

## **Quarterly Activities Update**

For the period ended 31 December 2023



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### **Compliance Statement**

The information in this presentation that relates to the Goschen DFS refresh and the Mineral Resource and Ore Reserve estimates were reported in the ASX announcement dated 28 March 2023. The Cannie Mineral Resource estimate was reported in the ASX announcement dated 16 May 2023 and the Area 4 Ore Reserve estimate was reported in the ASX announcement dated 29 September 2023. The Nowie Mineral Resource estimate was first reported in the ASX announcement dated 24 January 2024. The Company confirms that it is not aware of any new information or data that materially affects the matters previously reported and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves estimates and forecast financial information derived from the production target in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented and have not been materially modified.

# VHM Limited (ASX:VHM) overview

**Top 20 Shareholders** 

Cash<sup>2</sup>

A\$14.0 million

**Key Assets** 

Goschen Project

Orion Project

Cannie Project

**Nowie Project** 

Top 20: 34%

Ellison WA: 8.9%

### Corporate Snapshot

### Market Cap<sup>1</sup>

A\$119.44 million

### **Share Price**

A\$0.61

### **Issued Shares**

203,101,902

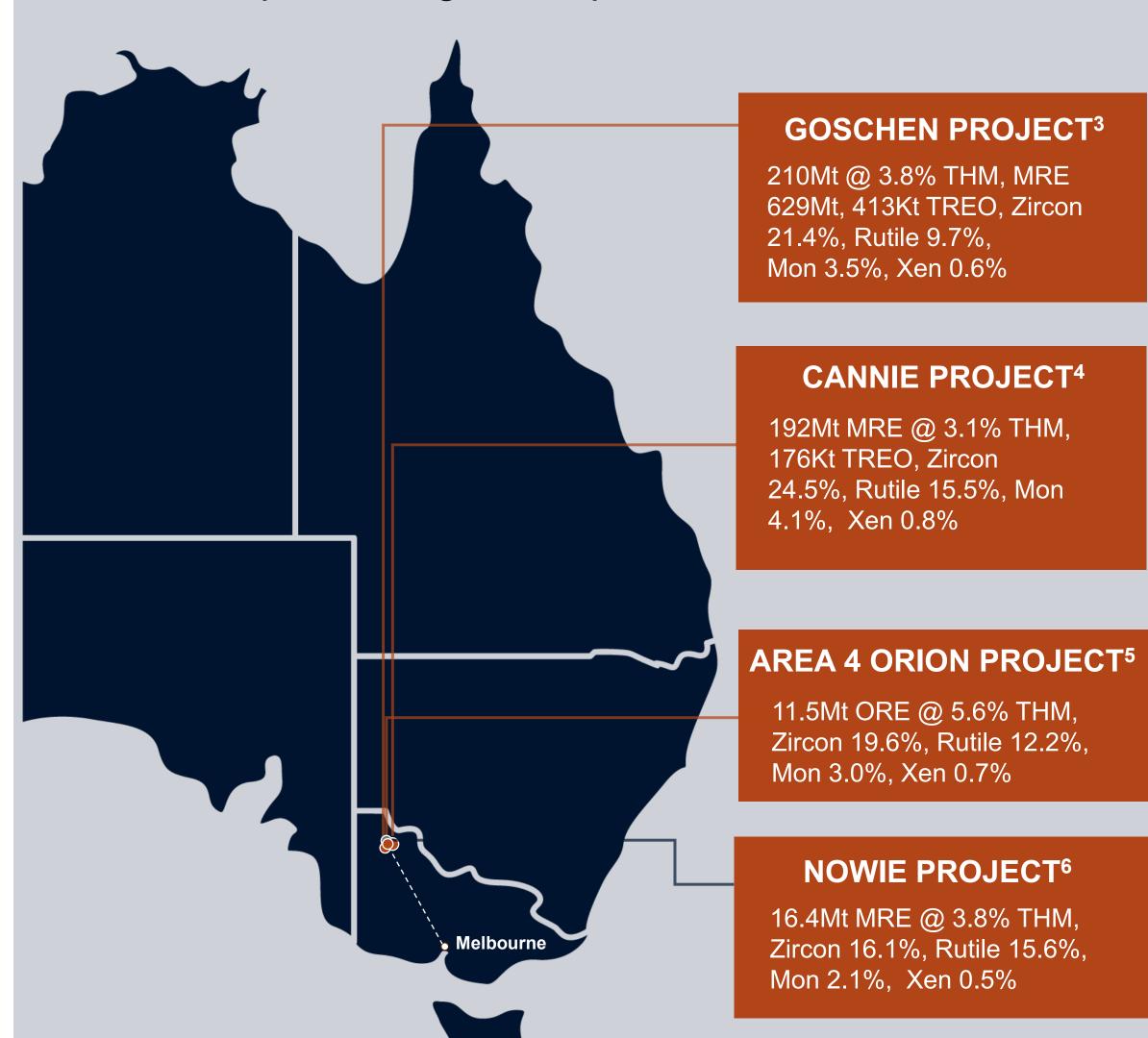
12,793,708

## **Share Options**

- (1): Market data at 30 January 2024 and sourced from the ASX
- (2): Cash position reported 31 December 2023 to the ASX
- (3): See Company ASX release dated 28 March 2023
- (4): See Company ASX release dated 16 May 2023
- (5): See Company ASX release dated 29 September 2023 (6): See Company ASX release dated 24 January 2024

# **VHM** Limited

Australian owned rare earths and mineral sands mine and processing developer





## **Board and management team**





40+ years executive and board experience with a career spanning domestic and international mining and mining services companies. Mr Smith's technical. operational and commercial disciplines have been attributes of his successful delivery of major capital projects and business growth for a number of listed companies and has held managing director and chief executive officer positions for Orica and Newcrest Mining.

### Other Directorships:

- Chair of Rex Minerals Limited
- NED of Kestrel Coal Limited
- NED of Raven Gold Limited



