## **ASX Announcement** 5 January 2021



# **High-Grade Manganese at Horseshoe South**

## Drilling results to support maiden mineral resource estimates

## **Highlights:**

- High-grade (>30% Mn) manganese intersected in shallow drilling at historic Horseshoe South Manganese Mine
- Best results from holes completed in 2020: •
  - HSRC087 3 metres (5-8m) @ 37.8% Mn including 2 metres @ 44.3% Mn from 5m
  - HSRC106 4 metres (8-12m) @ 35.9% Mn including 3 metres @ 39.7% Mn from 9m
  - HSRC095 4 metres (5-9m) @ 30.0% Mn including 2 metres @ 35.3% Mn from 6m
  - HERC071 16 metres (6-22m) @ 26.1% Mn including 1 metre @ 31.9% Mn from 14m and 1 metre @ 33.8% Mn from 19m
  - $\geq$ HERC066 - 8 metres (10-18m) @ 28.9% Mn including 1 metre @ 34.3% Mn from 11m and 2 metres @ 32.5% Mn from 15m
- Potential channel deposit intersected defined by lower Iron and Phosphorus grades • compared to stratigraphic Manganese mineralisation in the area
- Diamond drilling completed at Horseshoe South Extended for density and beneficiation testwork, which will be key inputs into mineral resource estimates
- Results of drilling will be used to update geological model ahead of mineral resource • estimates
- Drilling programs are fully funded by OM (Manganese) Limited •

Bryah Resources Limited ("Bryah" or "the Company") is pleased to advise the final set of results from its latest reverse circulation (RC) drilling program at its Bryah Basin Manganese Joint Venture project (70% Bryah/30% OM (Manganese) Limited ("OMM")), which is located approximately 150 km north of the town of Meekatharra in central Western Australia (see Figure 1).

RC drilling was completed on the historic Horseshoe South Manganese Mine in October/November 2020 to enable improved geological modelling ahead of the preparation of mineral resource estimates in accordance with JORC 2012.

The latest results confirm the presence of high-grade manganese mineralisation beneath the existing Main Pit floor and provide an increased geological understanding of the area. Manganese grades and widths within the channel zones show the potential for high-grade mineralisation to be accessed on the existing Mining Lease.

#### **Address**

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ASX Code: BYH ABN: 59 616 795 245 Shares on issue: 153,540,508 Latest Share Price: \$0.07 Market Capitalisation: \$10.7M

#### **Projects**

Gabanintha – bryah.com.au

Bryah Basin – Copper, Gold, Manganese Gold, Copper





Figure 1: - Tenement Location Plan

### **RC Drilling Program**

Drilling at Horseshoe South in 2020 has been largely focused on 2 areas within granted Mining Lease M52/806, the Main Open Pit Area and the Extended Open Pit Area (see Figure 2).

A total of 40 holes for 925 metres was completed in this latest drilling program. Full details of the drill hole locations and assay results are set out in Table 3 and Table 4 and shown in Figures 3 and 4.

#### Main Pit Area

25 RC holes (HSRC086-HSRC110) for a total of 337 metres were drilled (see Figure 3). The best intersections are shown in Table 1.

The drill program at the Main Pit area was focused primarily as infill drilling and to better define interpreted manganiferous channels that previous drilling returned grades in excess of 30% Mn.

#### **Extended Pit Area**

15 RC holes (HERC060-HERC074) for a total of 588 metres were drilled at the Extended Pit Area (see Figure 4). The best intersections are shown in Table 2.



Holes were drilled adjacent to the southern lease boundary to extend the mineralisation identified in earlier programs. Drilling also followed-up on some lower Iron (Fe) and Phosphorus (P) intersections from previous drilling. Hole HERC071 did intersect the lower Fe and P zone over a significant interval (16 metres (6-22m) @ 26.1% Mn). Lower Fe and P is more indicative of channel deposits which were previously mined at Horseshoe South and the nearby Horseshoe Flats deposit.



