



ASX Announcement | 7 December 2021  
Hexagon Energy Materials Limited (ASX: HXG)

## Further Airborne EM (VTEM) High Priority Anomalies identified at the Halls Creek Project.

*Final interpretation of the 2021 Airborne EM (VTEM) data has identified eight high priority anomalies and a further 17 lower priority anomalies at the Halls Creek project.*

### Key Highlights:

- A comprehensive interpretation of the final data sets from the 2021 VTEM™ Max survey has highlighted seven high, fifteen moderate and two lower priority anomalies at Hexagon's Halls Creek Project. Hexagon's ASX Announcement of 22 July 2021 originally highlighted five High Priority Targets at Halls Creek through this survey.
- This airborne electromagnetic (AEM) VTEM™ Max survey at the Halls Creek Project was designed to target potential Volcanic Massive Sulphide (VMS) style mineralisation within The Kongie Park formation within the Halls Creek project area.
- Exploration drilling co-funding for use in the upcoming Halls Creek Project drilling program has been secured through Round 24 of the Western Australian Government Exploration Incentive Scheme (EIS).
- Discussions are underway with select parties interested in working with Hexagon to progress gold and base metals exploration at Halls Creek.

Hexagon Energy Materials Ltd (ASX: HXG; "Hexagon" or "the Company") is pleased to announce it has received the final interpretation from the VTEM™ Max survey airborne electromagnetic (AEM) survey conducted at its Halls Creek Project. Comprehensive interpretation of the final data sets has highlighted seven high, fifteen moderate and two lower priority anomalies within the project area. The seven high priority targets were selected due to their conductivity, size and proximity to other features of interest or known mineralisation.

The survey was designed to target potential Volcanic Massive Sulphide (VMS) style mineralisation within the Kongie Park Formation Project (Figure 1). These were highlighted in an extensive aero magnetic survey undertaken by HXG in 2019, including Tiger, Sophie Downs and Five Mile Bore (see ASX announcement 22<sup>nd</sup> July 2021).

Hexagon Managing Director, Merrill Gray commented: "The final interpretation of the AEM Survey has added significant value to our Halls Creek Project. Significant anomalies were identified within a well-known historic gold region. The region is receiving a great deal of renewed interest and we look forward to furthering our discussions with parties interested in working with us to progress gold and base metals exploration at Halls Creek."

"The exploration program at McIntosh is being undertaken concurrently with the Pre-Feasibility Study work on Hexagon's Northern Territory (Pedirka) Hydrogen Project, for which a progress update will be announced shortly", Ms Gray said.

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Geophysical consultant Karen Gilgallon from Southern Geoscience Consultants (SGC) was commissioned to assist in the planning of the survey and has undertaken the final review and interpretation of the AEM data detailed in Table 1.

Hexagon has also successfully applied for and secured funding through the Western Australian Government's Exploration Incentive Scheme to co-fund drilling to be undertaken at the drill ready Lady Helen prospect. A total of \$25,000 has been secured.

