

# Manganese Exploration Update

## In-fill drilling program completed and IP survey trial successful

### Highlights:

- **2,170 metre in-fill RC drilling completed** at Brumby Creek and Horseshoe South Manganese Mine
- **IP survey trial successful** - demonstrating ability to detect Manganese under shallow cover
- **Mineral Resource Estimates to be completed in early 2021**
- **OM (Manganese) Limited fully funding** Joint Venture exploration activities.

Bryah Resources Limited (“Bryah” or “the Company”) is pleased to announce the completion of the latest reverse circulation (RC) drilling program under the Bryah Basin Manganese Joint Venture (“Manganese JV”) with OM (Manganese) Ltd, (“OMM”) a wholly owned subsidiary of OM Holdings Limited (ASX:OMH).

The current exploration program has three main objectives:

- in-fill RC drilling to enable completion of mineral resource estimates for manganese;
- trialling geophysical manganese exploration techniques, and
- drilling to obtain core samples for metallurgical testing.

### RC Drilling

The RC drilling program consisted of 2,170 metres of predominantly in-fill drilling on known areas of manganese mineralisation. The main prospect areas drilled were Brumby Creek, Horseshoe South Main Pit and Horseshoe South Extended Pit.

The in-fill pattern was designed to improve the geological and grade continuity in preparation for mineral resource estimates to be completed in early 2021. Samples from the program are being sent to a laboratory in Perth for analysis in the coming weeks.

### Induced Polarisation (IP) Survey

In October 2020 an IP survey was conducted over known high-grade manganese mineralisation at the Brumby Creek prospect<sup>1</sup> to assess the usefulness of the technique in direct detection of mineralisation, and to better define the nature of the deposit. Survey data were collected using two IP array configurations on an area 1,000m long x 500m wide.

A dipole-dipole (DDIP) survey was conducted on an east-west transect over the centre of the known deposit and two gradient array (GAIP) grids were surveyed to the north and south of the deposit.

<sup>1</sup> See BYH ASX announcement dated 26 August 2020 for full details

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#### ASX Code: BYH

ABN: 59 616 795 245

Shares on issue: 131,873,840

Latest Share Price: \$0.067

Market Capitalisation: \$8.8M

#### Projects

Bryah Basin – Copper, Gold,  
Manganese

Gabanintha – Gold, Copper

[bryah.com.au](http://bryah.com.au)

The GAIP data indicates the manganese trend at Brumby Creek is likely to extend northward and a parallel trend to the east and upslope from the drilling shows similar IP characteristics which warrants further investigation. (see Figure 1 below).

