



ASX Announcement | 22 July 2021
Hexagon Energy Materials Limited (ASX: HXG)

Airborne EM Survey Highlights Five High Priority Targets at Halls Creek

Key Highlights

- Preliminary VTEM data has identified five high priority targets at Hexagon's Halls Creek Project. With short strike length, these late time anomalies are prospective for conductive massive sulphide mineralisation
- This development represents an important step in Hexagon's strategy to find a development partner for the Halls Creek project to continue to rationalise the Company's project focus
- The significant airborne electromagnetic (AEM) survey was designed to target potential Volcanic Massive Sulphide (VMS) style mineralisation in the Kongie Park Formation Project within the Halls Creek Project
- A comprehensive interpretation will be undertaken upon the receipt of final data sets, with further high, moderate and lower priority anomalies to be assessed in detail
- Ground truthing of preliminary high priority targets is currently underway

Hexagon Energy Materials Limited (ASX: **HXG**, '**Hexagon**' or '**The Company**') is pleased to announce the completion of a significant airborne electromagnetic (**AEM**) survey at its Halls Creek project in the East Kimberley region of Western Australia. Initial interpretation of preliminary data received to date has identified five high priority targets, each being late time anomalies with short strike length making them prospective for conductive massive sulphide mineralisation. A comprehensive interpretation will be undertaken upon receipt of the final data set (expected Q3 2021), with further high, moderate and lower priority anomalies to be assessed in detail.

Chairman Charles Whitfield commented *"We are thrilled with the preliminary results coming out of our Halls Creek AEM survey. The five new targets together with the drill ready targets we had previously identified at Halls Creek Project enhance the Project's prospectivity. We fully expect the new anomalies to attract the attention of potential partners.*

Hexagon's pledge to get recognition of value for legacy projects continues to bear fruit and these results will add to the compelling case for the project in any discussions with potential partners or project developers.

We look forward to further good news coming out of the work still being done by consultants at both the Halls Creek and at McIntosh projects, including field inspection of the newly identified AEM targets and the ground-based IP survey recently completed at the Lady Helen, Granite and Bent Ridge. The results of this work are expected to come through shortly. We also expect to soon update investors on results from continuing field activities at the McIntosh Project.

While this work at both Halls Creek and McIntosh is being completed by external consultants, our core team is fully focussed on progressing the Prefeasibility Study at our flagship Pedirka Blue Hydrogen Project in the Northern Territory, with some of the formative work already complete".

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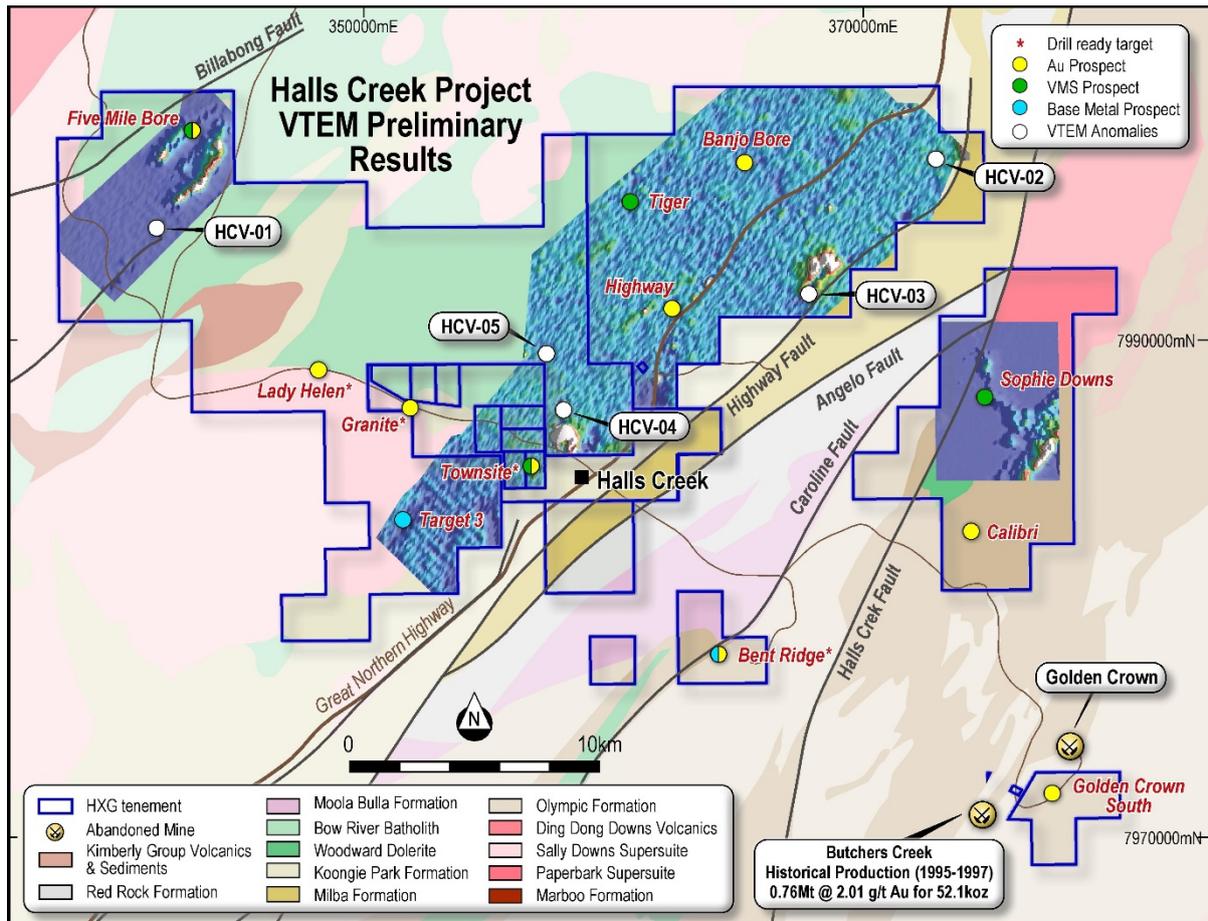