**Ron Douglas** BE, FAIM, MAUSIMM, MAICD **Executive Director and Interim CEO** 

Extensive executive and operations delivery experience the resources, energy and gained over a 40-year career with publicly listed global mining, energy, and manufacturing companies. Mr Douglas expertise is in executive operations delivery positions with strengths in major capital program execution, and running corporate profit/loss centres, involving strategic program directorship, safety leadership copper, timber, coal, mineral and corporate transaction negotiation.

### **Other Directorships:**

Director of Talbot Investments



Maree Arnason BA, FAICD **Non-Executive Director** 

35 years' experience across manufacturing sectors and is highly experienced in the areas of governance, strategy, sustainability, risk, corporate affairs, stakeholder relations, transformations. divestments and integrations. Her broad commodity experience includes iron ore, gold, sands, and natural gas.

### **Other Directorships:**

- NED of Gold Road Resources Limited
- NED of Ardea Resources Limited
- Chair of Juniper Aged Care
- ASIC Corporate Governance **Consultative Panel**
- Co-founder and Director of **Energy Access Services**



**Graham Howard** BAppSc (Geology), FAusIMM **Non-Executive Director** 

35+ years' operations and project experience with significant corporate experience as Chief Executive Officer of unlisted managed the development public companies and an ASX-listed gold company. Mr Howard managed the Telfer Gold Mine (Newcrest) executive management mineral resource inventory expansion, held significant senior management functions including **Boddington Gold Mine** (Newcrest) and Silangan Au/Cu Project.

### **Other Directorships:**

NED of VP Minerals Limited



**Don Runge** BEng Mining, MAusIMM **Non-Executive Director** 

40+ years' operational and project experience including industrial minerals where he of the Uley Graphite Project in South Australia. Mr Runge has held positions for Newcrest Mining Limited, including Manager for Ridgeway **Underground Project Development and General** Manager of Cracow Gold Mine. Managed the team advising Philix Mining





Michael Sheridan BEc, LLB, LLM, GradDipAppFinInv **Chief Financial Officer** 

30+ years' operations and financial experience as executive, having worked at senior management levels in publicly listed companies, predominantly in the international resources sector (mining and oil and gas), as well as telecommunications and corporate advisory sectors.



Ms Carly O'Regan MBA, GDipCom **Executive General Manager, Strategy and Investor Relations** 

Significant business and operational experience in a diverse range of industries, including finance, commercial, mining, oil and gas, both in Australia and internationally including Barclays Global Investors (iShares), Chevron Australia Gorgon and Wheatstone Projects, KPMG, Newcrest, and Shell Australia.