Figure 2 – Horseshoe South Prospect Drill Hole Location Plan



Hole No	Manganese Intersection (using 18% Mn cut-off grade)
HSRC087	3 metres (5-8m) @ 37.8% Mn including 2 metres @ 44.3% Mn from 5m
HSRC095	4 metres (5-9m) @ 30.0% Mn including 2 metres @ 35.3% Mn from 6m
HSRC098	7 metres (3-10m) @ 22.6% Mn and 4 metres (14-18m) @ 22.9% Mn including 1 metre @ 32.4% Mn from 15m
HSRC099	8 metres (3-11m) @ 23.9% Mn including 1 metre @ 30.8% Mn from 10m
HSRC101	4 metres (5-9m) @ 28.9% Mn including 2 metres @ 37.1% Mn from 5m
HSRC106	4 metres (8-12m) @ 35.9% Mn including 3 metres @ 39.7% Mn from 9m

#### Table 1 - Significant Intersections – Horseshoe South Main Open Pit



Figure 3 – Horseshoe South Main Pit Drill Hole Location Plan



Hole No	Manganese Intersection (using 18% Mn cut-off grade)
HERC064	4 metres (3-7m) @ 22.0% Mn and 5 metres (23-28m) @ 24.6% Mn including 1 metre @ 32.7% Mn from 26m
HERC066	8 metres (10-18m) @ 28.9% Mn including 1 metre @ 34.3% Mn from 11m and 2 metres @ 32.5% Mn from 15m
HERC067	3 metres (2-5m) @ 31.0% Mn <i>including 2 metres @ 34.0% Mn from 2m</i> , 3 metres (12-15m) @ 22.7% Mn and 3 metres (17-20m) @ 24.4% Mn
HERC070	8 metres (2-10m) @ 22.3% Mn and 2 metres (14-16m) @ 22.4% Mn
HERC071	16 metres (6-22m) @ 26.1% Mn including 1 metre @ 31.9% Mn from 14m and 1 metre @ 33.8% Mn from 19m

#### Table 2 - Significant Intersections – Horseshoe South Extended Open Pit



Figure 4 – Horseshoe South Extended Pit Drill Hole Location Plan



#### **Other Activities**

The diamond drilling program, which commenced in December 2020, will recommence in January 2021 with additional PQ diameter holes planned to recover core samples from the Brumby Creek Prospect. Two holes at Horseshoe South Extended have been completed, which will be used for density and beneficiation testwork.

#### Horseshoe South Manganese Mine

The Horseshoe Range area has been the main manganese producing region within the Bryah and Padbury Basins, with production dominated by the Horseshoe South Mine, and a smaller satellite deposit at the Horseshoe North Mine (see Figure 5). The production from 1948 to 1969 for these 2 deposits was 490,000 tonnes of ore at a reported average grade of 42% Manganese.

In the period 2008 to 2011, Process Minerals International Pty Ltd (PMI), a subsidiary of ASX-listed Mineral Resources Limited (ASX:MIN) undertook mining operations. During their mining operations, PMI processed historical stockpiles and completing hard rock mining operations to produce over 400,000 tonnes of manganese ore. The stockpiles were processed using mobile screening equipment whilst a Dense Media Separation (DMS) plant treated the hard rock ore.

#### **Bryah Basin Manganese Joint Venture**

In April 2019, Bryah executed a Manganese Farm-In and Joint Venture Agreement ("Agreement") with OMM, a wholly owned subsidiary of ASX-listed OM Holdings Limited (ASX:OMH)<sup>1</sup>. The Agreement applies to the rights to manganese only over approximately 660 km<sup>2</sup> in the Bryah Basin (see Figure 1 and Figure 5).

Under Stage 1 of the Agreement, OMM funded \$500,000 of project expenditure which yielded highly encouraging drilling results<sup>2</sup>. In August 2019, OMM elected under the Agreement to proceed and the Joint Venture ("JV") was formed with OMM secured an initial 10% JV interest.

