



**BRYAH RESOURCES  
LIMITED**

***“Exploring Australia for the Energy Metals  
needs of the Future”***

# **INVESTOR PRESENTATION**

**Metals and Mining Day**

September 2021



**AMEC**  
ASSOCIATION OF MINING  
AND EXPLORATION COMPANIES  
2021 MEMBER

# Competent Person's Statement & Disclaimer



## Competent Persons Statement – Exploration Results

The information in this Presentation that relates to Exploration Results is based on 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). Mr Jones is a consultant to Bryah Resources Limited (“the Company”). Ashley Jones 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’. Ashley Jones consents to the inclusion in this Presentation of the matters based on his information in the form and context in which it appears.

## Competent Person Statement — Mineral Resource Estimation

The information in this presentation 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 information in this presentation that relates to Gabanintha Base metals Mineral Resources (see BYH ASX announcement dated 1st June 2021) is based on and fairly represents information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd) and Mr Brian Davis (Consultant with Geologica Pty Ltd). Mr Barnes and Mr Davis are both members of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). Both have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Barnes is the Competent Person for the estimation and Mr Davis is the Competent Person for the database, geological model and site visits.

The Company confirms that it is not aware of any new information or data that materially affects the information included in this presentation and all material assumptions and technical parameters underpinning the Mineral Resource estimates 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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The presentation contains “forward-looking information” within the meaning of applicable securities legislation. Forward-looking information may include, but is not limited to, information with respect to the future financial and operating performance of the Company, its affiliates and subsidiaries, potential investments, the estimation of mineral reserves and mineral resources, realization of mineral reserves and resource estimates, costs and timing of development of the Company's projects, costs and timing of future exploration, timing and receipt of approvals, consents and permits under applicable legislation, results of future exploration and drilling and adequacy of financial resources.

Forward-looking information is based on the reasonable assumptions, estimates, analysis and opinions of management of the Company made in light of their experience and their perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. The Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. The Company does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

# Corporate Snapshot



## Capital Structure

ASX Code	BYH
Total Shares on Issue	224,207,175
Options on Issue*	71,000,000
Market Capitalisation (@ \$0.055)	\$12.3 million
Cash Balance (as at 31 <sup>st</sup> Aug 21)	\$3.3 million*

- 7,500,000 Unlisted Options – ex. price \$0.09, expiry 30 September 2022.
- 63,500,000 Listed Options (BYHOA) – ex price \$0.09 expiry 31 Jan 2023.
- \* excludes BBMJV funds and proceeds from sale of Tumblegum South

## Active Shareholders - ~1,130

Top 20 Holders, includes:	42.12%
- Board and Management	7.11%
- Australian Vanadium Ltd (ASX:AVL)	5.02%