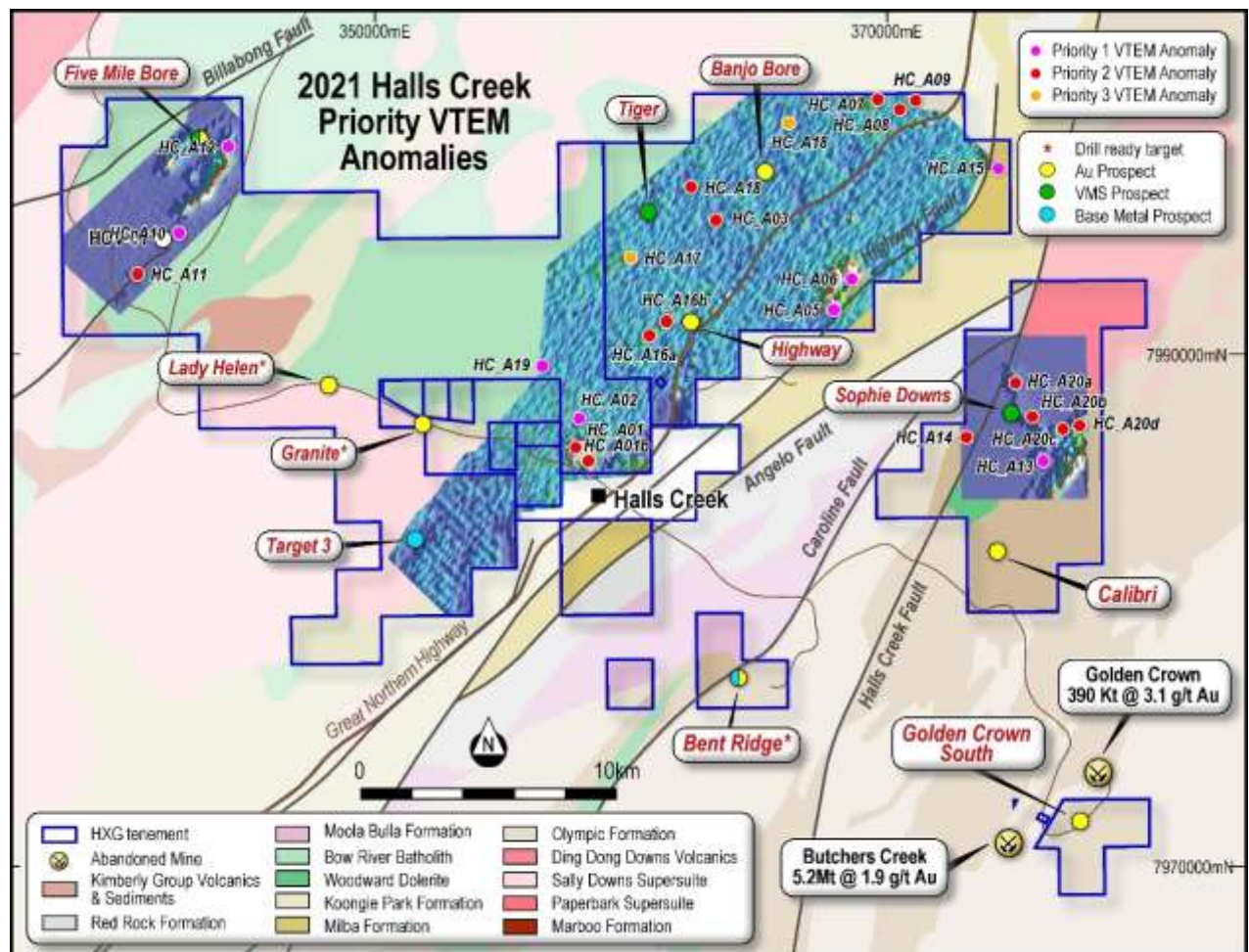


Figure 1: Location of anomalous VTEM responses on magnetic RTP image.

## Next Steps

Work has commenced with SGC on preparations for follow-up surface EM (MELM) surveys across each of the high priority anomalies. The surveys will be undertaken as soon as possible, subject to geophysical crew availability and in conjunction with surface geochemical sampling and geological mapping, prior to drill testing.

Discussions are underway with select parties interested in working with Hexagon to drill and develop the identified priority targets and progress gold and base metals exploration at Halls Creek. Some of these parties have existing ground holdings in the Halls Creek area which Hexagon's tenement package would strongly complement.

Hexagon will continue to advise the market as information becomes available.

Target ID	Priority	Easting (MGA94Z52)	Northing (MGA94Z52)	Description
HC_A01	2	357874	7986192	Close to infrastructure complex anomalies – ground truthing required
HC_A01b	2	358325	7985825	Close to infrastructure complex anomalies - ground truthing required
HC_A02	1	358004	7987319	<b>Discreet late time anomaly ~200m wide. No clear culture feature present, Coincident with Major fault intersection and demagnetisation in association with the Campbell Au occurrence and minor faults in Koongie Park units.</b>
HC_A03	2	363206	7995163	Discreet late time anomaly ~200m wide. No clear culture feature present
HC_A04	2	362247	7996404	Discreet late time anomaly ~200m wide. No clear culture feature present
HC_A05	1	367875	7991746	<b>Late time conductor high amplitude at late times - 500m strike length possibly joined to A6</b>
HC_A06	1	368473	7992895	<b>Early to mid-time conductor, likely shallow IP effects present. Coincident with AMAG target 8 (Report SGC3614) ; Localised, strong magnetic units in Koongie Park, adjacent to a major fault.</b>
HC_A07	2	369529	7999974	Approximately 700m moderate amplitude anomaly.
HC_A08	2	370349	7999581	Discreet 200m wide anomaly moderate amplitude 200m
HC_A09	2	370934	7999863	Discreet 200m wide anomaly moderate amplitude 200m
HC_A10	1	342175	7994525	<b>short strike length late time anomalies offset from long stratigraphic conductors strongest on L1260</b>
HC_A11	2	340689	7992850	Potentially moderate stratigraphic, near mineral occurrence (Moola Bulla 5, Pb, Cu, Zn, Ag), with to 2km length IP effect
HC_A12	1	344185	7997845	<b>Short strike length late time anomalies,</b>
HC_A13	1	376047	7985940	<b>Possible discreet anomaly - very late time board likely flattish conductor, coincident with discreet magnetic anomaly</b>
HC_A14	2	373074	7986894	Possible discreet anomaly - very late time board likely flattish conductor
HC_A15	1	374261	7997295	<b>Very late time, high amplitude - high priority for ground follow up</b>
HC_A16a	2	360651	7990698	Low amplitude late time ch30-40, 600m anomaly
HC_A16b	2	361319	7991179	Low amplitude late time ch30-40, 600m anomaly