Under Stage 2 of the Agreement, OMM can elect to progressively fund \$2.0 million of exploration expenditure in four tranches, to earn up to a 51% interest in the JV by 30 June 2022. OMM has completed Tranche 1 and 2 funding of \$1,000,000 and now holds a 30% JV interest. OMM is proceeding with Tranche 3 funding of a further \$500,000 to increase its JV interest to 40%. Bryah is Project Manager until OMM has earned a 51% JV interest and has elected to be Project Manager.

In November 2020, the Company announced that it has received a conditional \$5.0 million cash offer for a 100% purchase of its JV interest in the Bryah Basin Manganese Joint Venture<sup>3</sup>.

Bryah intends to the accept the conditional offer and has served a Notice on OMM in respect to the offer received, which provides OMM with a pre-emptive right to match the offer during the 60-day notice period, which expires in January 2021.

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

<sup>&</sup>lt;sup>1</sup> See BYH ASX Announcement dated 23 April 2019 for full details

<sup>&</sup>lt;sup>2</sup> See BYH Quarterly Activities Report dated 31 October 2019 for full details

<sup>&</sup>lt;sup>3</sup> See BYH ASX Announcement dated 18 November 2020 for full details



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Hole ID	Depth From	Depth To	Interval Width	Mn%	Fe%	Р%
HSRC086	4	6	2	26.6	22.0	0.13
HSRC087	2	3	1	18.6	27.5	0.09
	5	8	3	37.8	15.8	0.09
including	5	7	2	44.3	11.1	0.03
HSRC088			NS	SA		
HSRC089	2	5	3	26.5	14.7	0.06
including	3	4	1	30.3	11.2	0.03
HSRC090	3	5	2	27.1	20.8	0.13
including	3	4	1	<b>35.9</b>	14.8	0.06
HSRC091	5	8	3	20.4	33.6	0.11
HSRC092			NS	SA		
HSRC093	4	6	2	29.5	17.5	0.16
including	4	5	1	31.3	17.8	0.07
HSRC094			NS	SA		
HSRC095	5	9	4	30.0	25.5	0.06
including	6	8	2	35.3	20.9	0.05
HSRC096	5	7	2	33.9	22.3	0.06
HSRC097	4	7	3	25.6	28.7	0.06
HSRC098	3	10	7	22.6	31.0	0.06
	14	18	4	22.9	21.6	0.09
including	15	<b>16</b>	1	32.4	16.0	0.07
HSRC099	3	11	8	23.9	28.3	0.04
including	10	11	1	30.8	20.0	0.09
	13	14	1	21.4	10.6	0.01
HSRC100			NS	SA		
HSRC101	5	9	4	28.9	24.1	0.12
including	5	7	2	37.1	<b>19.5</b>	0.07
HSRC102	5	8	3	23.1	28.1	0.11
including	5	6	1	37.4	17.5	0.05
HSRC103	4	6	2	18.9	31.9	0.09
HSRC104	9	10	1	21.9	27.0	0.03
HSRC105	9	11	2	20.8	24.4	0.01
HSRC106	8	12	4	35.9	19.8	0.02
including	9	12	3	39.7	<b>16.9</b>	0.02
HSRC107	9	11	2	22.9	28.6	0.01
HSRC108			NS	SA		
HSRC109			NS	SA		
HSRC110	9	12	3	16.7	26.3	0.01