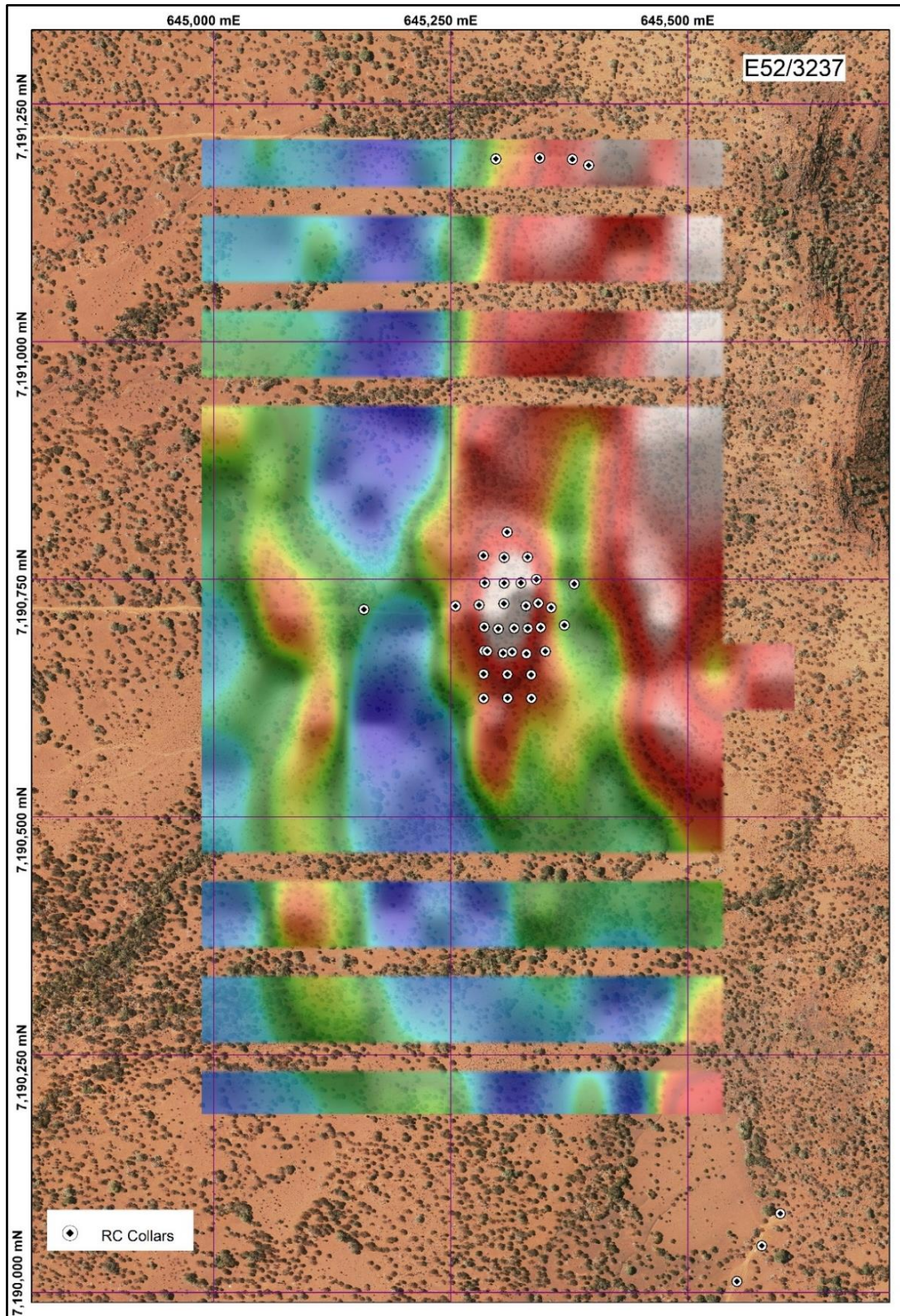


Figure 1 - Brumby Creek GAIP chargeability image with drill hole locations



## Core Drilling

The diamond drilling program to recover core samples for metallurgical testing is scheduled to start later than expected due to circumstances which have delayed the drilling contractor mobilising to site.

## Manganese JV

The Manganese JV includes the Horseshoe South Manganese Mine (see Figure 2), which is the largest historical manganese mine in the region, as well as several other manganese prospects (see Figure 3). In May and August 2020 Bryah completed two reverse circulation exploration drilling programs<sup>2</sup>.

These latest exploration activities are being funded by OMM as part of Stage 2 of the Manganese JV (see Appendix 1 attached for the key terms of the Manganese JV).