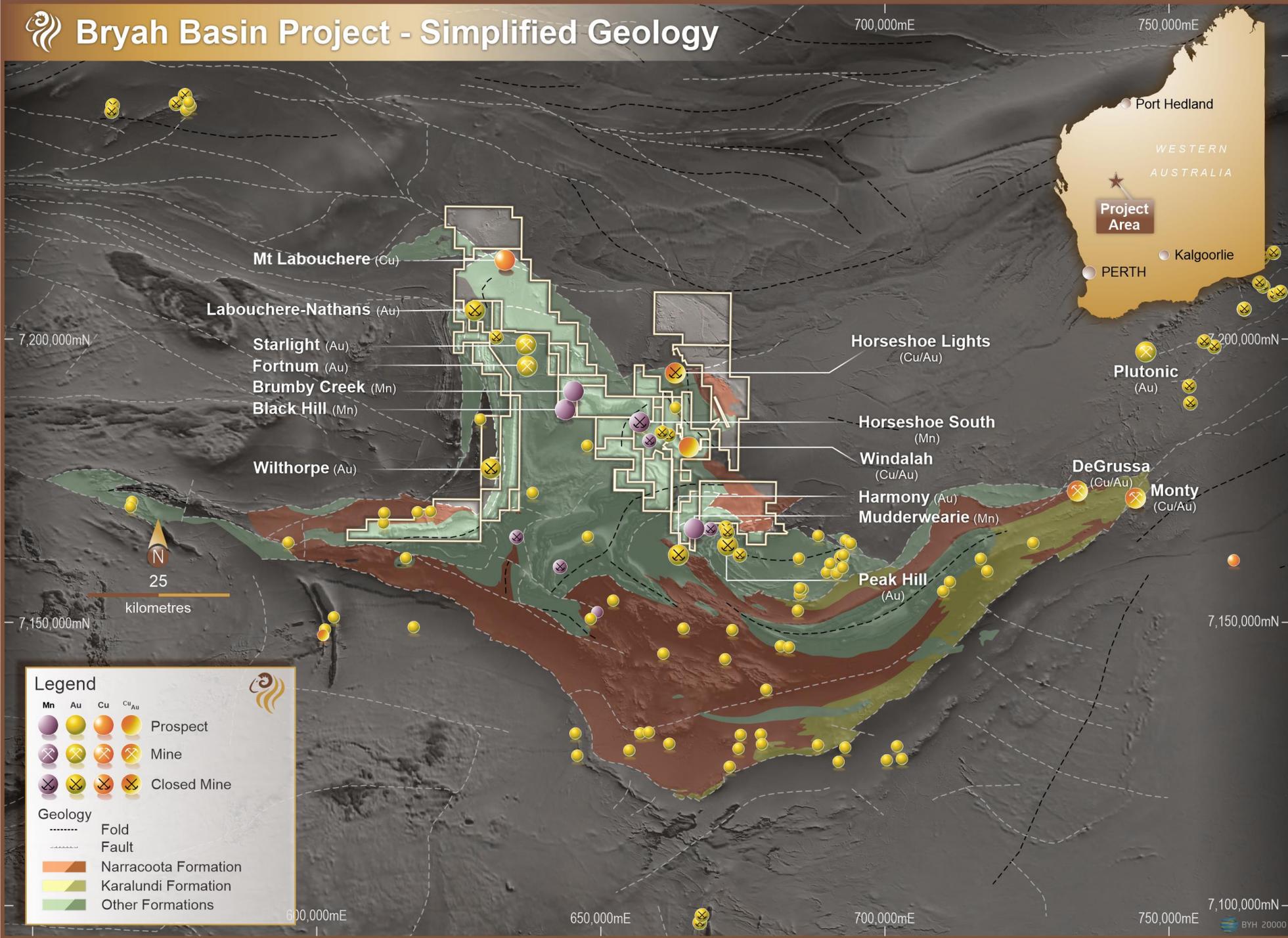
# Our Projects



*“Our Projects are quality exploration assets in Western Australia, a Tier 1 exploration jurisdiction”*