## Table 3 – Horseshoe South - Drilling Results (using a cut-off grade of 18% Mn)



Hole ID	Depth From	Depth To	Interval Width	Mn%	Fe%	Р%
HERC060	1	2	1	22.2	19.1	0.16
	6	7	1	20.2	28.7	0.27
	13	14	1	18.7	29.8	0.28
HERC061			N	SA		
HERC062			N	SA		
HERC063	5	6	1	21.8	28.5	0.09
	11	15	4	17.5	25.8	0.25
	19	21	2	22.9	16.7	0.15
	23	24	1	19.7	20.7	0.12
	26	27	1	18.8	22.4	0.10
	29	30	1	18.0	25.6	0.27
	34	36	2	23.4	21.0	0.23
HERC064	3	7	4	22.0	21.4	0.16
	23	28	5	24.6	23.8	0.26
including	26	27	1	32.7	<b>16.0</b>	0.23
HERC065			N	SA		
HERC066	10	18	8	28.9	22.0	0.07
including	11	12	1	34.3	21.7	0.11
and	15	17	2	32.5	<b>13.6</b>	0.10
HERC067	2	5	3	31.0	18.3	0.16
including	2	4	2	34.0	<b>15.0</b>	0.16
	8	9	1	21.7	24.7	0.14
	12	15	3	22.7	22.6	0.20
	17	20	3	24.4	18.1	0.14
HERC068	1	2	1	28.0	13.5	0.07
HERC069			N:	SA		
HERC070	2	10	8	22.3	13.3	0.05
	14	16	2	22.4	22.6	0.16
HERC071	6	22	16	26.1	9.2	0.07
including	14	15	1	31.9	7.2	0.09
and	<b>19</b>	20	1	33.8	5.7	0.03
HERC072	12	16	4	26.0	19.2	0.19
including	13	14	1	32.3	<b>14.2</b>	0.17
HERC073	9	13	4	24.6	16.0	0.11
	18	19	1	18.5	33.4	0.23
HERC074	27	31	4	25.5	15.1	0.25
including	28	<b>29</b>	1	<b>34.9</b>	11.9	0.25

Note: Intervals are down hole and may not be true thickness Results may include up to 2 metres of <18% Mn material



Hole	Easting	Northing	RL	Azimuth & Dip	Total
ID	mE	mN	(m)	(planned)	Depth (m)
Main Open Pit			1	1	[
HSRC086	656805	7185160	595	Vertical	15
HSRC087	656805	7185170	594	Vertical	15
HSRC088	656805	7185180	593	Vertical	15
HSRC089	656805	7185190	592	Vertical	10
HSRC090	656805	7185200	591	Vertical	6
HSRC091	656785	7185160	594	Vertical	15
HSRC092	656785	7185170	593	Vertical	15
HSRC093	656785	7185180	592	Vertical	15
HSRC094	656670	7185200	578	Vertical	12
HSRC095	656660	7185200	576	Vertical	12
HSRC096	656670	7185210	577	Vertical	12
HSRC097	656660	7185210	576	Vertical	12
HSRC098	656610	7185190	571	Vertical	18
HSRC099	656595	7185190	569	Vertical	15
HSRC100	656595	7185180	569	Vertical	13
HSRC101	656595	7185170	569	Vertical	14
HSRC102	656595	7185160	570	Vertical	10
HSRC103	656605	7185160	570	Vertical	12
HSRC104	656565	7185170	567	Vertical	11
HSRC105	656565	7185180	566	Vertical	15
HSRC106	656565	7185190	566	Vertical	16
HSRC107	656565	7185200	566	Vertical	17
HSRC108	656527	7185190	563	Vertical	15
HSRC109	656527	7185200	563	Vertical	13
HSRC110	656527	7185210	564	Vertical	14
Extended Ope	n Pit Area		•	•	
HERCO60	656680	7184360	640	-70°/270°	30
HERC061	656651	7184335	632	-60°/270°	36
HERC062	656595	7184335	620	-60°/270°	36
HERC063	656564	7184333	619	-50°/310°	40
HERC064	656557	7184338	618	-50°/320°	40
HERCO65	656543	7184312	611	-60°/270°	48
HERC066	656500	7184335	606	-60°/270°	20
HERCO67	656483	7184314	601	-60°/270°	36
HERC068	656431	7184315	593	-60°/270°	48
HERCO69	656411	7184315	590	-60°/270°	46
HERC070	656385	7184316	587	-60°/270°	48
HERC071	656375	7184336	586	-60°/270°	48
HERC072	656355	7184335	583	-60°/270°	36
HERC073	656330	7184317	581	-60°/270°	40
HERC074	656320	7184335	581	-60°/270°	36

## Table 4 – Horseshoe South - Drill Hole Locations





Figure 5 - Tenements and Geology Map



For further information, please contact:

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#### About Bryah Resources Limited

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 Horseshoe South mine. The Company has 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**.

