## **ASX Announcement**

11 April 2018



# QUARTERLY REPORT FOR THE PERIOD **ENDED 31 MARCH 2018**

#### **EXPLORATION - BRYAH BASIN**

- Major airborne EM survey completed, targeting potential VMS Cu-Au conductors. Preliminary data records several anomalous EM responses across the survey area;
- Exploration programme expanded to target high-grade manganese. The Bryah Basin has a history of high-grade (+40% Mn) manganese production;
- Focus of manganese exploration will be on finding economic resources amenable to short-term production within project area, and
- Manganese exploration complements the Company's active Cu-Au exploration strategy in a multi-commodity mineral province.

#### **EXPLORATION – GABANINTHA**

- One metre assay results from 2017 RC drilling programme at the Tumblegum South Prospect at Gabanintha include mineralisation of up to 1 ounce/tonne gold.
- Best intercepts recorded are:

BGRC003 -

	•	
>	BGRC015 -	2 metres (46-48m) @ 18.13 g/t Au & 0.36% Cu, including 1m (47-48m) @ 32.18 g (1.0 oz)/t Au & 0.44% Cu;
>	BGRC002 -	1 metre (102-103m) @ 3.17 g/t Au & 3.98% Cu;
>	BGRC005 -	5 metres (84-89m) @ 3.56 g/t Au & 0.55% Cu, including 1m (87-88m) @ 9.57 g/t Au & 0.88% Cu;
>	BGRC008 -	7 metres (13-20m) @ 3.36 g/t Au & 0.11% Cu, 2 metres (31-33m) @ 3.70 g/t Au, and 1 metre (45-46m) @ 4.21 g/t Au & 0.81% Cu;
>	BGRC009 -	7 metres (47-54m) @ 3.28 g/t Au & 0.13% Cu, including 1 metre (47-48m) @ 16.73 g/t Au;
>	BGRC020 -	3 metres (74-77m) @ 3.53 g/t Au & 0.27% Cu, and 2 metres (85-87m) @ 1.24 a/t Au & 0.16% Cu, and

2 metres (8-10m) @ 4.19 g/t Au & 1.38% Cu.

This report summarises the exploration and corporate activities of Bryah Resources Limited ("Bryah" or "the Company") during the quarter ended 31 March 2018.

Address

Level 1, 85 Havelock Street West Perth WA 6005 Tel: +61 8 9321 0001 Email: info@bryah.com.au

ASX Code: BYH ABN: 59 616 795 245

Shares on issue: 56,350,120 Latest Share Price: \$0.14 Market Capitalisation: \$7.9M **Projects** 

Bryah Basin - Copper, Gold, Manganese

Gabanintha - Gold, Copper

bryah.com.au



## **Exploration Activities**

## **Bryah Basin Project**

The Bryah Basin project covers 718 km<sup>2</sup>, predominantly in the Bryah Basin in central Western Australia. The project is located close to several gold, copper and manganese mining operations including the high-grade DeGrussa Cu-Au mine operated by Sandfire Resources NL.

The Company's tenements cover largely unexplored ground adjacent to the Cu-Au deposit at Horseshoe Lights (see Figure 1) which is hosted in similar aged volcanic and sedimentary rocks as at the DeGrussa Cu-Au mine.