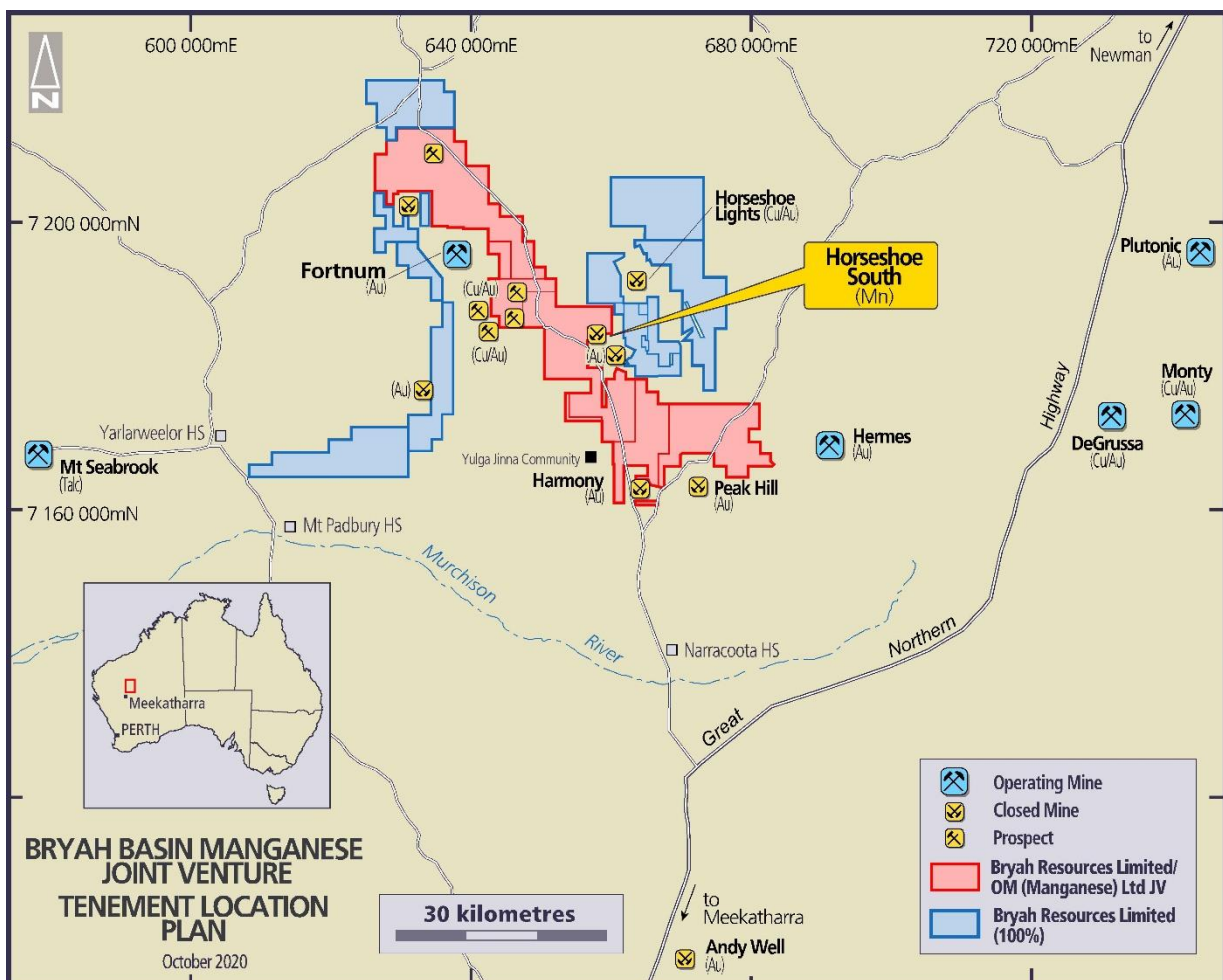


Figure 2 - Tenement Location Plan

<sup>2</sup> See BYH ASX announcements dated 22 May, 29 May, 9 June, 26 August and 18 September 2020 for full details