#### Competent Persons Statement – Mineral Resource Estimation

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.

#### **Competent Persons Statement**

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.

#### Forward Looking Statements

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 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.



## Appendix 2 - Manganese RC Drilling

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

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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> <li>For this drilling program Bryah Resources Limited (Bryah Resources) utilised both vertical and angled Reverse Circulation (RC) drill holes depending on mineralisation styles.</li> <li>RC drilling was to generally accepted industry standard producing 1m samples of approximately 3kg weight which were collected beneath a rotary cone splitter mounted under the cyclone.</li> <li>The splitter reject sample was collected into green plastic bags which were numbered and laid into 10m rows, initially by the hole then removed and stored at a bag farm.</li> <li>The holes were sampled as 1m samples from the splitter and placed into pre-numbered calico bags with the draw-sting tied up and then placed inside the green plastic bag for later collection and despatch.</li> <li>The full length of each hole drilled was sampled.</li> <li>Selected samples (based on visual logging) were collected and submitted to a contract commercial laboratory for sorting, drying, crushing, splitting, and pulverising.</li> <li>A prepared sample is then fused in a lithium borate flux with lithium nitrate additive. The resultant glass bead is analysed via X-Ray Fluorescence (XRF). XRF is suitable analysis for a wide range of geological ores.</li> </ul>
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).	Bryah Resources' RC holes were drilled with a contract RC drilling rig.
Drill sample recovery	<ul> <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> <li>The RC samples were not weighed or measured for recovery on the rig but will be completed on a campaign basis later as required. A visual estimate of recovery was made in 3 categories (Poor/Fair/Good).</li> <li>To ensure maximum sample recovery and the representivity of the samples, an experienced Company geologist was present during drilling to monitor the sampling process. Any issues were immediately rectified.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>Bryah Resources is satisfied that the RC holes have taken a sufficiently representative sample of the interval and minimal loss of fines has occurred in the RC drilling resulting in minimal sample bias.</li> <li>No twin RC drill holes have been completed to assess sample bias.</li> <li>At this stage, no investigations have been made into whether there is a relationship between sample recovery and grade.</li> </ul>
Logging	<ul> <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> <li>All the 1m RC samples were sieved and collected into 20m chip trays for geological logging of colour, weathering, lithology, alteration and mineralisation for potential Mineral Resource estimation and mining studies.</li> <li>RC logging is both qualitative and quantitative in nature.</li> <li>The total length of the RC holes was logged. Where no sample was returned due to cavities/voids it was recorded as such.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <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> <li>Sampling technique:</li> <li>All RC samples were collected by the RC rig into a cyclone and then passed through the cone splitter.</li> <li>The samples were generally dry, and all attempts were made to ensure the collected samples were dry. Moisture was logged in a qualitative way.</li> <li>The cyclone and cone splitter were cleaned with compressed air at the end of every 6m RC drill rod.</li> <li>The sample sizes were appropriate to correctly represent the mineralisation based on the style of mineralisation, the thickness and consistency of intersections, the sampling methodology and percent value assay ranges for the primary elements.</li> <li>Quality Control Procedures were:</li> <li>A duplicated sample was collected at random intervals on the cyclone nominally 1 per 100 samples.</li> <li>Certified Reference Material (CRM) samples were inserted in the field every 40 samples containing a range of manganese values.</li> <li>Overall QAQC insertion rate of 1:30 samples</li> <li>Laboratory repeats taken and standards inserted at pre-determined level specified by the laboratory.</li> <li>Sample preparation at the laboratory: The samples are weighed and dried at 105°C, then coarsely crushed to -6.3mm using a jaw crusher. If the sample size is greater than 2.5kg the samples are then riffle split. Samples are then pulverised by LM5 or disc pulveriser to 80% passing -75 microns</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>The sample sizes are considered appropriate to correctly represent the mineralisation based on the style of mineralisation, the thickness and consistency of intersections, the sampling methodology and the assay value ranges expected for manganese and its impurities.</li> </ul>
Quality of assay data and laboratory tests	<ul> <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> <li>XRF is suitable for the total analysis of a range of geological ores and is appropriate for analysis of manganese and its associated impurities.</li> <li>Duplicates and samples containing standards were included in the analyses.</li> </ul>
Verification of sampling and assaying	<ul> <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> <li>Significant intersections have been independently verified by alternative company personnel.</li> <li>The use of twinned holes has not been implemented and is not considered necessary at this stage of exploration.</li> <li>The Competent Person has visited the site &amp; supervised the drilling and sampling processes in the field.</li> <li>All primary data related to logging and sampling are captured using laptops into LogChief templates.</li> <li>All data is sent to Perth and stored in the centralised Access database with a Data Shed front end which is managed by company geologists.</li> <li>No adjustments or calibrations have been made to any assay data, apart from resetting below detection values to half positive detection.</li> </ul>
Location of data points	<ul> <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> <li>All collars have currently been surveyed with a differential GPS by Bryah staff and will be independently surveyed by surveyors using a differential GPS for accurate collar location and RL. The digital data has been entered directly into the company Access database.</li> <li>Downhole surveys have been completed on all the RC drill holes by the drillers. They used a Reflex Ez-Trac downhole as a single-shot tool to collect the surveys approximately every 30m down the hole in a stainless-steel starter rod.</li> <li>The grid system for the Bryah Basin prospect is MGA_GDA94 Zone 50.</li> <li>Topographic control is based upon known survey datums located within the area.</li> </ul>



Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <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> <li>As this program tested several locations there was considerable variation in the drill spacing and drillhole orientation.</li> <li>The drill spacing in this program is to provide sufficient information to establish the degree of geological and grade continuity applied under the 2012 JORC code for a mineral resource. Sample compositing was not applied to this drilling; all sampling was at 1m intervals.</li> </ul>
Orientation of data in relation to geological structure	<ul> <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> <li>The attitude of the lithological units varies greatly both within the prospects and between prospect to prospect.</li> <li>The sedimentary package at Horseshoe South strikes roughly north-south but due to folding can dip at a range of attitudes and directions. Manganese mineralisation can follow and/or overprint sedimentary bedding.</li> <li>No drilling orientation and sampling bias has been recognized at this time and it is not considered to have introduced a sampling bias.</li> </ul>
	The measures taken to ensure sample security.	<ul> <li>The samples collected were placed in calico bags and transported to the relevant Perth laboratory by company personnel.</li> <li>Sample security was not considered a significant risk.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <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
Mineral tenement and land tenure status	<ul> <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> <li>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.</li> </ul>	<ul> <li>The relevant tenements drilled in this program (E52/3237 and M52/806) are 100% owned or beneficially held by Bryah Resources Limited. OM (Manganese) Limited holds a 30% joint venture interest in respect to the manganese rights only on these tenements.</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>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <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 these anomalies was undertaken.</li> </ul>
Geology	Deposit type, geological setting, and style of mineralisation.	<ul> <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
Drill hole Information	<ul> <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> <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>	Refer to Table 4 of this announcement.
Data aggregation methods	<ul> <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> <li>No high-grade cuts have been applied to the reporting of exploration results.</li> <li>No metal equivalent values have been used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <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> <li>In this program there was some variation in the drill spacing and hole orientation.</li> <li>Due to locally varying intersection angles between drill holes and lithological units all results are defined as downhole widths.</li> </ul>
Diagrams	<ul> <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>	See attached figures within this announcement.
Balanced reporting	<ul> <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>	Refer to Table 3 of this announcement.
Other substantive exploration data	<ul> <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>	No other exploration data available.



Criteria	JORC Code explanation	Commentary
Further work	<ul> <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> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Additional drilling to test for lateral extensions of manganese mineralisation have not yet been planned.</li> </ul>