

ASX Announcement | 11 November 2021 Hexagon Energy Materials Limited (ASX: HXG)

New Anomaly Identified at Hexagon's McIntosh Project.

A recent Induced Polarisation (IP) geophysical survey across Panton suite intrusive rock at Melon Patch has identified a new Ni-Cu-PGE potential intrusion within the Tickalara Metamorphics, with related historic soil geochemistry.

Key Highlights:

- IP survey data and interpretation outcomes, combined with historical soil geochemistry data, have led to the identification of a new anomaly at Ni-Cu-PGE prospective Melon Patch, to be tested as part of Hexagon's upcoming McIntosh Project drilling program (HXG ASX Announcement dated 19 August 2021 and 12 October 2021),
- New IP anomaly (Anomaly A) highlights a potential (Panton Sill type) intrusion yet to be properly tested at Melon Patch,
- Historic review of McIntosh Project geophysical data revealed two airborne electromagnetic (AEM) anomalies (Anomaly 22 and Anomaly 9) discounted by previous explorers' surveys, ready and scheduled for further testing; and
- Co-funded exploration drilling monies has been secured through Round 24 of the Western Australian Government Exploration Incentive Scheme (EIS), for use in the upcoming McIntosh Project drilling program.

Hexagon Energy Materials Ltd ("Hexagon" or "the Company") is pleased to report that the recent Induced Polarisation (IP) geophysical survey conducted at the Melon Patch prospect within the McIntosh Ni-Cu-PGE and graphite project (Figure 1) has been successful in identifying an IP signature possibly associated with a mineralised intrusion within the Tickalara Metamorphics, located east of the contact with the Melon Patch ultramafic (Panton Sill type) intrusion. Figure 2 shows the Melon Patch Prospect with completed dipole-dipole IP lines and identified anomalies over historic SSED Ni geochemistry, see HXG ASX Announcement 28 June 2021, with Panton suite intrusive and interpreted intrusion margin highlighted (Figure 2).

The finding comes as the Hexagon geology team continues testing a new model around mineralisation at the contact boundaries of these formations. The presence of a moderately chargeable and non-conductive anomaly (body), where historic Ni geochemistry anomalies have also been recorded, gives significant optimism for further results and bolsters the justification for the Company's further planned exploration program activities.

Furthermore, Hexagon has also been successful in securing funding through Round 24 of the Western Australian Government's Exploration Incentive Scheme (EIS), which co-funds drilling, for use in the upcoming exploration drilling program to further investigate a previously discounted Airborne Electromagnetic (AEM) anomaly (22) that is situated within the Melon Patch North Prospect.



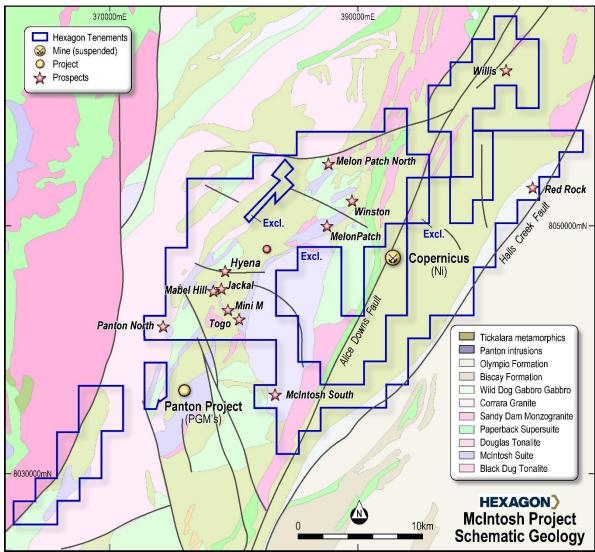


Figure 1:McIntosh Project Overview

Managing Director Merrill Gray commented; "The results from the recent IP survey are exciting. Coupled with our past investment in the historic geophysical review, they show that our systematic approach to exploring Ni-Cu-PGEs at the McIntosh Project is beginning to deliver results. Results like these give a glimpse into the potential value within the project. They provide a clear mandate for us to continue with McIntosh, as one of the Company's core projects.