Figure 1: Showing high priority VTEM anomalies on preliminary late-time (BFZ45) imagery, at the Hall Creek Project.

Key details of the VTEM™ Max survey

The helicopter-borne Versatile Time-Domain Electromagnetic (VTEM™ Max) system was flown by UTS Geophysics (Geotech) on 200 metre line spacing. It surveyed approximately 1,248 line-kilometres, spread over three areas totalling 242km² (Figure 1).

The survey was designed to target potential Volcanic Massive Sulphide (VMS) style mineralisation within the Kongie Park Formation Project (Figure 1). The mineralisation was highlighted in a detailed aero magnetic survey undertaken by Hexagon in 2019, including Tiger, Sophie Downs and Five Mile Bore (see earlier ASX announcement, dated 11th February 2020)

Geophysical consultant, Karen Gilgallon from Southern Geoscience Consultants (SGC), was commissioned to assist in planning the survey and oversaw the delivery of daily data as the survey progressed. Based on the preliminary interpretations and target generation work, five priority anomalies were identified as outlined below (Table 1).

Table 1: Five (5) High Priority VTEM Targets at the Halls Creek Project

Target	Easting	Northing	Grid	Comments
HCV_01	342175	7994525	MGA94_50	Strong late time VTEM anomalies with short strike length,
HCV-02	374260	7997295	MGA94_50	VTEM anomaly high amplitude late time partially defined
HCV-03	367898	7991771	MGA94_50	VTEM Anomaly high amplitude late time anomaly moderated strike length (~450m). Directly south of a defined magnetic anomaly.
HCV-04	358004	7987319	MGA94_50	Discreet VTEM anomaly 200m wide, coincidental magnetic anomalies with a prominent zone of structural disruption and lithological change in Kongie Park
HCV-05	356546	7989355	MGA94_50	Discreet short strike length VTEM anomaly

Next steps in the Halls Creek exploration program

Work has commenced, with input from SGC, on follow-up surface EM (MELM) surveys across each of the high priority targets. This additional work will be undertaken subject to geophysical crew availability and in conjunction with surface geochemical sampling and geological mapping, prior to drill testing.

A 3D Induced Polarisation (IP) survey was also completed over the last weekend at Lady Helen, Granite and Bent Ridge prospects. The results from this survey will be used to aid in finalising drill program design at Bent Ridge and to refine drill targets at the remaining prospects (Figure 1).

Ends

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

About Hexagon Energy Materials Limited

Hexagon Energy Materials Limited (ASX: HXG) is an Australian company focused on resources, energy materials, and clean energy. Hexagon is primarily focused on developing its Pedirka blue hydrogen project in Australia's Northern Territory. At Pedirka, Hexagon aims to produce the blue hydrogen required to support the conversion to clean energy economies over the coming decades.

In Australia, Hexagon also owns the McIntosh graphite, nickel and PGE's project and the Halls Creek gold and base materials project. In the US, Hexagon has an 80 per cent controlling interest in a graphite exploration project in Alabama.

Hexagon actively seeks ways to progress value-added enterprises consistent with its strategy, skill set, and focus on clean energy.