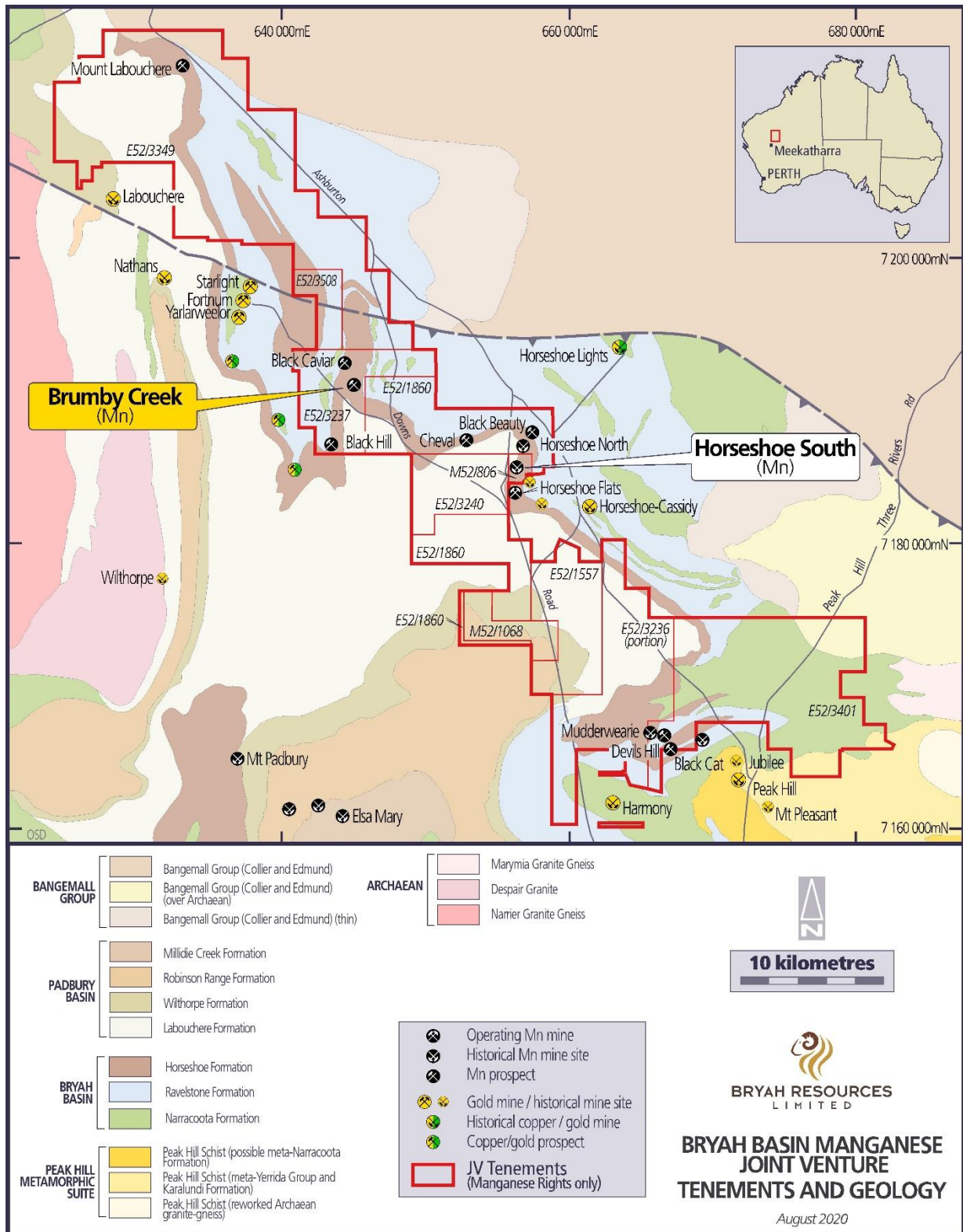


Figure 3 - Tenement and Geology Plan

The board of directors of Bryah Resources Limited has authorised this announcement to be given to the ASX.

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## About Bryah Resources Limited

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*Bryah Resources Limited is a copper-gold-manganese focused explorer with 2 projects located in central Western Australia, being the 1,185km<sup>2</sup> Bryah Basin Project and the 170km<sup>2</sup> Gabanintha Project. The Bryah Basin is host to the high-grade copper-gold mines at DeGrussa, discovered by Sandfire Resources Limited in 2009, and at Horseshoe Lights, which was mined until 1994. The Bryah Basin also has several historical and current manganese mines including the Company's recently acquired Horseshoe South mine. The Company has secured a joint venture agreement with OM (Manganese) Limited in respect to its manganese rights only in respect to approximately 660 km<sup>2</sup> of its Bryah Basin tenement holdings.*

*At Gabanintha, Bryah holds the rights to all minerals except Vanadium, Uranium, Cobalt, Chromium, Titanium, Lithium, Tantalum, Manganese & Iron Ore (Excluded Minerals). Australian Vanadium Limited retains 100% rights in the Excluded Minerals on the Gabanintha Project. Bryah has announced a maiden Inferred Mineral Resource at the Tumblegum South Prospect at Gabanintha of **600,000 tonnes @ 2.2 g/t Au for 42,500 oz Au<sup>3</sup>**.*

## Competent Persons Statement

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*The information in this announcement that relates to Exploration Results is based on information compiled by Mr Tony Standish, who is a Member of the Australian Institute of Geoscientists. Mr Standish is a consultant to Bryah Resources Limited ("the Company"). Mr Standish has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Tony Standish consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.*

*Where the Company refers to Exploration Results in this announcement (referencing previous releases made to the ASX), the Company is not aware of any new information or data that materially affects the information included in the relevant market announcements.*