The exploration program at McIntosh is being undertaken concurrently with the Prefeasibility Study work on the Northern Territory (Pedirka) Hydrogen Project and, we will soon provide progress information on that as well."



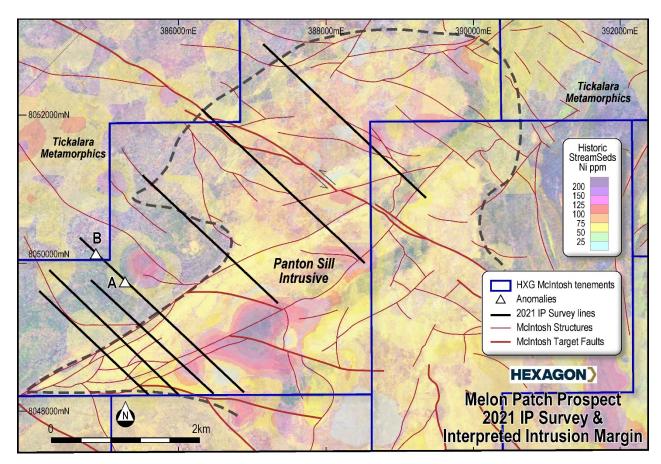


Figure 2: Showing Melon Patch Prospect with completed dipole-dipole IP lines and identified anomalies over, Historic SSED Ni geochemistry. With Panton suite intrusive and interpreted intrusion margin highlighted (dashed Line) (See HXG ASX Announcement 28 June 2021).

Melon Patch IP Survey

Melon Patch was identified as a priority Ni-Cu-PGE prospect as part of the historic geochemical review undertaken by Hexagon over the McIntosh Project area (See HXG ASX Announcement 28 June 2021) Historically, AEM data alone had not been interpreted as delineating any anomalies consistent with shallow massive sulphide mineralisation, and this has led to limited exploration in the area. As a result, a dipole-dipole IP survey was completed to test the possibility of disseminated sulphide deposits associated with the significant historic Ni soil geochemical data anomalies seen, in conjunction with modelling and interpretations at the northwestern side of the intrusion margin (Figure 2). This survey was designed and managed by Zion Geophysics as part of a strategic exploration objective to test the contact between the interpreted ultramafic (Panton Sill type) intrusion and the Tickalara Metamorphic. Hexagon's geological modelling has indicated this contact as potentially prospective. As a result, lines of the IP survey were extended to the northwest to cover potential structurally remobilised or feeder dyke positions within the Tickalara Metamorphics.

IP Line 10600 of the IP survey defined two chargeable features as shown in Figure 3. Anomaly A is a moderately chargeable and non-conductive body located on the edge of a historic Ni soil anomaly and is possibly associated with a small, mineralised intrusion like those seen else in the McIntosh Project. Such as at the Mabel Hill prospect which yielded best historic drill intercept of 4m @ 1.42% Ni and 0.39% Cu and drilling at the Jackal prospect which comprised of broad zones of disseminated Ni-Cu mineralisation which included 50m @ 0.33% Ni & 0.17% Cu including 1m @4.57% Ni & 0.4% Cu (See HXG ASX Announcement 28 June 2021).



Anomaly B whilst also strongly suggestive of a chargeable and conductive body within the Tickalara Metamorphics is analogous to graphite mineralisation which has been the subject of previous Hexagon announcements (HXG ASX announcement 21 December 2015, 8 February 2017, 1 April 2019).