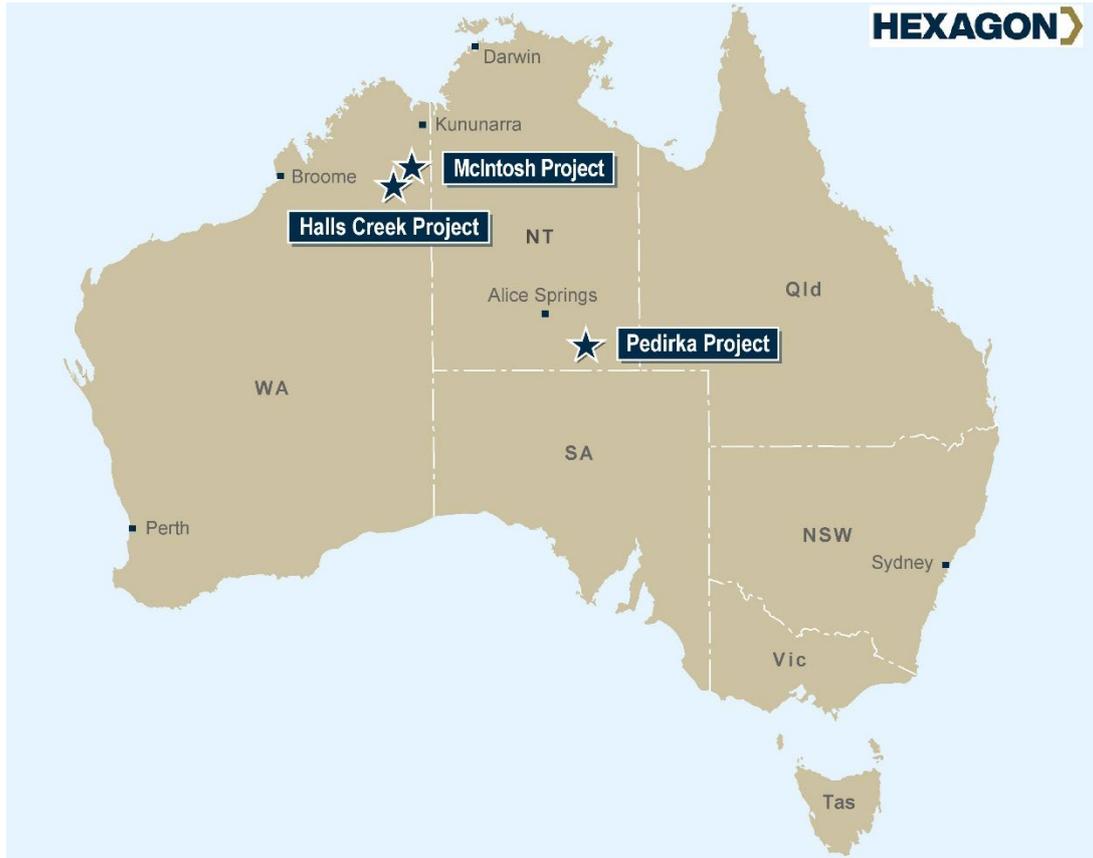


Figure 2: Hexagon Australian project locations

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

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Competent persons' attributions

The information within this report that relates to Exploration Results, geological data for the Halls Creek Projects and is based on information generated and compiled by Mr Michael Atkinson. 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

Appendix 1: JORC Table 1 Hall Creek

Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The Airborne Electromagnetics, Versatile Time Domain Electromagnetics (VTEM) surveying was completed by UTS Geophysics PTY LTD, using the VTEM Max system in May 2021.
Drilling Techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Not Applicable
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Not Applicable
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> VTEM Airborne EM data is recorded 0.1sec.
Sub-sample techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> VTEM data recordings were taken at 0.1Sec.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and 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 	<ul style="list-style-type: none"> The noise levels on the VTEM data are approximately 0.001pV/Am⁴

Criteria	JORC Code Explanation	Commentary
	<i>established.</i>	
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> Not Applicable
Location of Data points	<ul style="list-style-type: none"> <i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> Not Applicable
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> Non-Applicable
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<ul style="list-style-type: none"> VTEM Flight lines were approximately perpendicular to geological strike.
Sample Security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> Non-Applicable
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> Non-Applicable

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. <p>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.</p>	<ul style="list-style-type: none"> 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.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The project has been subject to exploration by several companies over the past 40 years. This work has been built up by successive explorers.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> 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 volcanoclastic 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 Koonie 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	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: <ul style="list-style-type: none"> easting and northing of the drillhole collar elevation or RL (elevation above sea level in metres) of the drillhole collar dip and azimuth of the hole down hole length and interception depth hole length. 	<ul style="list-style-type: none"> Non-Applicable
Data aggregation methods	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Preliminary VTEM data has identified five high priority targets at the halls Creek Project, with short strike length, the late time anomalies are prospective for conductive massive sulphide mineralisation.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> VMS mineralisation is likely to produce a discrete, or linear EM anomaly within the Koonie Park Formation The survey design considered the known deposits in the region and is considered appropriate for this style of mineralisation.
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Location plans are contained within the body of this announcement.
Balanced reporting	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not 	<ul style="list-style-type: none"> Refer Table 1

Criteria	JORC Code explanation	Commentary
	<p><i>practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	
<p>Other substantive exploration data</p>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Previously reported activities Referred to ASX announcements on www.hexagonenergymaterials.com.au for details
<p>Further work</p>	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> 	<ul style="list-style-type: none"> Work has commenced, with input from SGC, on follow-up with surface EM (MELM) surveys across each of the high priority targets, and this will be undertaken subject to geophysical crew availability and in conjunction with surface geochemical sampling and geological mapping, prior to frill testing. A 3D Induce Polarisation (IP) survey has also been completed over the weekend, Lady Helen, Granite and Bent Ridge prospects. The results will be used to aid in finalising drill program design at Bent Ridge and refine drill targets at the remaining prospects (Figure 1)