



ASX Announcement

11 February 2020

Halls Creek Project High Priority Gold Targets Identified

HIGHLIGHTS

- Large-scale, detailed aero magnetics survey and subsequent target generation
- Six high priority gold and base metal targets confirmed
- Multiple mineralisation styles identified with several walk-up drill targets identified
- Strong gold price at >\$2,300 per ounce is driving increased activity in the
- Project is available for joint venture
- Mineralisation is at surface historical rock chip sample grades include:
 - ✓ 56g/t Au from trench sample and 36.5 g/t Au from rock chip sample at Lady Helen
 - ✓ 26.1 g/t Au at Townsite✓ 11.5 g/t Au at Granite

 - √ 1.38 g/t Au at Bent Ridge
 - ✓ 10.7% Cu at Arial
 - ✓ 1.16% Cu and 8.61% Pb at Tiger

Hexagon Energy Materials Limited (ASX: HXG) (Hexagon) is pleased to provide an update on its Halls Creek Project (HCP). The recently completed geophysical survey and interpretational work has greatly enhanced the prospectivity and the Company expects keen interest from potential joint venture partners.

The HCP comprises thirteen granted tenements spanning 657 km² in the East Kimberley region of Western Australia. The project area hosts known gold and base metal surface mineralisation

A recently acquired, high-resolution geophysical survey, in combination with re-interpreted geology and geochemical anomalies, has resulted in the identification of multiple gold and base metal 'walk-up' drill targets. The project area boasts excellent access and is located in an underexplored yet highly prospective region of Western Australia but has received very little systematic exploration work to date.

Six high priority precious and base metal prospects were identified by Hexagon within its tenure that warrant additional exploration; Lady Helen, Bent Ridge, Granite, Townsite, Arial (formerly referred to as Milba) and Tiger. In addition to the six high priority prospects, numerous additional targets were generated that warrant on the ground investigation to follow-up recently defined geophysical and/or geochemical anomalies.



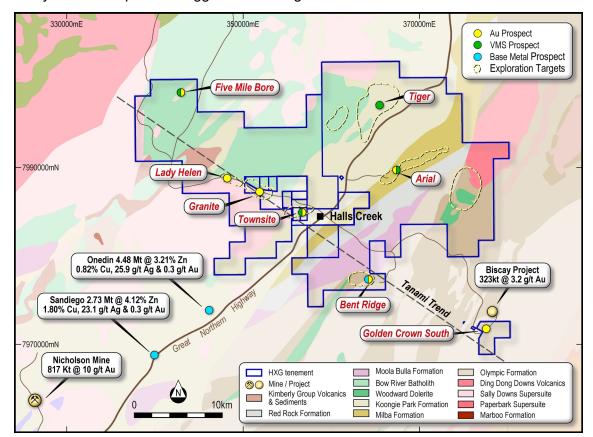
Mike Rosenstreich, Hexagon's Managing Director commented "we are very excited by the potential and advanced targets that have emerged through this work. For example the Bent Ridge target data tying together the rocks, structure and alteration is a big system we consider prospective for gold and copper, yet has never been drilled. The new aeromag data has reinforced and provided strong geological context to this target and several other high-priority gold and base metal targets. This work has added value and highlights our Halls Creek Project as seriously under rated and underexplored."

"Hexagon is focussing on the rare earth joint venture and our preference is to seek opportunities to commercialise the value of the Halls Creek Project through either joint venture or spin-out, preserving upside exposure for our shareholders. This region is getting increased exploration attention and with a A\$2,300/oz gold price this is a unique opportunity for such a prospective, well located and sizable project." he added.

HEXAGON PROJECT ADVANCEMENT

Hexagon recently flew a 100m spaced airborne magnetic and radiometric data survey over its HCP area. This new data was merged with additional high resolution open-file data and geological interpretation was completed at a 1:25,000 scale. The purpose of the recently flown survey was to refine the structural and lithological targets within the large tenure with the aim of defining drill targets. High priority targets and tenement overlain on the recent aeromagnetic data is presented in Figure 2.

The increased geophysics data resolution has enabled better discrimination of the various geological units as well as potential vectors for mineralisation controls which has added significant value to the land package. The new data has defined several geophysical anomalies that coincide with known surface mineralisation and/or geochemical anomalism, many of which represent suggested drill targets and are summarised in Table 1.