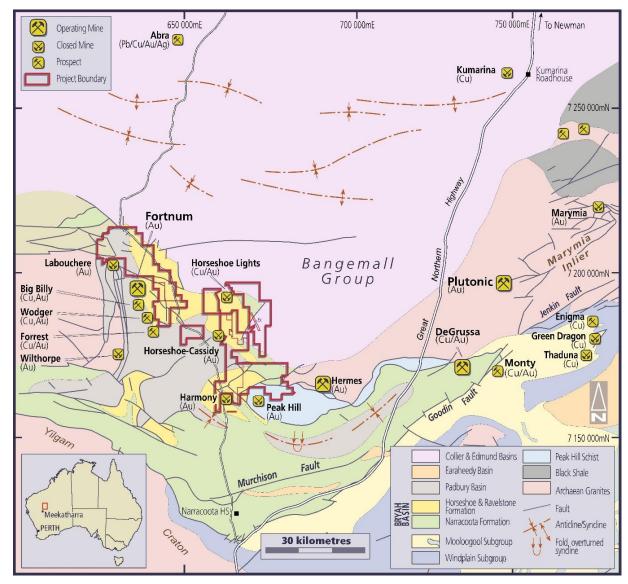


Figure 1 – Bryah Basin Project Map

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### Airborne EM Survey

Following completion of a geophysical study in 2017, the Company contracted UTS Geophysics Pty Ltd (Geotech) to complete an airborne Electromagnetic (EM) survey over the areas of highest prospectivity. The survey was undertaken to identify conductors which potentially could be Volcanogenic Massive Sulphide (VMS) Cu-Au deposits. The helicopter-borne Versatile Time-Domain Electromagnetic (VTEM™ Max) geophysical survey involved 1,860 line-kilometres flown over five areas totalling approximately 325km² as shown in Figure 2. The survey was flown on 200 metre line intervals at an EM sensor altitude of 35 metres.

Geotech's VTEM™ Max geophysical survey system has high power and low noise and is therefore well suited for locating discrete conductive anomalies. It offers unparalleled depth of penetration and resolution for an airborne EM survey system and is a proven exploration tool for discovering large scale base metal deposits.

The unprocessed survey data was received at the completion of the survey in February 2018. Preliminary interpretations by consultants, Resource Potentials Pty Ltd, have identified several anomalous EM responses across the surveyed areas, and these will be the focus of future modelling once the final processed data is received later in April 2018.

One significant EM response is located about 7km north of the Peak Hill Gold Mine within the prospective Narracoota Formation (see Figure 2). This EM response has been picked up in 3 adjoining flight lines, indicating an east-west length of at least 600 metres and is characterised as a moderate conductive source, which is potentially indicative of VMS Cu-Au mineralisation.

Importantly there is no evidence of previous exploration or drilling being conducted near this EM response. Due to the significance of the EM response, the Company has undertaken additional on-ground investigations of this target area, as well as other high priority target areas.

The final VTEM dataset is due to be received in late April 2018 with a full geophysical interpretation of EM responses by Resource Potentials to commence immediately thereafter.

The VTEM-Max system is also a useful exploration tool for identifying buried manganese deposits, so the Company looks forward to seeing the final results of the airborne EM survey over those areas, namely the Horseshoe Formation, which are considered prospective for manganese.

A ground-based Moving Loop EM (MLEM) survey has also been recommended by Resource Potentials to assist in better defining the orientation of the Peak Hill EM response ahead of any drill testing. The Company is considering extending the scope of the MLEM survey to test other EM anomalies identified to date.

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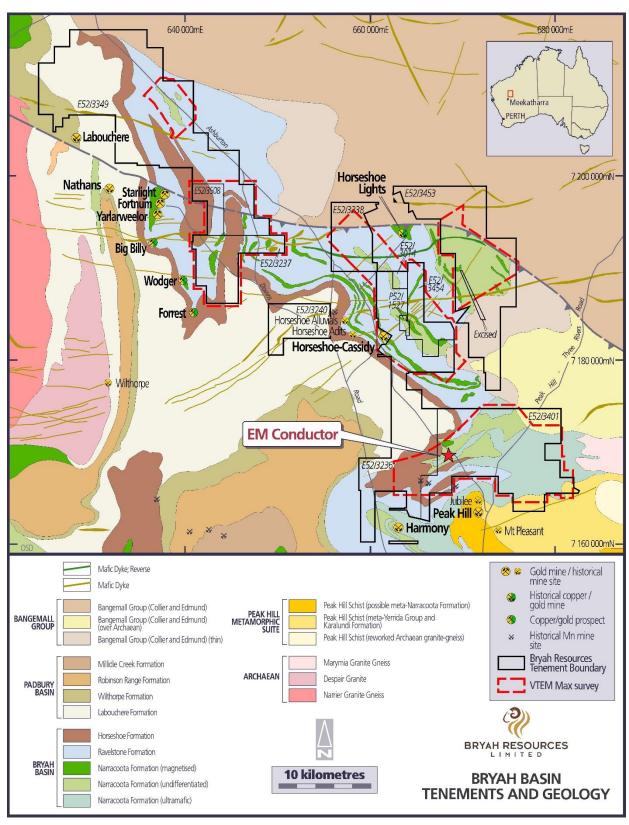


Figure 2 – Bryah Basin Tenements and Regional Geology Map showing areas of airborne VTEM Max survey



## Manganese Strategy

During the quarter the Company announced the expansion of its exploration programme to target high-grade manganese. The Bryah Basin is well known for hosting a number of historical manganese mining areas. Manganese mining activities are known to have occurred during the period 1948 – 1967 with manganese production grades above 40% Mn reported.