# Bryah Basin Project - Simplified Geology



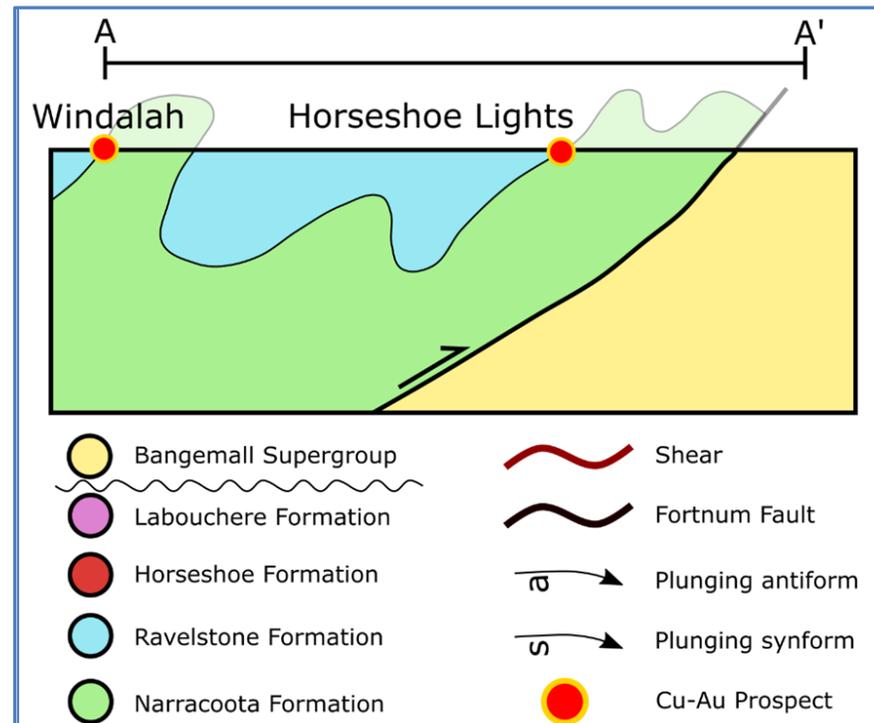
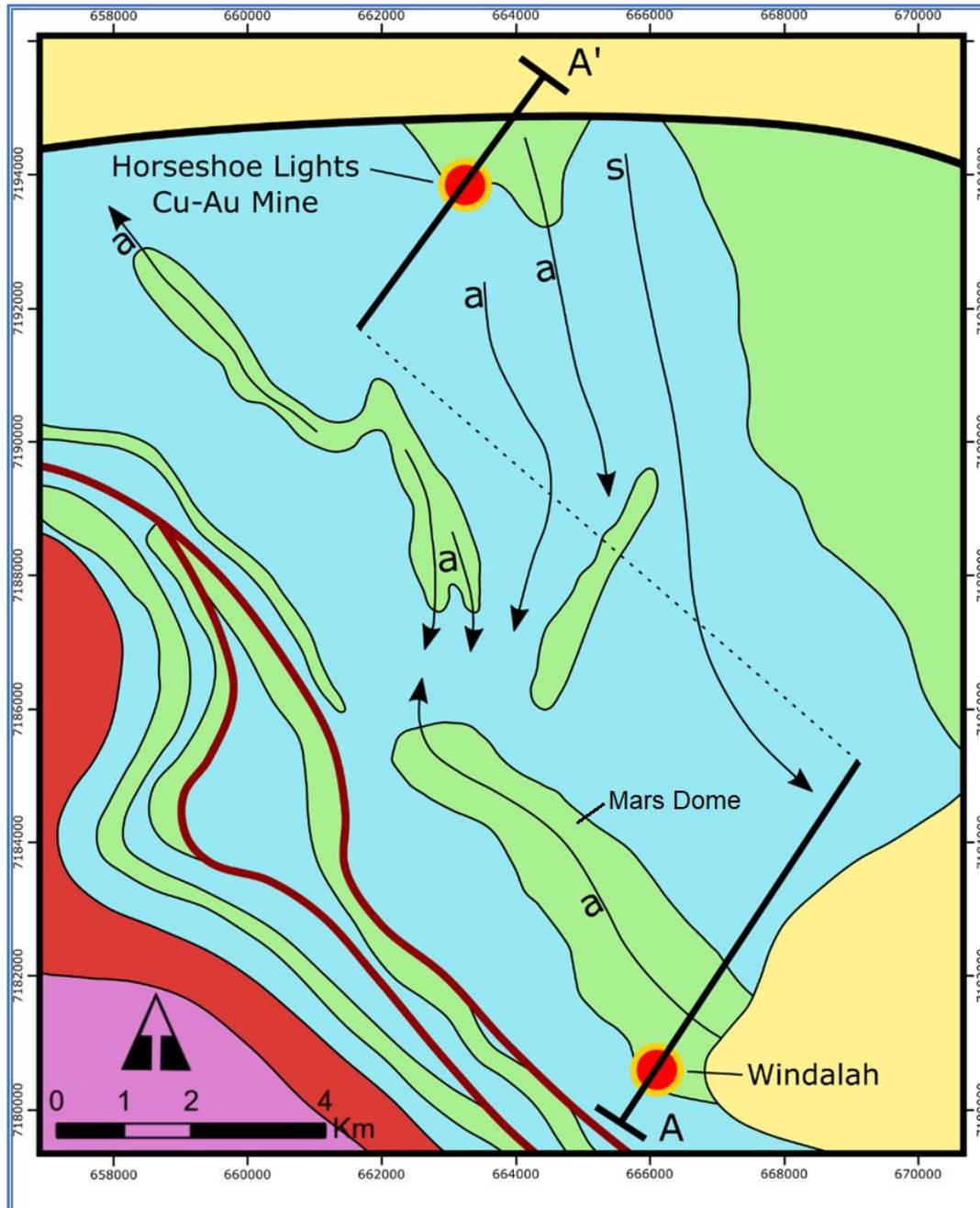
- Bryah Basin hosts world class **Volcanogenic Massive Sulphide (VMS)** copper – gold deposits (DeGrussa, Monty and Horseshoe Lights) and several epigenetic gold mines (Fortnum, Peak Hill) as well as several manganese deposits
- Bryah Resources' landholding (1,125km<sup>2</sup>) surrounds the Horseshoe Lights copper-gold mine and the Fortnum gold mine
- Prior to the DeGrussa copper-gold discovery in 2009 the area had been largely unexplored for copper.
- VMS copper-gold deposits are not usually isolated occurrences, e.g. Monty found close to and after DeGrussa discovery.