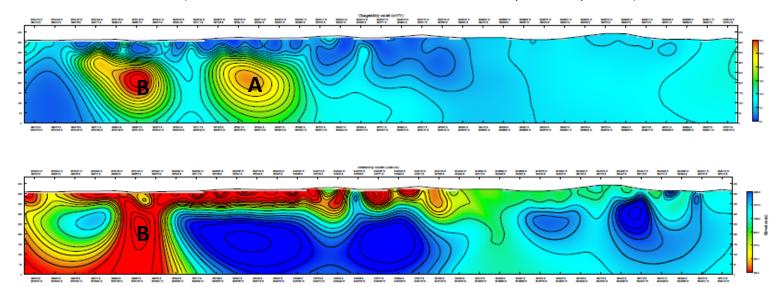


Figure 3: Top: Line 10600 chargeability mode with related features A & B. Bottom Line 10600 resistivity mode with related Feature A.

Initial results from the major soil sampling program completed at the same time as this IP survey, where approximately 5,200 soil samples were collected, are expected to be received by end of November 2021 for review by an expert geochemist being engaged by the Company.

A prioritised exploration program planned for the 2022 field season is currently undergoing detailed planning and budgeting.

Co-funding for drilling secured through Round 24 of the Western Australian Government Exploration Incentive Scheme (EIS)

During the historical geophysical survey data review, concluded over the McIntosh Project earlier in the year, two previously discounted AEM anomalies were identified which Hexagon now considers warrant further testing.

Firstly, AEM anomaly 22, lies within the Melon Patch North prospect, the geological mapping undertaken by HXG now has this anomaly situated within a remnant of the potential Panton Sill type intrusive, bound to the north by Tickalara Metamorphics and to the east by the Sally Down Suite (Figure 3). Two rock chip samples MCl089 & MCl090, collected during historic geological mapping programs, returned anomalous Cu value (Table 1) with chalcopyrite and very fine grained disseminated sulphide were observed in MCl090. Historically, this anomaly had been dismissed as it had been thought to be graphite related.

In addition, this area was not covered by the FLTEM survey completed by Panoramic (formerly Sally Malay Mining) in 2007, even though this AEM anomaly coincides with a Ni-Cu soil anomaly. A historic Gradient Array and Dipole-Dipole IP survey defined a chargeable and conductive zone at the eastern margin of the outcropping intrusive complex that appears to dip towards the east, beneath the Tickalara Metamorphics. This has led to Anomaly 22 now being deemed a high priority target by Hexagon (Figure 4).

Subsequently Hexagon successfully applied for secured funding through the Western Australian Government's Exploration Incentive Scheme to co-fund drilling. A total of \$30,000 has been secured. The funding will be used to cover part of the cost of drill testing Anomaly 22.

Mabel Hill as well as the Jackal and Hyena prospects within the McIntosh Project (Figure 1) occur along the south-eastern margin of a roughly 2km wide exposure of the Wild Dog Creek Gabbro (WDCG). The WDCG



contains scattered inliers of older Panton intrusive rocks. Several Ni soil anomalies occur around the margins of the WDCG intrusion, often near or coincident with the Panton intrusive rocks.

Secondly, Hexagon is also focussed on the AEM anomaly 9 feature to the north that follows the intrusive contact south. This then swings into the interior of the WDCG exposure situated west of the Hyena prospect (Figure 5), where there is a historic Ni-Cu soil anomaly (See HXG ASX Announcement 28 June 2021) along the intrusive contact that supports a potential AEM anomaly 9. In addition, there are more EM anomalies coincident with Ni-Cu soil anomalies following structural trends which is positive for Hexagon both prospectivity-wise and from a geological model validation perspective.