More recently, Mineral Resources Limited (ASX:MIN) mined over 400,000 tonnes of manganese from the Horseshoe South Mine (see Figure 3) from mid-2008 to early-2011, exporting product through Port Hedland. This mining was completed under an agreement with the tenement holder, privately owned Peak Hill Manganese Pty Ltd.

In recent months, privately-owned Horseshoe Manganese Pty Ltd has commenced manganese mining operations at the Horseshoe Flats Mine, which is adjacent to one of Bryah's tenements, E52/3240 (see Figure 3). The Horseshoe Flats deposit was discovered by shallow drilling completed by Auvex Resources Limited in early 2010.

Under an agreement announced by Atlas Iron Limited (ASX:AGO) in March 2018, Atlas has sought to capitalise on the strength of the current manganese lump market with an arrangement under which up to 100,000 tonnes of product will be mined and crushed on a campaign basis from Horseshoe Flats and then transported to Port Hedland for export.

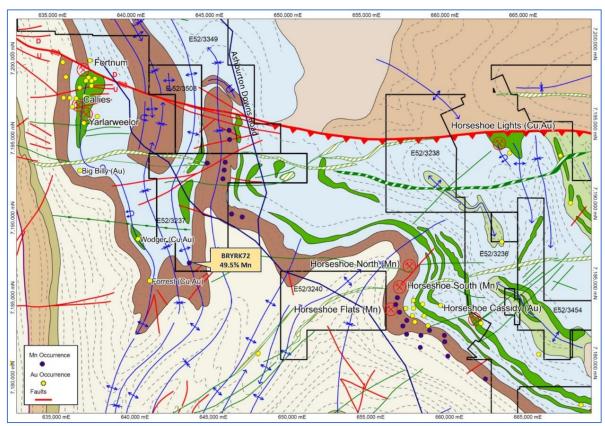


Figure 3 – Geology Map showing location of Northern Manganese Occurrences (refer to geology legend in Fig 2).

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The potential opportunity for Bryah in respect to manganese is to find +30% manganese orebodies which are at, or close to the surface and that can be brought into production with limited capital outlay.

Such deposits are expected to be amenable to shallow open pit mining and simple beneficiation (crushing and screening) methods using mobile processing equipment such as those employed at the Horseshoe Flats mine.

To assist Bryah to quickly evaluate the manganese potential of the region it has engaged veteran consulting geologist Brian Davis. Mr Davis has significant direct manganese experience over several years, having worked on earlier manganese exploration undertaken in the Bryah Basin area. Mr Davis was also involved in the Horseshoe South Manganese mine when two export shipments totalling approximately 40,000 tonnes were dispatched between 2003 and 2004 by Peak Hill Manganese Pty Ltd.

### Manganese Sampling

During field mapping and reconnaissance work in February 2018, Bryah personnel collected five manganese samples from two prospective locations within the Company's project area which were submitted for laboratory analysis.

The best assay result recorded was 49.5% Mn in a rock chip sample collected from Exploration Licence E52/3237 (see Figure 3 and Plate 1).



Plate 1 – Manganese sample BRYRK072 – assayed 49.5% Mn

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This sample was collected from a manganese capped mesa.

The top of the mesa is approximately 75 metres long, 25-30 metres wide and stands approximately 20 metres above the surrounding terrain (see Plate 2). There is evidence of manganiferous scree on the steep slopes of the mesa as well as on the surrounding flat terrain (see Plate 3). The topmost layer of the mesa demonstrates botryoidal and reniform shapes in the caprock where manganese has re-precipitated around nodules (see Plates 4 & 5).

This site was visited by Company personnel, including Brian Davis, in March 2018 and 6 additional samples have been collected and submitted for laboratory analysis. Assay results for these samples are expected to be available towards the end of April 2018.

At least 6 other manganese occurrences have been identified from satellite imagery in the Company's northern tenement area of E52/3237 and E52/3349 (see Figure 3). These sites have yet to be reviewed in any detail by ground reconnaissance and geological mapping.