### **Mr Bernie Hyde Executive General Manager, Operations** Readiness

25+ years supervisory and management experience in operations and maintenance roles in the mining industry.

Mr Hyde is the current Chair of the MCA (Vic) Safety and Health Working Group.

# Quarterly activities<sup>1</sup>

Period ending 31 December 2023



## **Goschen Permitting**

**Environment Effects Statement** 

Mining Licence application



### Commercial

Shenghe offtake agreement progress

Research & Development funding

Demerger transaction complete with transfer of four exploration licences



## **Exploration**

Maiden Mineral Resource estimate for Nowie (Inferred)





# Goschen permitting

Period ending 31 December 2023

- The Victorian Minister for Planning authorised the public exhibition of the Goschen Project's Environment Effects Statement (EES)¹.
- Public Exhibition for the ESS commenced on 20 November 2023 for 40 business days<sup>2</sup>.
- Statutory advertising for the Goschen Mining Licence application commenced subsequent to the period<sup>3</sup>.



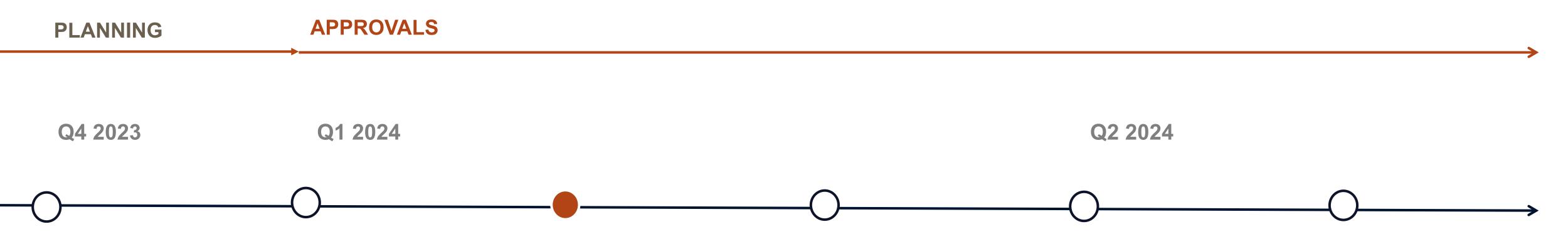
### Notes:

- (1) See ASX release dated 1 November 2023
- (2) See ASX release dated 14 November 2023
- (3) See ASX release dated 24 January 2024
- (4) Approval process managed by the Victorian Department for Planning
- (5) All other regulatory approvals



# Goschen permitting pathway

Environment Effects Statement (EES) – Approvals Process



Adequacy Assessment of EES completed

Exhibition stage:
Public Submissions
Monday 20 November
2023 – Wednesday 17
January 2024

Hearing stage:
Directions Hearing
Tuesday 13 February
2024

Hearing stage:
Public Hearing
Commencing Monday
25 March 2024<sup>1</sup>

Report stage:
Panel reports back to
Minister and next
steps

Approval stage:
Ministerial approval<sup>2</sup>

Notes

<sup>(1)</sup> Executed by the Planning Panel Victoria selected Independent Inquiry and Advisory Committee

<sup>(2)</sup> Secondary Work Plans and Mining Licence application assessment outcome expected H2 2024



# Offtake agreement for Goschen products

Period ending 31 December 2023<sup>1</sup>

## **Key offtake terms**

- Memorandum of Understanding (MOU) relates to a dual product take or pay offtake agreement of REMC and zircon-titania HMC.
- Shenghe has committed to purchase 60% of the REMC and HMC for each calendar year of the agreement term.
- Initial three-year agreement term commencing on the first commercial shipment.

## **About Shenghe Resources**

- Shenghe Resources (Singapore) Pte Ltd is a wholly owned subsidiary of global rare earths company Shenghe Resources Holding Co Ltd.
- Shenge is listed on the Shanghai Stock Exchange and has a market capitalisation of approximately US\$3.1 billion. Shenghe's operations span rare earth mining, beneficiation, refining, trading and alloy and metals production.