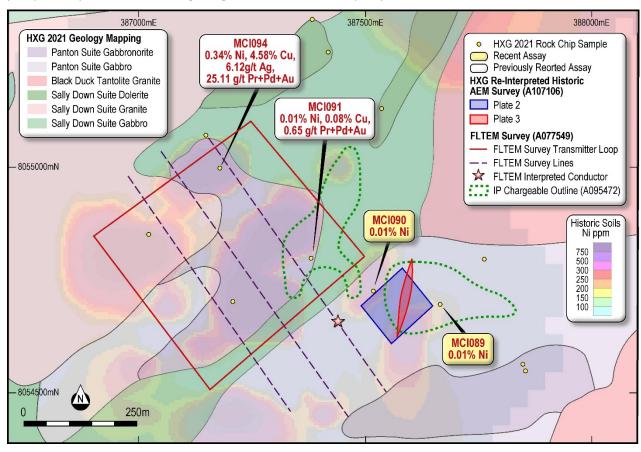


Figure 4: Melon Patch North Anomaly 22 with historic Ni soil anomaly contours overlaid. Anomaly 22 coincides with a Ni anomaly to the east of the historic drilling (See HXG ASX Announcement 28 June 2021).



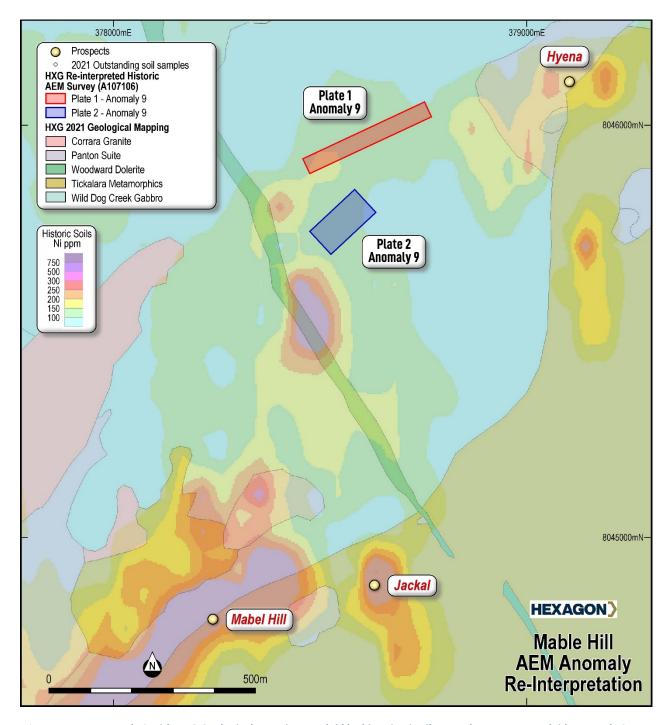


Figure 5: AEM Anomaly 9 with HXG Geological Mapping overlaid by historic Ni soil anomaly contours overlaid. Anomaly 9 coincides with a Ni- anomaly to the west of the Hyena).



Next Steps

Drill program planning for the McIntosh Project 2022 field campaign is underway with Heritage Notices and a POW application to be submitted shortly for Anomaly A, 22 and 9 respectively.

A follow up IP survey at a higher level of granularity is planned at Anomaly A. This will be undertaken at the commencement of the 2022 Field season to refine drill testing targets.

This 2021 IP survey at Melon Patch (Figure 2) did not extend over the interpreted south-eastern margin of the potential intrusion. The results from the CSIRO Fine Fraction soil program undertaken during the 2021 field season (See HXG ASX Announcement 19 August 2021) will now be used to design a further IP survey to test this contact and design the infill lines in order to deliver greater levels of detail and insight. Equally a more granular IP survey is also being considered for Mabel Hill further to this 2021 survey, subject to the soil sample results that will shortly come through.





Table 1: Selected reconnaissance rock chip samples from Anomaly 22 included as referenced in body of text.

Sample ID	Grid	Easting	Northing	Tenement	Prospect	Sulphide Identified	Ni pct	Cu pct	Co pct	Pd g/t	Pt g/t	Au g/t	Ag g/t
21MCl089	MGA94_Z52	387666	8054695	E 80/3864	Anomaly 22	-	-	0.01	-	ı	1	1	-
21MCl090	MGA94_Z52	387518	8054725	E 80/3864	Anomaly 22	Y	-	0.01	-	-	1	1	-



This announcement has been authorised by Board of Directors of Hexagon Energy Materials.