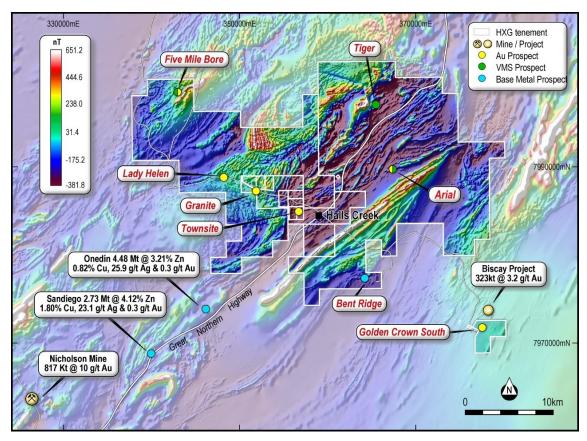


Figure 1: Halls Creek Project – Regional Geology with prospects

Figure 2: Halls Creek Project - aeromagnetic data (1vd) with high priority targets

Table 1. Summary of the drill targets including mineralisation styles and commodity types

Target Commodity	Mineralisation Style	Prospect Names -
Gold-Silver	Epithermal	Lady Helen, Granite and Golden Crown South
Copper-Lead-Zinc	volcanogenic massive sulphide (VMS)	East Tiger, Arial, and Townsite
Nickel-Copper-Cobalt	Gabbroic	Tiger and East Arial
Gold-Copper	Hydrothermal Listwanite	Bent Ridge

Together these gold and base metal targets represent a polymetallic system that has remained grossly underexplored despite being in a highly prospective geologic setting and mining jurisdiction.

ADVANCED TARGETS

Lady Helen

The Lady Helen prospect (epithermal Au-Ag) is a high priority target. Historic high-grade gold values have been returned from rock chipping a gossan within an intermittent Au-As geochemical anomaly over a strike length of 500m. Historical trench samples returned up to 56 g/t Au and historical rock chip assay values returned up to 36.5 g/t Au and 47 g/t Ag. A small historical drilling program returned a best result of 4m at 22.6 g/t Au & 17.3 g/t Ag from surface from a vertical hole drilled straight into the gossan.



The recently acquired geophysical data supports an attractive gold target located on a lithological contact and associated with a series of NW trending faults and fractures thought to be related to the Lady Helen mine.

Granite

The Granite prospect occurs on a granite margin where historic rock chip sampling of sheeted quartz veins returned values up to **11.5 g/t Au with 9.5 g/t Ag**. A historic shallow drilling program (<43m) holes produced a best result of 10m at 0.3 g/t Au and 0.3% Cu within a zone of recorded trace sulphides including pyrite, chalcopyrite as well as free gold - but failed to adequately test this target.

Bent Ridge

The Bent Ridge prospect is considered a large scale alteration zone hosting multiphase quartz vein / breccia system prospective for gold and copper. The prospect is defined primarily by a 2 km long As-Cu soil anomaly and supported by historic rock chip assays up to **1.38g/t Au** and 930 ppm arsenic collected from a gossan outcrop. The recently acquired geophysical data indicates a structurally complex setting with major displacement (circa 500m) representing a major former pathway for fluids containing metals (gold mineralisation).

Townsite

The Townsite prospect is defined by two 400m long en-echelon [gold] anomalies within the prospective Koongie Park Formation, associated with a west north-west trending silicified cataclastic lode. Historic rock chip assays up to **26.1 g/t Au, 22 g/t Ag and 2.6% Pb** were returned. The recently flown magnetic data has produced a subtle anomaly which appears to correlate with the geochemical anomaly. This prospect is yet to be tested with drilling.

Arial

The Arial prospect is a VMS style base metal target defined by regional scale – 5km long, anomalous base metal (Pb-Zn-Cu) and gold from historical geochemical sampling programs, which included stream sediment, MAGLAG and rock chip samples. Within the soil anomaly historic rock chip sampling has returned assays of **10.7% Cu, 86 g/t Ag** and 470 ppb Au. The recent geophysical survey has produced a strong magnetic high associated with the known surface mineralisation.

