges for Iron Ore. RCP and core samples were securely delivered to SGS (the lab). RCP and Diamond core sample preparation technique was Coarse crush, Dry, Pulverised. Core was prepared by drying, crushing, pulverising to a nominal 85% and 45um then all were analysed using Borate Fusion with XRF finish (XRF78L). Rock chip sampled were not subsampled or composited with whole rock samples sent to the laboratory.



Criteria	JORC Code explanation	Commentary
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. 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. 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. 	All samples were dispatched to SGS. The majority of pulp samples were analysed using Borate Fusion with XRF finish (XRF78L), considered the industry standard practice for iron ore. All DTR work was also performed by SGS. Industry standard certified reference materials (CRMs) and blanks were utilized in order to check laboratory assay quality control. The insertion rate for CRMs is a nominal 1 in 20. Different CRMs have been selected for use at varying Iron grades over the life of the project. The combined insertion rate of pulp blanks and CRMs is a nominal 1 in 20 samples. The QA/QC program includes CRMs, blanks, preparation duplicates and field duplicates and is acceptable according to industry standards. Pulp duplicates were also analysed to test for analytical accuracy.
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	Assay results and significant intersections have been checked by senior geologists. Data are stored in a Microsoft Access database with original lab assays stored electronically. Data have been reviewed by Company personnel for verification of hole locations and QA/QC procedures. No adjustment to assay data has been undertaken.
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. Specification of the grid system used. Quality and adequacy of topographic control. 	Macarthur contracted ABIMS to carry out a DGPS survey of all the holes drilled at Snark. Data are presented in grid projection MGA94, Zone 50. Down-hole surveys of core holes were performed by the drilling contractor using a Reflex EZ-Giro tool. Measurements were taken every 10 metres down the holes.
Data spacing and distribution	 Data spacing for reporting of Exploration Results. 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. 	Rock chip samples were taken at a point location of interest based on outcrop mineralisation. The sample locations are clearly identified. No sample compositing of rock chip samples was undertaken.



Criteria	JORC Code explanation	Commentary
	Whether sample compositing has been applied.	
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. 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. 	Holes were generally angled at 60° across the strike of mineralisation, targeting strata typically dipping at 70° to 90° towards the angle of drilling. Some bias of sampling was anticipated based upon the angle of drill hole interception against the dip of haematite bearing strata, however this bias is not considered detrimental to the Mineral Resource estimate.
Sample security	The measures taken to ensure sample security.	On completion of each hole the calico sample bags were placed in polyweave bags and transferred to the Ularring exploration compound where they were securely stored. The polyweave bags were placed in large bulka bags and transported to the assay laboratory depot in Kalgoorlie and then Perth using a contracted freight company. At all times the samples were under the security of either Macarthur or the transport company personnel, and then under the security of the assay laboratory. Rip tie security tags were used to secure all samples. Rock chip samples were delivered by Macarthur personnel direct to the laboratory.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling procedures for drilling have been independently reviewed by a resource geologist for mineral resource estimation of the Ularring hematite deposit. Any problems observed were discussed with the geological staff on roster, and the problems were quickly corrected.

• 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 security of the tenure held at the time of reporting along with any known 	At present Macarthur manages 15 contiguous and Mining Leases covering a total area of approximately 62.4 km². Macarthur, through its wholly owned subsidiary Macarthur Iron Ore Pty Ltd, is the registered holder for the Tenements.



Criteria	JORC Code explanation	Commentary
	impediments to obtaining a licence to operate in the area.	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The property was previously explored for nickel (1968 to 1972) and gold (Aztec, Battle Mountain, 1993 to 1998) with limited success. Internickel Australia undertook a detailed evaluation of previous exploration from 2001 to 2005. Macarthur Minerals took over the tenements in 2005 and actively explored until 2014.
Geology	Deposit type, geological setting and style of mineralisation.	The outcropping geology of the project area is comprised of a combination of un-altered silica rich banded iron formations (BIFs) and altered, enriched hematite / goethite BIFs. Weathering has resulted in the leaching of the majority of the silica from the BIFs, thus producing a rock rich in iron and low in silica, near surface. These enriched bands vary from 1m to 30m in true thickness and are largely steeply dipping at 70°-90°.
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:	Refer to the table in the news release for the list of holes and assays received to date for the current infill drilling program. The Lake Giles Project Snark prospect consists of 885 drill holes that were used to support the Mineral Resource estimate previously disclosed. The exclusion of this information is justified on the basis that the information has been previously released to the ASX with supporting JORC Tables.



Criteria	JORC Code explanation	Commentary
Data aggregatio n 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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	RCP and DD drill samples were obtained at 1 m intervals with no sample compositing. Assays of intervals presented are length weighted averages.
Relationshi p between mineralisati on 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'). 	True width of mineralisation is derived from detailed three-dimensional geological rock models. Various ore bodies are intercepted at varying degrees of obliqueness, therefore a simple conversion to true thickness from down hole intercepts is not possible. General geometry of ore bodies is reported as sub vertical tabular bodies generally dipping between 60° and 90° with true thickness of mineralisation between several metres to 140 m
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. 	This news release is not reporting a new discovery.
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. 	The accompanying news release is considered to be a balanced report with suitable cautionary notes.
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	All substantive data is reported.



Criteria	JORC Code explanation	Commentary
	deleterious or contaminating substances.	
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	Further work involves geological mapping of the Snark prospect and drill testing of the MLEM conductors.