Plate 2 – Manganese capped mesa within E52/3237

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Plate 3 – Manganiferous cap and scree slope of the mesa shown in Plate 2



Plate 4 – Consulting Geologist Brian Davis (L) and Managing Director Neil Marston (R) inspecting the manganese cap of the mesa shown in Plate 2

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Plate 5 – Exploration Manager Rohan Williams on top of the mesa shown in Plate 2

The second area inspected during the February 2018 site visit was one of the historical mining areas located within the Company's tenements known as the Mudderwearie Mine. In addition to the Mudderwearie Mine workings, there are at least six other areas of manganese anomalism nearby which have been identified from satellite imagery (see Figure 4).

The nearby historic Ravelstone manganese mine, which is located just to the east of Bryah's tenement (see Figure 4), has reported production between 1956-1964 of 76,237 tonnes at 48.45% Mn for 36,938 tonnes of contained metal. Although the Ravelstone mine is not located on the Company's tenements, it may give an indication concerning the style and potential grade of manganese mineralisation in the Mudderwearie area.

Historical production information from the Mudderwearie Mine is limited. No records of production grades have been found however it is expected to have been about 40% Mn.

At the East Mudderwearie Mine there are open excavated areas with some stockpiled material on site (see Plates 6 and 7). During the February visit, 4 samples were collected from stockpile material and in-situ rock. The 2 stockpile samples assayed 16.3% Mn and 20.0% Mn whilst the 2 in-situ samples returned assays of 35.6% Mn and 27.2% Mn respectively.

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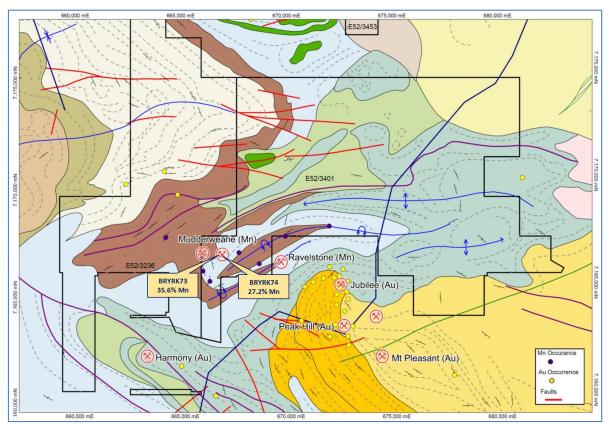


Figure 4 - Geology Map showing location of Southern Manganese Occurrences including Mudderwearie Manganese Mine (refer to geology legend in Fig 2).



Plate 6 – East Mudderwearie mining area with remnant manganese stockpiles

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Plate 7 - Rohan Williams sampling remnant manganese stockpiles at East Mudderwearie Mine This sample recorded an assay of 16.3% Mn.

During the March 2018 site visit the East Mudderwearie mine was again visited with 2 additional samples collected, which have been submitted for analysis.

The West Mudderwearie mine was also inspected during the March 2018 site visit.

This mine consists of a shallow open pit where there is evidence of remnant manganese mineralisation in the base of the pit (see Plate 8).

Two samples from the West Mudderwearie mine have been collected and submitted for laboratory analysis.

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Plate 8 – West Mudderwearie Mine with evidence of manganese mineralisation in the far end of the pit.

## Planned Activities - June Quarter

The Company is aiming to achieve the following activities during the June quarter:

- completion of the interpretation of the airborne EM survey upon the receipt of the final processed data in late April 2018;
- completion of MLEM survey of target areas identified by airborne EM survey;
- completion of heritage surveys to clear areas for drilling, and
- commencement of drilling programmes for copper-gold and manganese.



## Gabanintha Project

The Gabanintha Project covers 202 km<sup>2</sup> of ground approximately 40 km south of Meekatharra in Western Australia (see Figure 5). In December 2017 the Company completed its maiden Reverse Circulation (RC) drilling programme at the Tumblegum South Au-Cu Prospect.

## RC Drilling

A total of 26 RC drill holes for 2,484 metres were completed in the drilling programme. Samples were collected at 1 metre intervals and composited to 3 metre intervals for initial analysis for gold and multi-elements. Anomalous composite sample intervals were subsequently assayed using the 1 metre interval samples. Approximately 250 one metre interval samples were submitted for laboratory analysis.