Table 1: List VTEM anomalies at the Halls Creek Project.

*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 Halls Creek 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 to, and all material assumptions and technical parameters have not materially changed.

Mr Atkinson is a consultant to the 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 development of clean energy projects and exploration for energy materials projects.

Hexagon is developing a business to deliver decarbonised hydrogen into export and domestic markets. The Pre-Feasibility Study for the NT (Pedirka) Hydrogen Project located in Australia's Northern Territory, utilising gasification and carbon capture and storage (CCS) is in progress.

Hexagon plan is to progressively increase its renewable energy inputs and lower its carbon emissions as it transitions from blue to green hydrogen production, on a commercial basis, over time.

Hexagon also owns the McIntosh Nickel-Copper-PGE and Graphite project in Western Australia (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.

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](http://www.hxgenergymaterials.com.au)

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## Appendix 1: JORC Table 1 Hall Creek

### Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul style="list-style-type: none"> <li>The Airborne Electromagnetics, Versatile Time Domain Electromagnetics (VTEM) surveying was completed by UTS Geophysics PTY LTD, using the VTEM Max system in May 2021.</li> </ul>
<b>Drilling Techniques</b>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>VTEM Airborne EM data is recorded 0.1sec.</li> </ul>
<b>Sub-sample techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>VTEM data recordings were taken at 0.1Sec.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The noise levels on the VTEM data are approximately 0.001pV/Am<sup>4</sup></li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>



	<p>entry procedures, data verification, data storage (physical and electronic) protocols.</p> <ul style="list-style-type: none"> <li>• Discuss any adjustment to assay data.</li> </ul>	
<b>Location of Data points</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• Not Applicable</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• 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.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-Applicable</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• VTEM Flight lines were approximately perpendicular to geological strike.</li> </ul>
<b>Sample Security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-Applicable</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-Applicable</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul> <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"> <li>• 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 km<sup>2</sup>. 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 five Prospecting Licence.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• The project has been subject to exploration by several companies over the past 40 years. This work has been built up by successive explorers.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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</li> <li>• tenements and an epidotic and chloritic amygdaloidal basalt intrusion with minor lithic sandstone and siltstone along its western boundary</li> </ul>

<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• 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"> <li>• easting and northing of the drillhole collar</li> <li>• elevation or RL (elevation above sea level in metres) of the drillhole collar</li> <li>• dip and azimuth of the hole</li> <li>• down hole length and interception depth</li> <li>• hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Non-Applicable</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.</li> </ul>	<ul style="list-style-type: none"> <li>• VMS mineralisation is likely to produce a discrete, or linear EM anomaly within the Koonie Park Formation</li> <li>• The survey design considered the known deposits in the region and is considered appropriate for this style of mineralisation.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Location plans are contained within the body of this announcement.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer Table 1</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Previously reported activities Referred to ASX announcements on <a href="http://www.hexagonenergymaterials.com.au">www.hexagonenergymaterials.com.au</a> for details</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> </ul>	<p>Work has commenced with SGC on preparations for follow-up surface EM (MELM) surveys across each of the high priority anomalies. The surveys will be undertaken as soon as possible, subject to geophysical crew availability and in conjunction with surface geochemical sampling and geological mapping, prior to drill testing.</p> <ul style="list-style-type: none"> <li>•</li> </ul>