MOU for first production confirms the quality of Goschen products





# Commercial update

Period ending 31 December 2023

# Research and Development (R&D) funding received<sup>1</sup>

\$4.5 million R&D refund from the Australian Taxation Office.

# 100% payment transaction received for four Victorian Exploration Licences<sup>1</sup>

\$1.3 million from former subsidiary VP Minerals Ltd, concluding the loan agreement in accordance with the Demerger term.



The receipt of funds puts the Company in a strong position moving into 2024 and will be used to continue the work streams underway for the Goschen Project.



# Maiden Mineral Resource estimate for Nowie Project

Period ending 31 December 2023

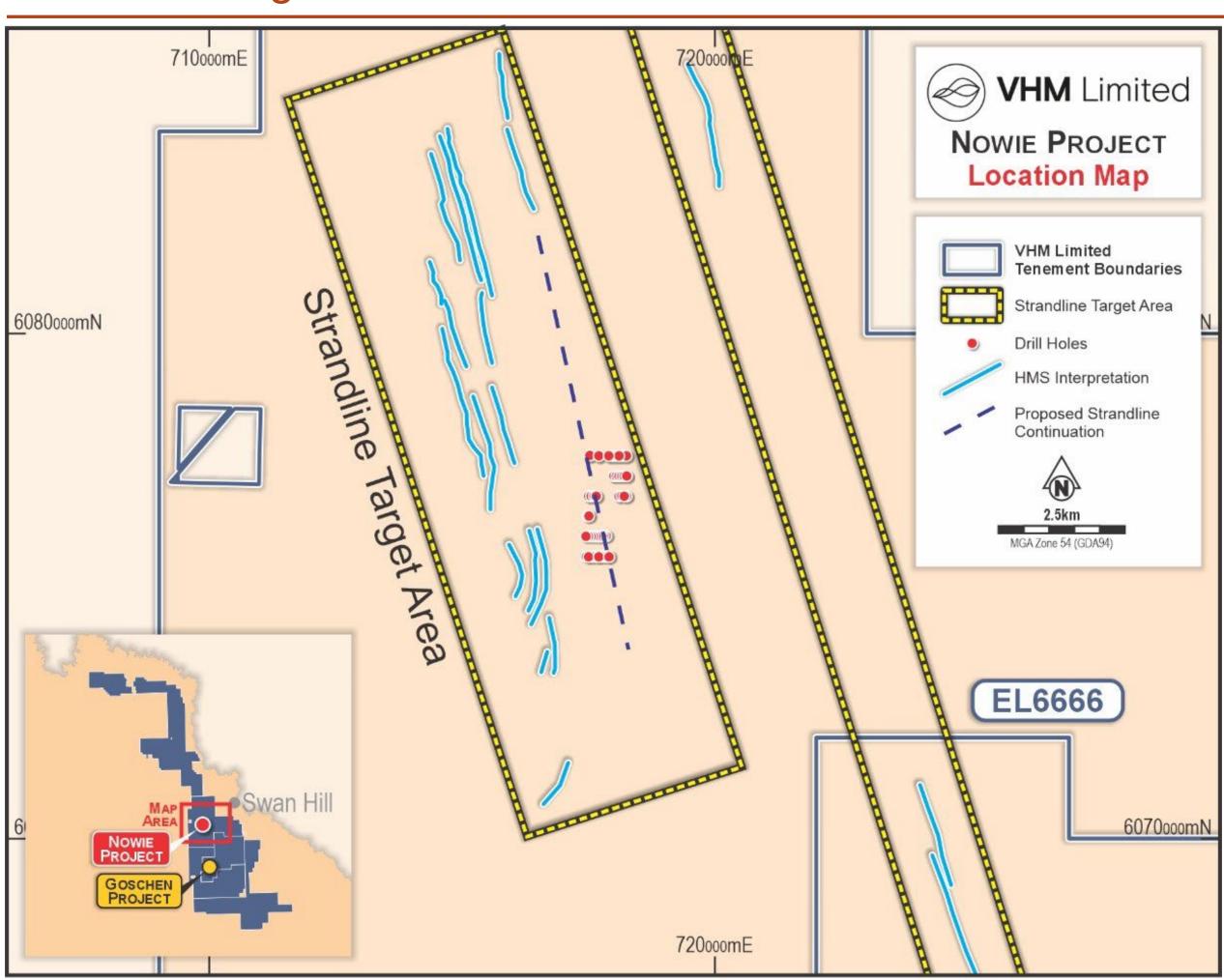


Figure: Nowie geophysics interpretations with identified strandline targets

Nowie Project is located 22 kilometres north of the flagship Goschen Project in North West Victoria.