# Windalah Copper-Gold Prospect



## Analogous to Horseshoe Lights Copper-Gold Mine

- Same stratigraphic position as Horseshoe Lights (at the contact of the volcanic Narracoota and sedimentary Ravelstone Formations)
- Same VMS pathfinder elements identified at both locations
- Copper mineralisation at Horseshoe Lights was at depth (>100m) with gold resource above it. Shallow drilling to date at Windalah has been recording gold and minor copper.



# Windalah Copper-Gold Prospect



*Bryah's discovery of a VMS copper-gold target at Windalah confirms the potential for a new copper-gold discovery on this highly prospective land package at a time when demand for copper is set to grow significantly .*

# Bryah Basin Manganese

An aerial photograph of a manganese mining site in the Bryah Basin. The landscape is dominated by dark brown, eroded soil with numerous small, green, scrubby bushes scattered across it. In the center-left, there is a large piece of industrial machinery, possibly a conveyor system or a processing unit, with a long, angled structure extending from it. To the right of this machinery, there are several small, light-colored piles of material, likely manganese ore. The background shows a range of low, rounded hills covered in similar vegetation under a clear blue sky with a few wispy clouds.

*“The Company has seen an opportunity to develop low-cost Manganese mining operations in the Bryah Basin and in the process has made new discoveries and attracted a quality global Manganese business as our Joint Venture partner.”*

# Manganese Market Overview



- Manganese (Mn) is the fourth most utilised metal globally.
- Manganese is a critical and irreplaceable element in steel production and is mainly used to increase both the strength and flexibility of steel



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## BASF is betting on high purity manganese to supply battery makers

By Trevor Hoey. Published at May 6, 2021, in Features



German multi-national chemical company, and the largest chemical producer in the world, BASF SE (ETR: BAS), recently unveiled ambitious plans to boost investment in battery cathode active materials (CAM), including a new family of manganese-rich products.

- Approximately 90% of all manganese is used in the production of steel
  - Recent manganese ore pricing:
    - 44% Mn CIF China Jun 2021 price - ~US\$5.30/dmtu (US\$233/t = ~A\$310/t)
- Source: Fastmarkets MB
- Manganese also becoming a critical metal for use in EV batteries – seen as a cost effective way of reducing the overall price of EVs without drop in performance
  - It is the cheapest, most abundant of the NMC cathode materials (Nickel, Manganese, Cobalt)