Tiger

The Tiger prospect is prospective for VMS style base and precious metals. Three VMS base metal targets were defined by coincident polymetallic (Pb-Zn-Cu-Ag) and pathfinder element (As-Mo-Sn-Sb) anomalous areas with strike lengths ranging from 400 to 600m. One of the targets consists of a 200m brecciated contact zone with rock chip values of 1.16% Cu, 8.61% Pb, 50.5 g/t Ag and 0.25 g/t Au. The recently acquired geophysics has defined NE-SW trending magnetic anomalies which warrant investigation.

Additional targets

Numerous other prospects have been identified which require additional target-definition type exploration work before drill testing can occur. One example is the Golden Crown South area which is targeting gold mineralisation hosted within quartz-carbonate veins and stockwork associated with faulting within the Olympio Formation, a regional host



lithology to other gold deposits in the region such as the nearby and along strike historical Golden Crown and Biscay gold mines.

East Tiger and East Arial prospects have emerged as new targets worthy of on the ground follow up exploration to explore for the source of their anomalies.

KIMBERLEY REGIONAL BACKGROUND

The Kimberley region is considered massively underexplored in comparison to other known mineralised belts within Western Australia, yet boasts the right geological terrain, metamorphic grade and tectonic setting to host multiple world-class deposits.

Historical exploration since the 1880's identified high-grade gold values through geochemical sampling, drilling, and geophysical surveys. Hexagon actively followed up on these targets by compiling and reviewing historical data, acquiring 100m spaced airborne magnetic and radiometric data over the HCP area and conducting geological interpretation. When merged with high-resolution open-file and multi-client data and newly available geochemical datasets, the new high-resolution geophysical data resulted in new interpretations at the 1:25,000 scale and the identification of six well-defined drill targets.

The Company has noted a renewed exploration interest in the region following success by regional mine operators such as Pantoro (ASX: PNR) (gold), Panoramic Resources (ASX: PAN) (nickel) and Northern Minerals (ASX: NTU) (rare earth elements (REEs)), as well as explorers such as Buxton Resources (ASX: BUX) (nickel-copper-cobalt), Northwest Nickel Pty Ltd (recently acquired by Chalice Gold Mines, ASX: CHN) and recent pegging activity by Independence Newsearch Pty Ltd, a subsidiary of Independence Group (ASX: IGO).

The east Kimberley Mineral Field contains the first ever gold discovery in Western Australia in 1885 at Old Halls Creek. Significant gold was produced from the area since that time. Prospecting in the 1970s and 80s located significant discoveries with grades of between 10 to 60 g/t gold. Nearby, Pantoro Limited Nicolsons Gold Project commenced production in September 2015 and has a current production rate of 50,000-55,000 ounces per year. The Nicholson ore body comprises high-grade mesothermal lode gold style mineralisation with a reported life-of-mine head grade of 7.3 g/t gold for 220,000 ounces¹. Pantoro has reported high-grade gold results from its Mary River and Grants Creek Projects which are immediately south and north, along strike, respectively from the HCP tenements. Similar styles of epithermal to mesothermal gold mineralisation have been identified within the Company's tenements at the Lady Helen and Townsite prospects and the newly acquired, central licence has similar prospectivity associated with the Granite prospect areas.

The HCP is prospective for VMS style mineralisation as well as high-grade gold. Significant polymetallic, VMS resources were defined to the southeast by Anglo Australian Resources (ASX:AAR). A summary location and schematic geology plan is presented in Figure 2 highlighting the targets currently defined by Hexagon.

There is also potential to target magmatic-hosted nickel, copper and platinum group elements (PGE) mineralisation within the tenements, which has been ignored by previous explorers.

The East Kimberley region is known for precious (Au, Ag) and base (Cu-Zn-Pb) metals as well as prospective Ni-Cu sulphide mineralisation host to few, but notable deposits in the broader Halls Creek area, including:

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¹ Pantoro ASX Report 5 August 2019.



- 1. Operating Nicolson's Find **goldmine**; **817** kt @ **10g/t** Au with **400k** oz Au resource), the only gold producer (50koz pa @ 7-8 g/t Au LOM head grade) and processing plant in the underexplored region
- 2. Undeveloped Onedin and Sandiego **VMS-style base metal deposits** (Anglo Australian Resources Ltd; ASX: AAR; combined indicated resource: 86kt Cu, 255kt Zn, 2Moz Ag, 26koz Au) located in the Koongie Park Formation immediately south of the HCP.
- 3. Three **operating nickel-sulphide mines** (Panoramic Resources Ltd; 217kt @ 8% Ni, 100kt @ 5% Cu, 14.8kt @ 0.6% Co) in the East Kimberly District.