Competent persons' attributions

The information within this announcement that relates to Exploration Results and Geological data at the McIntosh Project is based on information compiled by Mr Michael Atkinson and is subject to the individual consents and attributions provided in the original market announcement and reports referred to in the text of this announcement Mr. Atkinson is not aware of any other new information or data that materially affects the information included in the original market announcement or reports referred, and that all material assumptions and technical parameters have not materially changed.

Mr Atkinson is a consultant to Company and a member of The Australian Institute of Geoscientists. He has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results Mineral Resources and Ore Reserves and he consents to the inclusion of the above information in the form and context in which it appears in this report.

About Hexagon Energy Materials Limited

Hexagon Energy Materials Limited (ASX: HXG) is an Australian company focused on the exploration and development of clean energy and energy materials projects.

Hexagon is developing a business to deliver decarbonised hydrogen into export and domestic markets. This includes a PFS with a base case developing the Pedirka Hydrogen project in Australia's Northern Territory, utilising gasification and carbon capture and storage (CCS).

Hexagon plans to progressively increase renewables inputs, reducing the environmental impacts of the hydrogen it produces.

Hexagon also owns the McIntosh Nickel-Copper-PGE and Graphite project in WA and the Halls Creek Gold and Base metals project also in WA. In the US, Hexagon has an 80 per cent controlling interest of the Ceylon graphite project in Alabama which is subject to earn-in negotiations with South Star Battery Metals Corp. (TSXV: STS) (OTCQB: STSBF).

Hexagon is actively progressing value accretive transactions consistent with its strategy, skill set, and focus on clean energy and clean energy materials.

To learn more please visit: www.hxgenergymaterials.com.au

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Appendix 1: JORC Table 1 McIntosh Project



Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	HXG Data 259 rock chip samples were collected from reconnaissance mapping. Rock chip samples were attempted to be representative for the general outcrop in the area. Rock samples typically represented multiple chips from the broader outcrop using a hammer to collect the chips. Company rock chip samples typically ranged from 0.5kg to 2kg in size
Drilling Techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	HXG Data No Drilling undertaken by HXG
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. 	Non-Applicable
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.	HXG Data The Rock chip were geological logged in the field and photographed, this logging is qualitative in nature. The Prospects are at an early stage of exploration and no Mineral Resource estimation applicable
Sub-sample techniques and sample preparation	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.	 HXG Data Rock chip samples were collected in the field as combination of large chips from outcrop and combined within the sample bag with a unique sample ID. Samples were submitted to Intertek Laboratories in Perth WA. Entire samples were crushed and pulverised to 85% passing >75µm. No sub sampling undertaken. Rock samples are representative of the immediate area observed. Several chips were usually taken from the outcrop. Sample sizes are appropriate and typically range from 0.6kg to 2kg.