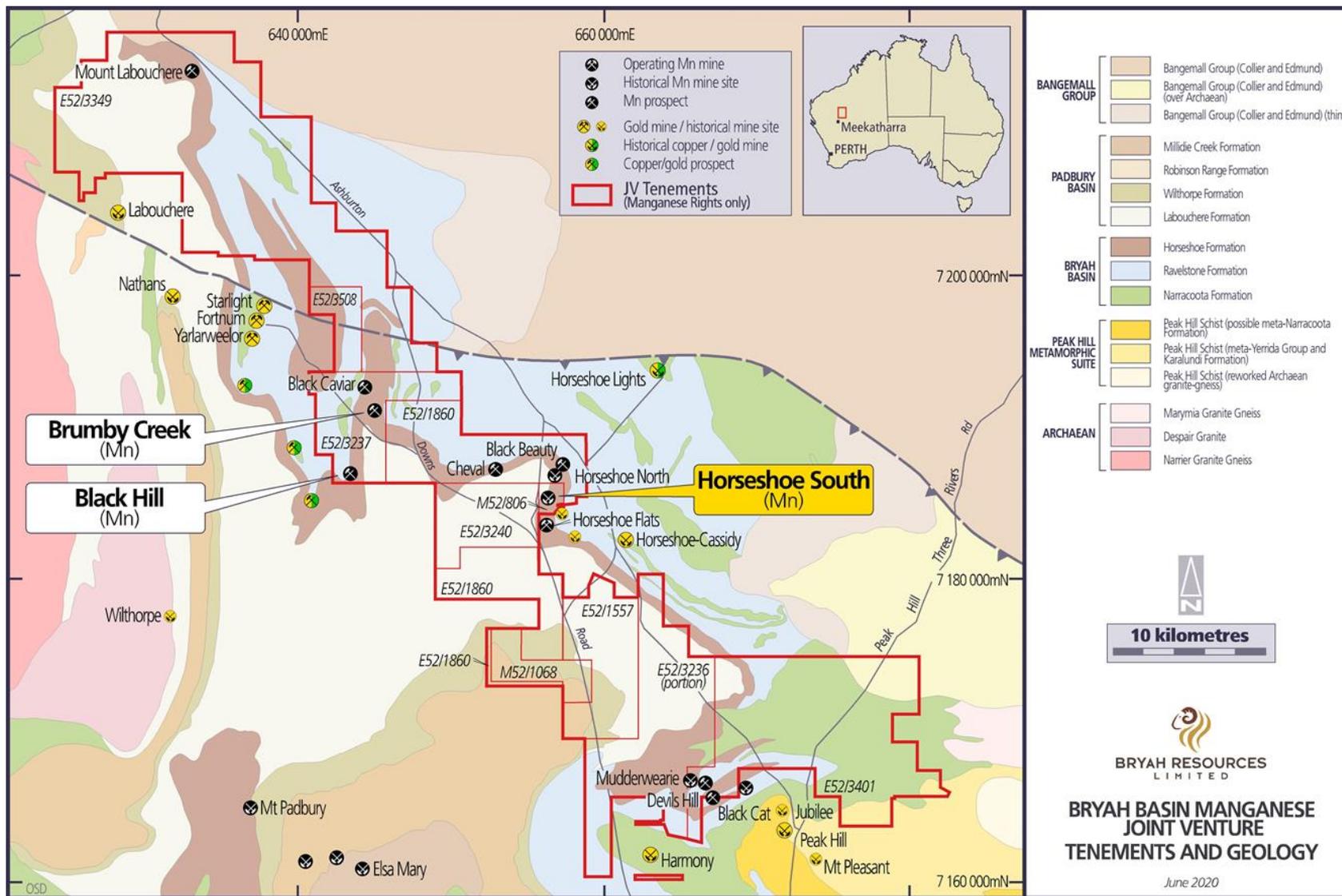
# Manganese – Battery Metal Outlook



## High Purity Manganese Sulphate is one of the manganese products used in the manufacture of batteries and is forecast to skyrocket in the coming decade

- NMC cathode makers require Nickel, Manganese and Cobalt in the form of sulphates (crystals or liquid solution), not in the metallic form. Manganese Sulphate Monohydrate (MSM), is the crystalline form of the sulphate.
- High Purity MSM is mostly used in the lithium-ion battery industry.
- Global production of HP MSM in 2020 was 198,500 mt (almost exclusively out of China)
- Demand for HP MSM is expected by Benchmark Minerals to be close to **1.1 million mt** by 2030 whilst other forecasts exceed this amount
- To meet this rising demand for HP MSM, several future projects have been announced in China (+550,000 mt per year) and in the rest of the world (+309,000 mt per year), but many of these projects still need to be financed.
- If all these projects come online, total capacity would exceed 1.2 million mt per year.
- HP MSM production benefits from using high-grade manganese ore feedstock

# Bryah Basin Manganese Joint Venture



- Manganese occurs within the Horseshoe Formation – over 70 line km covered by JV tenements
- In 2019 Bryah acquired the historic **Horseshoe South Mine**, the largest Manganese mine in the region
- Exploration focus to date has mainly centred on 3 areas (Horseshoe South Mine, Brumby Creek and Black Hill)
- OM Holding Ltd (ASX:OMH) are funding exploration to earn a 51% JV interest in 2021.
- JV currently 60% BYH/40% OMH