## Competent Persons Statement – Mineral Resource Estimation

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*The information in this announcement that relates to Mineral Resources (see BYH ASX announcement dated 29 January 2020) is based on and fairly represents information compiled by Mr Ashley Jones, Consultant with Kamili Geology Pty Ltd. Mr Jones is a member of the Australasian Institute of Mining and Metallurgy (AusIMM).*

*The Company confirms that it is not aware of any new information or data that materially affects the information included in that announcement and all material assumptions and technical parameters underpinning the Mineral Resource estimate with that announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not materially changed from the original announcement.*

## Forward Looking Statements

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*This report may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publicly any revisions to any "forward looking statement" to reflect events or circumstances after the date of this report, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.*

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<sup>3</sup> See BYH ASX Announcement dated 29 January 2020 for full details

## Appendix 1 – Bryah Basin Manganese Farm-In and Joint Venture Agreement Key Terms

- The Farm-In and Joint Venture Agreement (Agreement) between Bryah and OMM included a Signing Fee of \$0.25 million, which was paid to Bryah on 18 April 2019.
- Bryah is Project Manager for Stage 1 and Stage 2 of the Farm-In.
- The Joint Venture (JV) applies to Manganese Mineral Rights only, with Bryah retaining rights to all other minerals.
- In Stage 1, OMM funded \$0.5 million on project expenditure by 31 July 2019.
- OMM elected to proceed to Stage 2 and paid an Exercise Fee of \$0.25 million to Bryah to earn an initial 10% JV interest on 30 August 2019.
- In Stage 2, OMM has the right to fund a further **\$2.0 million** of project expenditure by 30 June 2022 to earn an additional 41% JV interest, giving OMM a total of 51% JV interest. As of September 2020, **OMM has earned a 20% JV interest**.
- Upon OMM earning its 51% JV interest, OMM may elect to be Project Manager and Bryah may elect not to contribute to project expenditure, diluting from 49% to 40% JV interest by OMM funding the next **\$1.8 million** of project expenditure.
- Upon OMM earning its 60% JV interest, Bryah may elect not to contribute to project expenditure, diluting from 40% to 30% JV interest by OMM funding the next **\$2.5 million** of project expenditure.
- The aim of the JV is to explore for commercially mineable manganese and carry out Feasibility Studies.
- If a positive Feasibility Study is supported by a Decision to Mine then OMM and Bryah may elect to participate in a Mining Joint Venture in proportion to their JV interests or convert to a Royalty.
- Bryah is to negotiate a Sales Agency Agreement on commercial terms with OM Holdings Ltd in respect to all manganese ore production under the Mining JV.
- The JV includes an area of Mutual Interest which extends for a radius of 100 kilometres from the Horseshoe South Manganese Mine (M52/806).
- Tenements covered under the Agreement (see Figure 3) are:
  - a. E52/3236 (southern portion), E52/3237, E52/3240, E52/3349, E52/3401, and E52/3508 registered in the name of Bryah Resources Limited,
  - b. M52/806 registered in the name of Peak Hill Manganese Pty Ltd (being transferred to Bryah Resources Limited), and
  - c. E52/1557, E52/1860, and M52/1068 registered in the name of Desert Resources Pty Ltd, a subsidiary of Austsino Resources Group Limited (ASX:ANS) (BBMJV hold the Manganese Mineral Rights only).



## Appendix 1 – IP Survey

### JORC Code, 2012 Edition – Table 1 Exploration Results

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results reported in this announcement</li> </ul>
Drilling techniques	<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>No drilling results reported in this announcement</li> </ul>
Drill sample recovery	<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>No drilling results reported in this announcement</li> </ul>
Logging	<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>No drilling results reported in this announcement</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <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>No drilling results reported in this announcement</li> </ul>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<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>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</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>No drilling results reported in this announcement</li> </ul>
Verification of sampling and assaying	<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 entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results reported in this announcement</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</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>No drilling results reported in this announcement</li> </ul>
Data spacing and distribution	<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>No drilling results reported in this announcement</li> </ul>
Orientation of data in relation to geological structure	<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>No drilling results reported in this announcement</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results reported in this announcement</li> </ul>
Audits or reviews	<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>The Company database has been compiled from primary data by independent database consultants and was based on original assay data and historical database compilations.</li> <li>A regular review of the data and sampling techniques is carried out internally.</li> </ul>



## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The relevant tenement (E52/3237) is 100% owned by Bryah Resources Limited. OM (Manganese) Limited holds a 20% joint venture interest in respect to the manganese rights only on this tenement.</li> <li>• At the time of reporting, there are no known impediments to obtaining a licence to operate in the area and the tenements are in good standing.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The manganese deposits in the region were discovered during the gold rush period between 1897 and 1911 however were of little interest to explorers at the time.</li> <li>• Mining operations between 1948 and 1967 received the focus of early exploration.</li> <li>• Manganese exploration conducted by BHP Limited, King Mining Corporation Ltd, Valiant Consolidated Ltd and various others since the 1960's was concentrated mainly around the historic pits at Elsa Group, Millidie, Horseshoe South, Mudderwearie and Ravelstone.</li> <li>• Tuart Resources Limited and Peak Hill Manganese Pty Ltd undertook regional exploration over a large portion of the Bryah and Padbury Basins in the period after 2000, identifying numerous manganese anomalies from satellite imagery and aerial photography. Only limited on-ground exploration of many of these anomalies was undertaken.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• These manganese occurrences are within the Lower Proterozoic Bryah and Padbury Basins. Manganese deposits are a product of prolonged weathering and oxidation of sedimentary rocks and chemical concentration and re-deposition of manganese within ancient drainage systems. Most of the manganese deposits are remnants of former drainage palaeochannels. Although detailed surveys have not been completed, the location of most manganese deposits appears to be at about the elevation of the former palaeosurface. These deposits are now left as hilltop mesas or cappings (inverted relief).</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Drill hole Information</i>	<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 drill holes:               <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in m) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling results reported in this announcement</li> </ul>
<i>Data aggregation methods</i>	<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> <li>• Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling results reported in this announcement</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole 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 (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling results reported in this announcement</li> </ul>
<i>Diagrams</i>	<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 drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• See attached figures within this announcement.</li> </ul>
<i>Balanced reporting</i>	<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>• No drilling results reported in this announcement</li> </ul>

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<p><i>Other substantive exploration data</i></p>	<ul style="list-style-type: none"> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>IP Survey data were collected using two IP array configurations.</li> <li>A dipole-dipole (DDIP) survey was conducted on an EW transect over the centre of the known manganese deposit and two gradient array (GAIP) grids were surveyed to the north and south of the deposit. The survey parameters are listed below:</li> </ul> <table border="1" data-bbox="1144 421 1892 683"> <thead> <tr> <th>Survey Type</th> <th>DDIP</th> <th>GAIP</th> </tr> </thead> <tbody> <tr> <td>Electrode Spacing</td> <td>25 m</td> <td>25 m</td> </tr> <tr> <td>N Values</td> <td>2.5 – 11.5</td> <td>N/A</td> </tr> <tr> <td>Line Spacing</td> <td>N/A</td> <td>50 m – 100 m</td> </tr> <tr> <td>Orientation</td> <td>East - West</td> <td>East - West</td> </tr> <tr> <td>Transmitter</td> <td>GDD TX11</td> <td>GDD TX11</td> </tr> <tr> <td>Receiver</td> <td>SmartEM24</td> <td>SmartEM24</td> </tr> <tr> <td>Current</td> <td>0.6 – 2.8 A</td> <td>3.6 – 4.5 A</td> </tr> <tr> <td>Primary Voltage</td> <td>0.1 – 3000 mV</td> <td>1 – 28 mV.</td> </tr> </tbody> </table>	Survey Type	DDIP	GAIP	Electrode Spacing	25 m	25 m	N Values	2.5 – 11.5	N/A	Line Spacing	N/A	50 m – 100 m	Orientation	East - West	East - West	Transmitter	GDD TX11	GDD TX11	Receiver	SmartEM24	SmartEM24	Current	0.6 – 2.8 A	3.6 – 4.5 A	Primary Voltage	0.1 – 3000 mV	1 – 28 mV.
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<p><i>Further work</i></p>	<ul style="list-style-type: none"> <li><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></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>RC drilling was completed and assays are pending.</li> </ul>																											