A full schedule of significant laboratory results based on the 1 metre interval samples is shown in Table 1 with selected results shown on Figure 6 and in cross sections in Figures 7 - 9. Refer to the ASX announcement dated 1 March 2018 for further JORC Table 1 disclosures.

During a field visit in February 2018 to collect the 1 metre interval samples, Bryah personnel examined the drill cuttings of several holes, in particular those from the BGRC015 47-48m interval, which subsequently assayed as 32.18 g/t (1.0 oz/t) Au and 0.44% Cu.Using traditional panning techniques on some of the cuttings from the BGRC015 47-48m interval, fine particles of free visible gold were clearly observed in the panning dish (see Plate 9 below), confirming the high-grade nature of that gold intersection.



Plate 9 – Tail of visible free gold panned from drill cuttings grading 32.18g/t Au in hole BGRC015 (47-48m).

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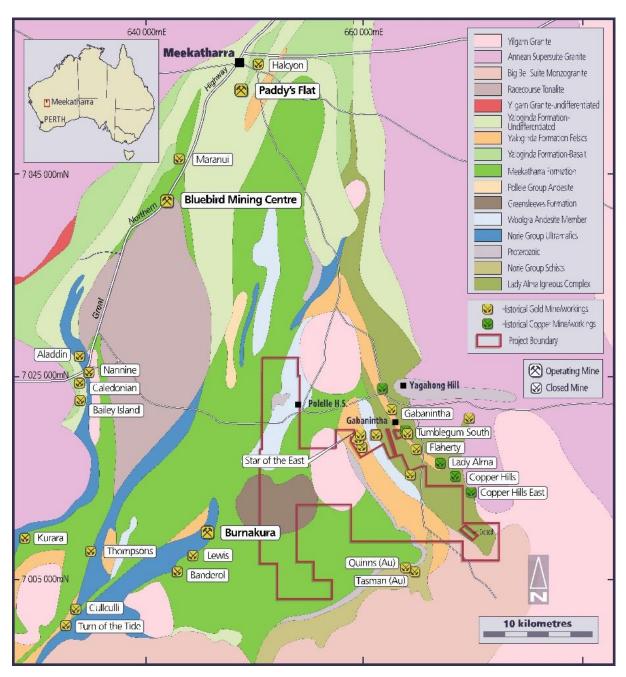


Figure 5 – Gabanintha Project Map

The mineralised zones are characterised by very tightly controlled ductile shear zones consisting of moderate to intense chlorite, phlogopite (biotite), talc alteration zones and lesser silica and sericite with quartz-carbonate (± pyrite ± chalcopyrite) veining. Soil cover is generally quite thin over the undulating topography with poorly developed saprolitic weathering indicating a relatively stripped lateritic profile.

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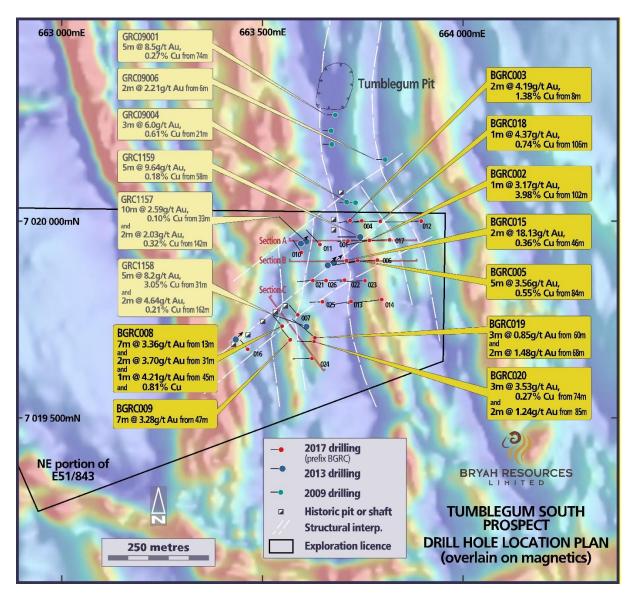


Figure 6 - Drill Hole Location Plan

During the RC drilling programme holes BGRC001 and BGRC002 intersected voids of approximately 2 metres width created from previous historical underground mining (see Figure 7). Gold was first discovered at Gabanintha in 1897 and since then there has been mining activities for gold and copper intermittently up until the most recent closure of open pit gold mining operations by Dominion Mining Limited in 1992.