# Horseshoe South Manganese Mine



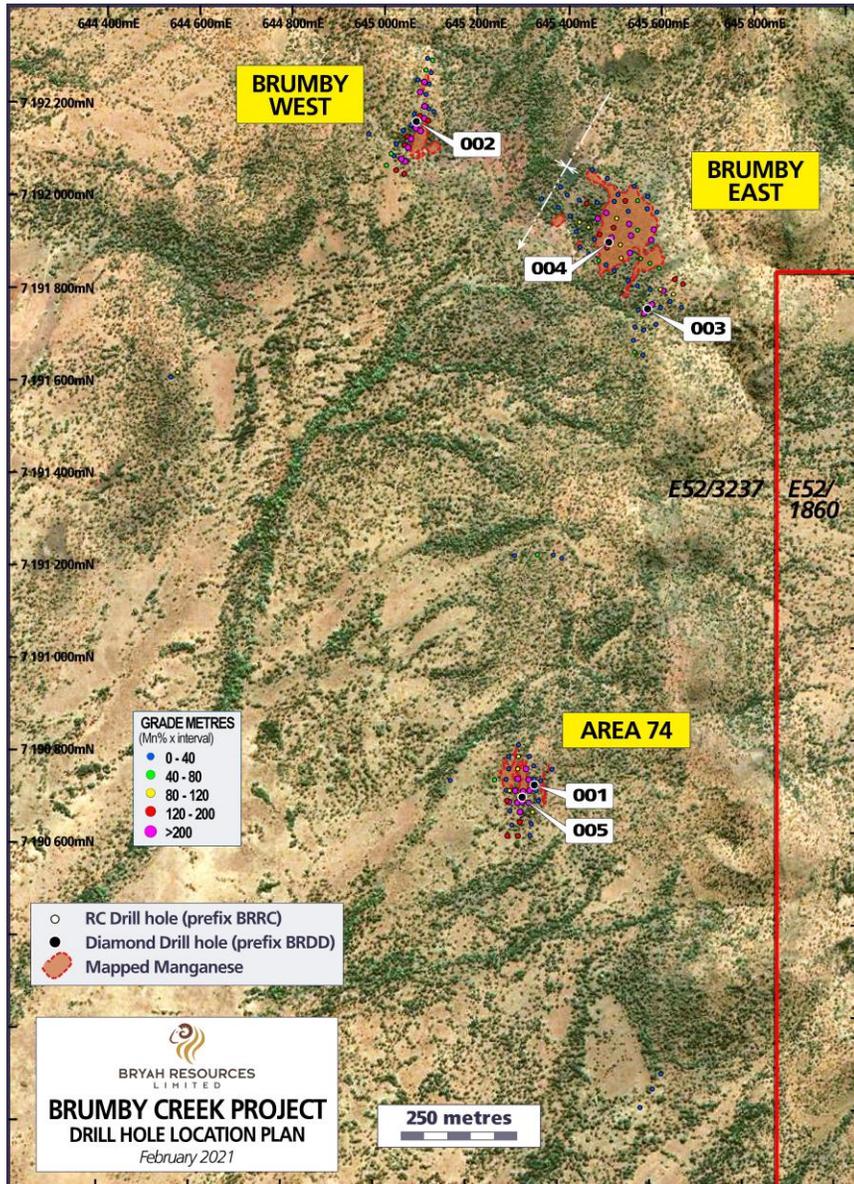
- **Largest historical Manganese Mine in Bryah Basin.**
- **Past production - 1948 to 1969: approximately 490,000 tonnes of high-grade ore at 42% Mn**
  - **2008 to 2011: Minerals Resources Ltd (ASX:MIN) produced over 400,000 tonnes of ore using Dense Media Separation to produce saleable Mn ore**
- **Recent drilling intersected significant manganese mineralisation adjacent to or beneath existing open pits**
- **Granted Mining Lease means short approvals process for the restart of mining operations**



# Brumby Creek



First ever drilling at Brumby Creek has yielded consistent results over a wide area



- Drilling to date has tested 3 main areas with sufficient drilling to establish maiden mineral resource estimates at Brumby West, Brumby East and Area 74
- Mineralisation is shallow in depth (<40m depth) and in some cases without any surface outcrop/staining
- Significant potential for additional discoveries under cover



# Bryah Basin - Manganese Development Strategy



## Stage 1 - Focus on Exploration

- ✓ Drilling - to collect some core for metallurgical testwork
- ✓ Geophysical Survey – Gradient Array IP over Brumby Creek Area
- ✓ Drilling – testing new target areas from GAIP survey
- ✓ Drilling – infill areas with mineral resources to increase certainty
- Preliminary Metallurgical testwork
- Complete Mineral Resource estimates and exploration targets

## Stage 2 – Preparing for Mining

- Drilling – for metallurgical testwork samples and to increase mineral resources
- Update Mineral Resource estimates
- Advanced Metallurgical testwork
- Feasibility Study - process design and costings
- Update environmental studies
- Commence approvals process for mining

# Gabanintha Copper-Gold Project



*At Gabanintha, Australian Vanadium Limited retains 100% rights in Vanadium, Uranium, Cobalt, Chromium, Titanium, Lithium, Tantalum, Manganese & Iron Ore (Excluded Minerals).*