A new *Inferred* Mineral Resource estimate (MRE) of **16.4Mt** @ **3.8% THM grade** at Nowie<sup>1</sup>.

Results include **6.4Mt** @ **6.1%** THM contained in high-grade strandline deposits which remain open along and across strike.

Mineral assemblage containing:

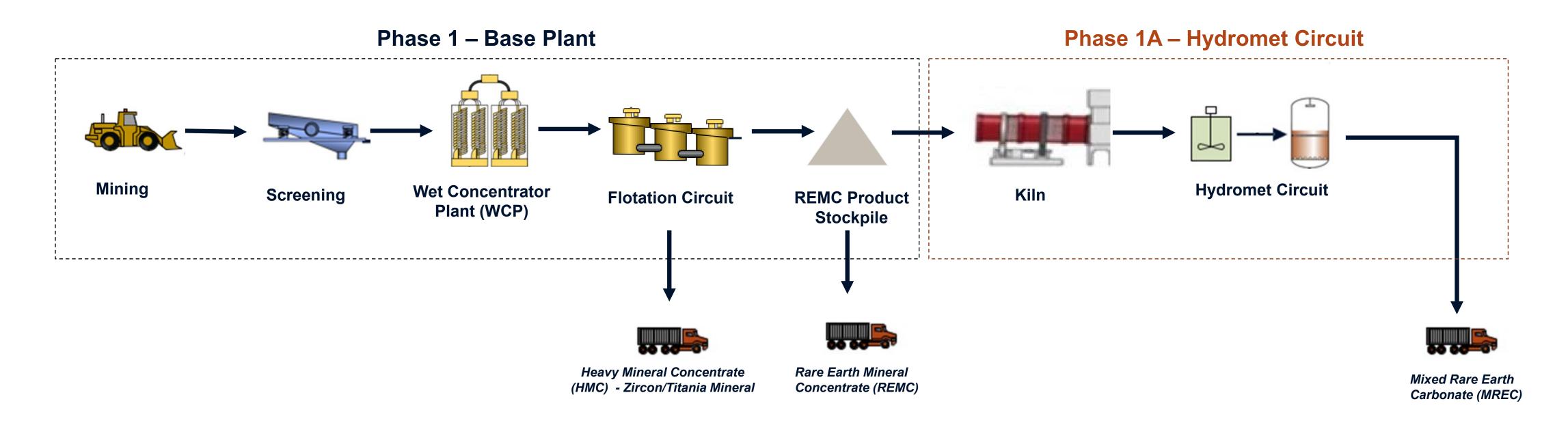
- 16% Zircon
- 16% Rutile
- 24% Leucoxene
- 2.1% Monazite
- 0.5% Xenotime





# Goschen Project overview

Process and product flowsheet



**High recoveries:** Continuous improvements achieved through test work have demonstrated world leading recoveries of valuable rare earth, zircon and titanium products.

Final products: Zircon and titania HMC, REMC and MREC can be containerised in sealed sea containers for export.

Logistics solution: Ultima terminal (45km from the processing facility) will provide an intermodal rail solution to reach shipping ports.

Commercial 12



# Goschen Project highlights

The DFS Refresh<sup>1</sup> demonstrates the Goschen Project economics to be compelling



## 5Mtpa

>20 years

Conventional open cut mining methods excavation, load and haul



## 8.5ktpa MREC

Target annual production rates for mixed rare earth carbonate (MREC)



# 9.4ktpa

REMC

Target annual production rates for rare earth mineral concentrate (REMC)