Drilling results indicate that mineralised zones intersected are generally open along strike and/or down dip and that extensional drilling is warranted to further test the mineralised lenses.

A number of holes warrant extension in a follow-up programme. Extension of BGRC006 appears to be a high priority to test below the mineralisation intersected in BGRC005 and BGRC015.

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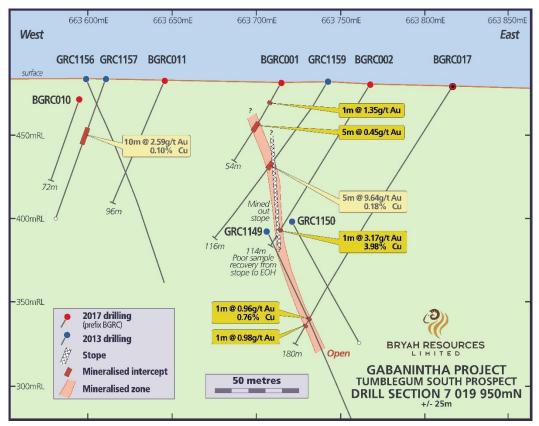


Figure 7 – Section A

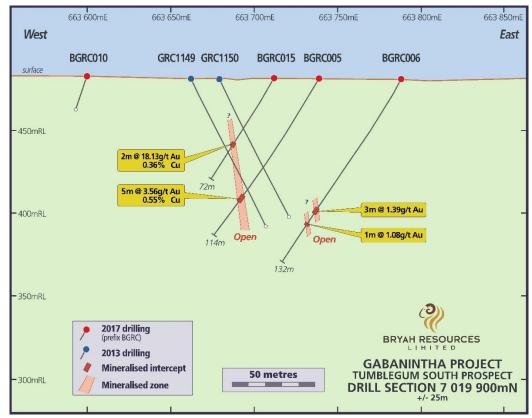


Figure 8 – Section B

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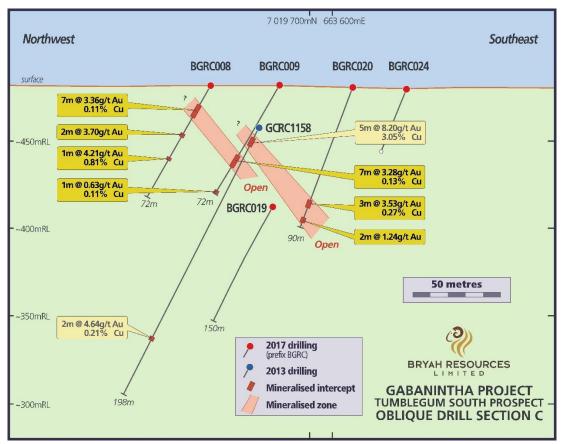


Figure 9 - Section C

## <u>Planned Activities – June Quarter</u>

The Company is aiming to achieve the following activities during the June quarter:

completion of 3D modelling and planning of a follow-up RC programme.

## Corporate

### **Cash Position**

As at the 31 March 2018, the Company had \$3.0 million in cash and cash equivalents.

For Further Information, please contact

## **Neil Marston Managing Director**

Tel: +61 9321 0001

Address: Level 1, 85 Havelock Street Page 17 of 20 Tel: +61 8 9321 0001

West Perth WA 6005 Email: info@bryah.com.au



### **About Bryah Resources Limited**

In October 2017 Bryah Resources Limited raised \$5 Million and was admitted to the official list on the Australian Securities Exchange (ASX). The Company is a copper-gold-manganese focused explorer with 2 projects located in central Western Australia, being the 718 km² Bryah Basin Project and the 202km² Gabanintha Project.

The Bryah Basin is host to the high-grade copper-gold mines at DeGrussa, discovered by Sandfire Resources NL in 2009, and at Horseshoe Lights, which was mined up until 1994. The Bryah Basin also has several historical and current manganese mines.

Bryah Resources Limited's exploration strategy is:

- to apply the best and latest exploration methods to evaluate the ground;
- to use high resolution geophysics to identify deeper structures and potentially mineralised zones;
- to drill test targets below the depth of previous drilling, and
- to apply maximum funds on exploration activities.

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.