***Bryah holds 100% rights to all other minerals including Gold, Copper and Nickel.***



# Tumblegum South Gold Deposit

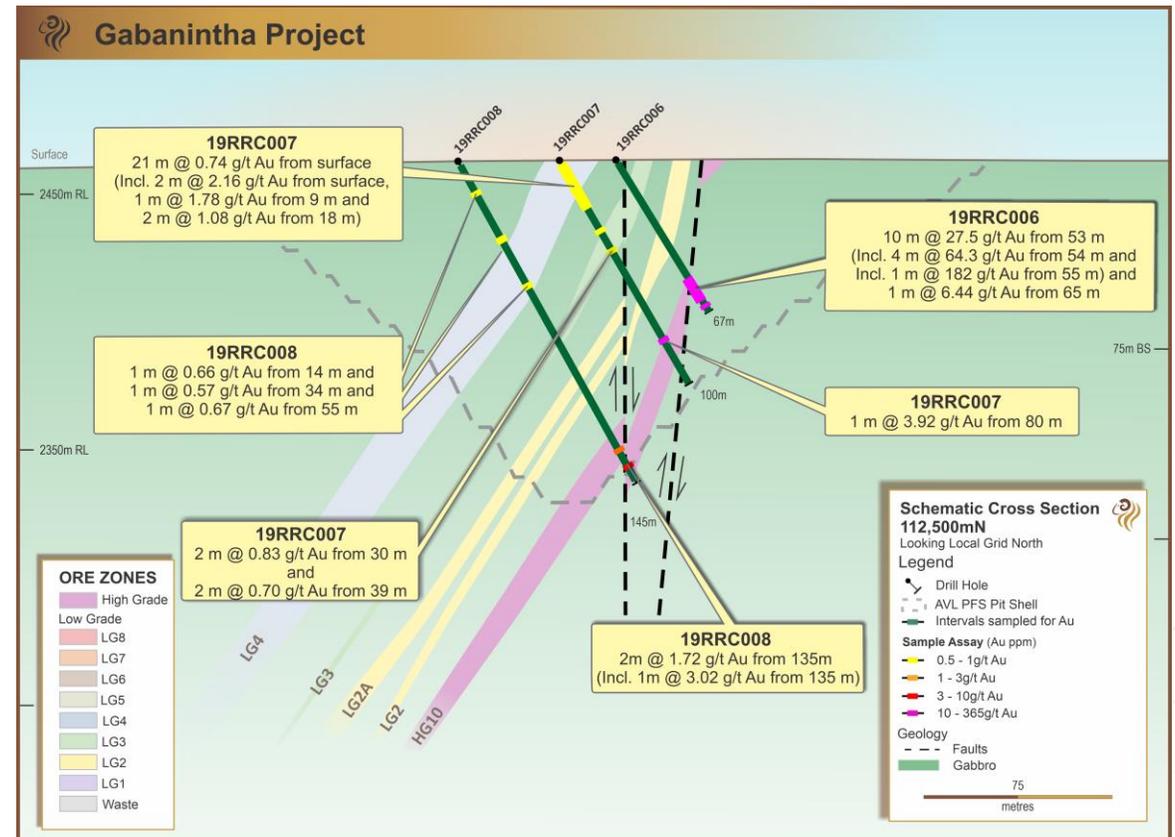
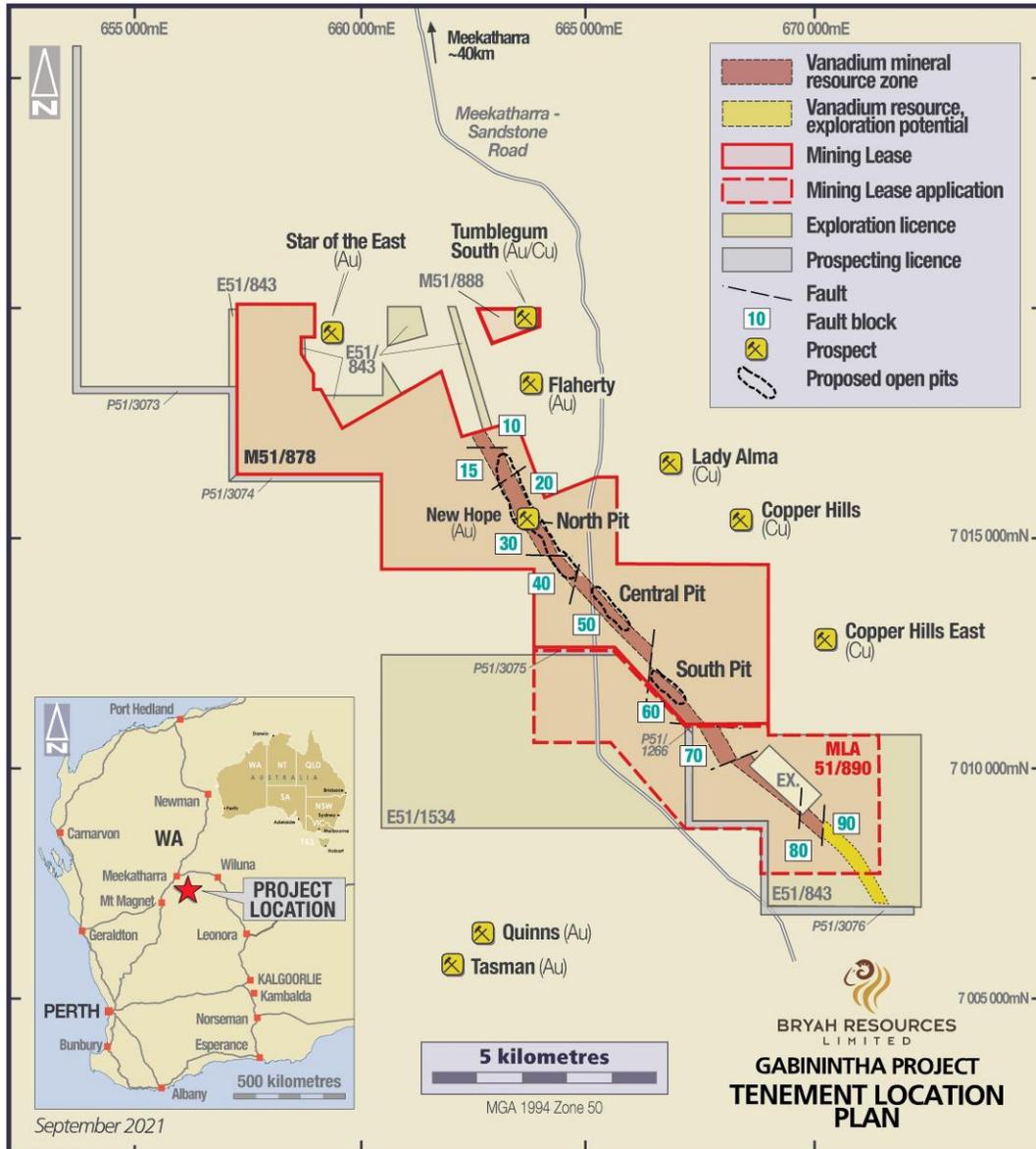