NEXT STEPS

The attractive historical surface sampling results in combination with the recently completed 1:25,000 scale geological interpretation and detailed geophysics has laid the foundation for a reconnaissance drill program.

This drill program would ideally be preceded by prospect scale geological mapping to define exact drill hole locations within the areas of interest. The project is considered drill ready for the upcoming field season (between March and August).

AUTHORISATION

This announcement has been authorised by the Managing Director.

COMPETENT PERSONS' ATTRIBUTIONS

Exploration Results

The information within this report that relates to exploration results, Exploration Target estimates and geological data at the Halls Creek Projects is based on information compiled by Ms Cherie Leeden who is a Consultant to the Company and reviewed by Mr Mike Rosenstreich, a full-time employee of the Company. Ms Leeden is a Member of the Australian Institute of Geoscientists and Mr Rosenstreich is a Fellow of the Australian Institute of Mining and Metallurgy. Both, have 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 they both consent to the inclusion of this information in the form and context in which it appears in this report.

FOR FURTHER INFORMATION, please contact:

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Table 1: Location and meta data for selected drill holes referred to in this report.

Company	Prospect	Hole ID	East	North	Grid	Dip	Azimuth	Hole Type	Dated Drilled	Drilling Company	Lab	Lab Method	Wamex
Freeport	Lady Helen	MB01P	348047	7988872	MGA94_50	-90	0	RP	1981	Dowan & Hughes	Pilbara Laboratories	(Au)Fire Assay (Ag)AAS	A10708
Burdekin Resources	Granite (Mt Barrett)	MTBRC09	352032	7987181	MGA94_50	-60	195	RC	1995	Unknown	Ultratrace	AquaRegia	A47329

Table 2: Location and meta data selected rock chip samples.

Company	Prospect	Sample ID	East	North	Grid	Sample Type	Date	Lab	Lab Method	Wamex
Auridium	Lady Helen	HC042	348054	7988875	MGA94_52	Rock	1987	Analabs	Unknown	A21782
Auridium	Lady Helen	HC040	348059	7988882	MGA94_52	Rock	1987	Analabs	Unknown	A21782
Burdekin Resources	Townsite	849168	356960	7985182	MGA94_52	Rock	2000	Ultratrace	4 Acids	A61254
Burdekin Resources	Granite	350573	351768	7986847	MGA94_52	Rock	2000	Ultratrace	4 Acids	A61205
3D Resources	Bent Ridge	881915	364505	7977642	MGA94_52	Rock	2008	Ultratrace	AquaRegia	A80725
Burdekin Resources	Arial (Milba)	849118	365870	7988708	MGA94_52	Rock	1999	Ultratrace	AquaRegia	A61681
Burdekin Resources	Tiger (Banjo Bore)	P20020	365133	7996712	MGA94_52	Rock	2001	Unknown	Mixed Acid	A62424