## **Competent Persons Statement**

The information in this announcement that relates to Exploration Results is based on information compiled by Mr Rohan Williams, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Williams is an employee of Bryah Resources Limited ("the Company"). Rohan Williams 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'. Rohan Williams consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

## **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 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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-	Tenement Info	ormation as Rec	quired by Listing	Rule 5.3.3					
For the Quarter Ended 31 March 2018									
Location	Project	Tenements	Economic	Notes	Change in				
			Interest		Quarter %				
Western Australia	Bryah Basin	P52/1627	100%		Nil				
		E52/3014	100%		Nil				
		E52/3236	100%		Nil				
		E52/3237	100%		Nil				
		E52/3238	100%		Nil				
		E52/3240	100%		Nil				
		E52/3349	100%		Nil				
		E52/3401	100%		Nil				
		E52/3453	100%		Nil				
		E52/3454	100%		Nil				
		E52/3508	100%		Nil				
Western Australia	Gabanintha	E51/843	100%¹		Nil				
		E51/1396	100%¹		Nil				
		E51/1534	100%¹		Nil				
		E51/1576	100%¹		Nil				
		E51/1685	100%¹		Nil				
		E51/1694	100%¹		Nil				
		E51/1695	100%¹		Nil				
		P51/2566	100%¹		Nil				
		P51/2567	100%¹		Nil				
		P51/2634	100%1		Nil				
		P51/2635	100%¹		Nil				
		P51/2636	100%1		Nil				
		MLA51/878	Nil	Application	Nil				

Note 1: Bryah Resources Limited holds the Mineral Rights for all minerals except V/U/Co/Cr/Ti/Li/Ta/Mn & iron ore only. Australian Vanadium Limited retains 100% rights in V/U/Co/Cr/Ti/Li/Ta/Mn & iron ore on the Gabanintha Project.

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West Perth WA 6005 Email: info@bryah.com.au



# Table 1 – Tumblegum South Prospect

# Significant Laboratory Results – at a Cut-off >0.5g/t Au

Hole ID	Northing mN	Easting mE	RL	Azimuth & Dip	Total Depth	Depth From	Depth To	Interval Width	Gold g/t	Cu %
				(planned)	(m)	(m)	(m)	(m)		
BGRC001	7019950	663715	481	270°/-60°	54	5	6	1	0.64	0.09%
						13	14	1	1.35	0.10%
						28	33	5*	0.45	0.08%
BGRC002	7019951	663768	480	270°/-60°	114	102	103	1	3.17	3.98%
BGRC003	7020001	663720	480	270°/-60°	54	8	10	2	4.19	1.38%
BGRC005	7019900	663739	482	270°/-60°	114	84	89	5	3.56	0.55%
including						87	88	1	9.57	0.88%
BGRC006	7019901	663788	481	270°/-60°	132	91	94	3	1.39	0.09%
						102	103	1	1.08	0.09%
BGRC008	7019733	663553	482	325°/-60°	72	13	20	7	3.36	0.12%
						31	33	2	3.70	0.04%
						36	37	1	0.70	0.04%
						39	40	1	0.75	0.07%
						45	46	1	4.21	0.81%
BGRC009	7019698	663573	483	325°/-60°	72	47	54	7*	3.28	0.13%
including						47	48	1	16.72	0.07%
						71	72	1	0.63	0.11%
BGRC012	7020000	663896	479	270°/-60°	150	17	18	1	4.58	0.00%
BGRC015	7019899	663712	482	270°/-60°	72	46	48	2	18.13	0.36%
including						47	48	1	32.18	0.44%
BGRC017	7019953	663817	479	270°/-60°	180	165	166	1	0.96	0.76%
						169	170	1	0.98	0.07%
BGRC018	7019999	663795	478	270°/-60°	120	106	107	1	4.37	0.74%
BGRC019	7019703	663634	481	310°/-60°	150	60	63	3	0.85	0.20%
						68	70	2	1.48	0.13%
						102	103	1	0.55	0.32%
BGRC020	7019694	663632	481	270°/-60°	90	74	77	3	3.53	0.27%
						85	87	2	1.24	0.16%
BGRC021	7019849	663629	480	270°/-60°	78	60	61	1	0.52	0.00%

#### Notes

Interval widths are measured down hole and may not represent true width of mineralisation  $% \left( 1\right) =\left( 1\right) \left( 1\right$ 

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West Perth WA 6005 Email: info@bryah.com.au

<sup>\*</sup> includes up to 3 metres of internal dilution