- Located along strike from historic Gabanintha Gold mine on newly granted Mining Lease (71 ha size)
- January 2020 - Inferred Mineral Resource announced:
  - **500,000t @ 2.6g/t Au for 41,700 oz Au** (1.0 g/t cut)
- December 2020 - Development Agreement with Kirkalocka Gold Mine signed in – potentially leading to Profit Share or Ore Sale Agreement in H2 2021
- March 2021 – Tenement Transfer Agreement signed with Star Minerals Limited (new IPO). Consideration:
  - **\$500,000 cash**
  - 9M Shares in Star Minerals (value \$1.8M)
  - 7M Performance Rights which will convert to 7M Shares in Star Minerals upon Measured Mineral Resource and gold production milestones
  - Sale is subject to Star Minerals raising \$5M cash and listing on ASX by 31 January 2022
  - Bryah will retain 21-31% equity in Star Minerals

# Vanadium Deposit - includes Nickel, Copper and Gold Potential



- Metallurgical testwork shows the **presence of nickel, copper and gold** in the non-magnetic tail of the vanadium-magnetite concentrate of AVL's
- Australian Vanadium project
- 2021 sampling at the New Hope prospect recorded significant gold values:
  - 19RRC006 - **10 metres @ 27.5 g/t Au** from 53m
- Gold occurs in several **cross-cutting fault zones** within the vanadium-titanium-magnetite (VTM) deposit
- **1,000 metre RC drilling program** being planned to target shallow gold





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# VALUE PROPOSITION

- Cashed up - +\$3 Million to fund exploration
- Quality exploration targets – potential for the next high-grade copper-gold discovery in the Bryah Basin
- Manganese JV Interest – early pathway to significant production and cashflow with guaranteed Offtake partner
- Tumblegum South – sale will generate immediate cash and substantial equity stake in near-term gold producer/explorer
- Gabanintha Project – evolving Nickel, Copper and Gold play

## Contact us

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