Appendix 1: JORC Table 1 Halls Creek Project

Section 1 Sampling Techniques and Data

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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. 	 Data has been collated from various explorers in the area since 1981. This includes surface samples, Auger, RAB, RC, RP drilling. Metadata from the sampling/drilling has been collected from the historic WAMEX exploration reports including where recorded, the sampling techniques. A summary of metadata for the selected drill holes intercepts and selected surface sampling is included as attachments in Table 1 & Table 2 100m spaced airborne magnetic and radiometric data were acquired by Magspec in 2019 over the Halls Creek tenement package. The aircraft used by Magspec was a Cessna 210, specially modified for geophysical surveys. Southern Geoscience Consultants (SGC) merged the geophysical data with additional high-resolution open-file and multi-client data to provide new interpretations at the 1:25,000 scale
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, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	 Rotary Percussion technique was used for hole MB01P and reverse circulation for hole MTBRC09, no other information is available.
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. 	Quantitative sample recovery data is not recorded.
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. 	MB01P and MTBRC09 have been geologically logged and recorded in the WAMEX exploration reports cited in Table 1.
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. 	 Magspec acquired airborne magnetic, radiometric and DEM data along 090-270 degree lines, spaced 100m apart, with 1,000m tie line spacing at 000-180 degrees, with a mean terrain clearance (sensor height) of 35m. 10,260km of total lines flown During the airborne survey the pilot monitored system health from prompts on the navigation screen and the ground crew monitored diurnal base stations. Post-flight, all survey data were transferred from the acquisition system to the infield data processing computer and the data were checked for any error and compliance with specifications. All profiles were visually checked, the flight path was plotted with colour-coded indicators of any out of specification height or cross-track and the data were gridded and visually inspected for errors and compared for continuity with previous flights. The summed 256-channel spectra were plotted and inspected and the test line and preand post-flight ground calibration were tabulated and reviewed.
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	 Freeport sent samples to Pilbara Laboratories with Fire Assay used for Au and Atomic Absorption Spectrophotometry used for Ag, Cu, Pb, Zn.



	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.	 method has been recorded Burdekin Resources sent rock chips to Ultratrace for analysis by 4 acid digests with ICP finish and AquaRegia, and also ran samples using Mixed Acid but the lab is unknown. 3D Resources sent rock chips to Ultratrace for analysis by Aqua Regia
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.	
Location of Data points	Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	 GPS. Auridium sample locations surveyed using tapes and compasses. Current location digitised from historic location plans. All other sample located using handheld GPS
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. Whether sample compositing has been applied.	 Hexagon has now acquired increased geophysical data resolution from 100m surveys This program has provided Hexagon with a high-quality data set on which to base litho-structural interpretations critical for detailed target generation and refinement work prior to drilling.
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.	 MB01P dipping at -90° MTBRC09 dipping at -60° and azimuth of 195°
Sample Security	The measures taken to ensure sample security.	 Sample security protocols for the historic data is not recorded
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken.

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	 The Halls Creek Project (C124/2014) is in the East Kimberley region of Western Australia and comprises eleven granted tenements covering an area of 571 km². These tenements are 100% owned by Hexagon Resources Ltd through a subsidiary Halls Creek Resources Pty Ltd. The tenement package consists of a combination of three Exploration and eight Prospecting Licence.



	known impediments to obtaining a	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 The project has been subject to exploration by several companies over the past 40 years. This work has been built up by successive explorers. Interpretations from this airborne geophysical survey relied on merging additional data sources, including, Multiclient MAG and RAD data from the Palm Springs survey (job #1152), acquired by Kevron in 1995, with flight line spacing of 200m, mean terrain clearance of 60m, and 90-270 degree flight line direction Open file MAG, RAD, DEM data from the Golden Crown survey (job #A60903), acquired by UTS Geophysics in 2004, with flight line spacing of 40m, mean terrain clearance of 40m, and 135-225 degree flight line direction Open file MAG, RAD, DEM data from the Palm Springs survey (job #A962), acquired by UTS Geophysics in 2007, with flight line spacing of 100m, mean terrain clearance of 50m, and 90-180 degree flight line direction
Geology	Deposit type, geological setting and style of mineralisation.	The Halls Creek Project prospecting leases lie within the Palaeoproterozoic metamorphosed volcanics and sediments from the Halls Creek Orogeny. These include metamorphosed basalts, volcanic, sub-volcanic and volcaniclastic rocks and metamorphosed turbidites, calcareous rocks and cherts commonly displaying schistose fabrics. The exploration licence extends over a far more extensive area to the west and north west and comprises of granitic and subordinate gabbroic rocks (/- minor metasedimentary hornfels from the Koongie Park Formation) to the north-west of the tenement, weakly porphyritic biotite monzogranite and syenogranite to the south of the tenements and an epidotic and chloritic amygdaloidal basalt intrusion with minor lithic sandstone and siltstone along its western boundary
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 122 RAB Holes, 21 RC and 9 RP Holes in the historic Halls Creek data identified to date. Individual hole detail can be obtained from WAMEX reports, specifically, A51736, A47329, A48163, A51736, A21782
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 should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.	Location plans are contained within the body of this announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting	A selection of significant results has been reported



	of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
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).	Hexagon is currently conducting an appraisal of all existing datasets and will recommend next steps to the market in due course.