Criteria	JORC Code Explanation	Commentary
Quality of assay	The nature, quality and	Commentary HXG Data
data and laboratory tests	appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	 Samples were submitted to Intertek Laboratories in Perth WA. Entire samples were crushed and pulverised to 85% passing >75µm. Rocks were analysed or a 48 element suite of elements including Ag, As, Ba, Bi, Cr, Cu, Co, In, Mo, Ni, Pb, ,Sb, Sn, Te, W, Zn with four acid digest 4A/MS48 and with Au, Pt, Pd analysed by FA25/MS fire assay 25g charge and MS finish. Results are considered to be near total. No external standard was submitted with the 259 rock chips. No external laboratory checks were complete. 5 Internal laboratory duplicates from the current batch of samples reported were taken from the crushed rocks. Acceptable levels of accuracy from these rock chips have been established.
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Verification of sampling and	The verification of significant intersections by either independent	HXG Data Rock chip samples were collected and submitted by
assaying	or alternative company personnel.	consultants working for HXG.
	The use of twinned holes. Programmentation of primary data data.	Data was recorded in field book. Rock chip locations and sample description were entered into an excel proceed sheet.
	Documentation of primary data, data entry procedures, data verification,	sample description were entered into an excel spread sheet prior to uploading to HXG externally managed database.
	data storage (physical and	Ni, Cu, Co have been converted from ppm to pct. Pd, Pt, Au
	electronic) protocols.Discuss any adjustment to assay	converted from ppb to g/t. Ag converted from ppm to g/t
	data.	
Location of Data	Accuracy and quality of surveys	HXG Data
points	used to locate drillholes (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.	 Rock chip locations were recorded using handheld GPS utilising GDA 94 Zone 50. Positions are accurate to +/- 3m horizontal and +/- 10m vertical. Co-ordinates are referenced to the Map Grid of Australia (MGA) zone 52 on the Geographic Datum of Australia (GDA94)
Data spacing	Data spacing for reporting of	HXG Data
and distribution	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. Whether sample compositing has been applied.	 No Mineral Resource is being considered in this report. Data spacing for rock chip sampling is dependent on outcrop and no grid system was used.
Orientation of data in relation	Whether the orientation of sampling sampling of	HXG Data
to geological	achieves unbiased sampling of possible structures and the extent to	Sampling are rock chips and dependent on outcrop
structure	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	
Sample Security	material. The measures taken to ensure	HXG Data
Jampie Security	sample security.	Chain of custody for recent rock chip samples is that they were managed by the HXG personnel and delivered to a courier company for delivery to Intertek Laboratories in Perth
Audits or	The results of any audits or reviews	No audits have been undertaken.
reviews	of sampling techniques and data.	



Section 2 Reporting of Exploration Results

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 impediments to obtaining a licence to operate in the area.	The McIntosh Creek Project (C121/2010) is in the East Kimberley region of Western Australia and comprises 17 granted tenements covering an area of 416 km2. These tenements are 100% owned by Hexagon Energy Materials Ltd and a subsidiary McIntosh Resources Pty Ltd
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The East Kimberley has been largely explored for base metals and diamonds with no active previous exploration for graphite. Graphite had been noted by Gemutz during regional mapping in the Mabel Downs area for the BMR in 1967, by Rugless mapping and RAB drilling in the vicinity of Melon Patch bore, to the east of the Great Northern Highway in 1993 and has been located during nickel exploration by Australian Anglo American Ltd, Panoramic Resources Ltd and Thundelarra Resources Ltd over the last 20 years.
Geology	Deposit type, geological setting and style of mineralisation.	The McIntosh project lies within the central Halls Creek Orogenic zone, Lamboo Complex, which includes the prospective large McIntosh mafic-ultramafic intrusive complex located immediately west of the Alice Downs fault and further west of the cratonic scale Halls Creek fault. The McIntosh intrusion may also be the source of the Panton maficultramafic intrusive stratigraphy mapped throughout the McIntosh project. The Panton suite is known to host Ni-PGE occurrences and deposits including the + 2 Moz Panton PGM Project and Copernicus Ni-Cu Deposit and regionally includes Panoramic Resources' Savannah & Savannah North Ni-Cu operations.
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 drillholes:	There are 1 RAB, 9 Percussion, 142 RC and 6 Diamond Holes in the historic Mcintosh Project data identified to date. Individual hole detail can be obtained from WAMEX reports, specifically, A66347, A66386, A66580, A66625, A68239, A70033, A71668, A73148, A73171, A75413, A77459, A79324
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	No weighting has been applied.
Relationship between mineralisation widths and intercept lengths	 If the geometry of the mineralisation with respect to the drillhole 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. 	Intersection is reported as down hole intervals.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These	Location plans are contained within the body of this announcement.



	should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.	
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.	A selected set of significant rock chip result have been reported and detailed in table 1.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Other data has not been considered at the time. A full evaluation of other geological and geophysical information is ongoing.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Results from the soil sampling program will continue to be received into Q1 2022. These will feed into the drill program planning for the 2022 field season. The approvals process for the 2022 field campaign is currently underway with Heritage Notice and POW application to be submitted in the near term. This will allow Hexagon to expand on the body of work undertaken this year.