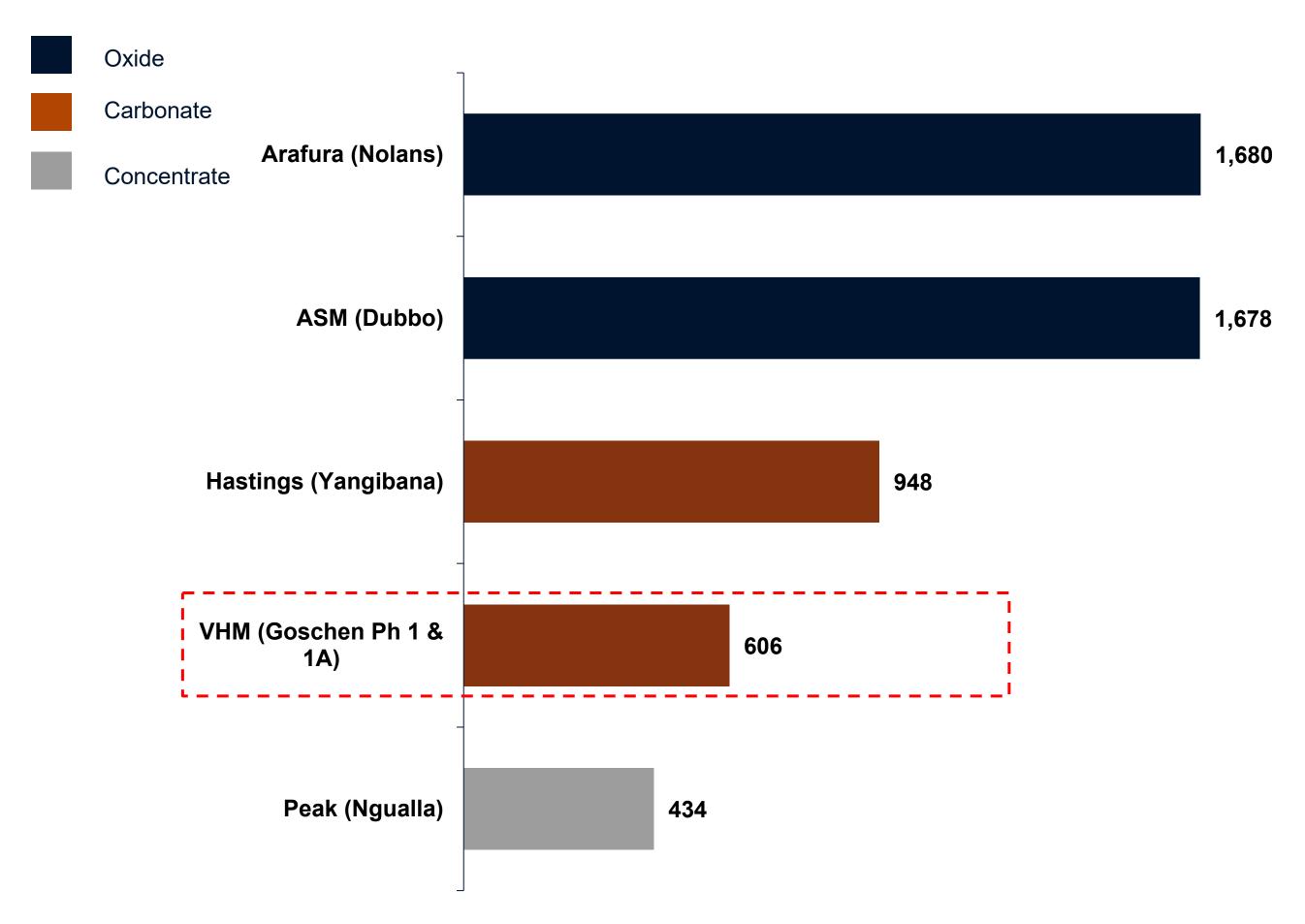


## 134.5ktpa HMC

Target annual production rates for zircon/titania heavy mineral concentrate (HMC)

| 5Mtna C        | 5Mtpa Goschen Project DFS Financial Metrics (Phase 1 and 1A) |                    |         |  |  |  |  |  |  |  |  |
|----------------|--|--------------------|---------|--|--|--|--|--|--|--|--|
| -              |  |                    |         |  |  |  |  |  |  |  |  |
| Pre-tax        | 1,525  |                    |         |  |  |  |  |  |  |  |  |
| Pre-tax        | Pre-tax IRR  |                    |         |  |  |  |  |  |  |  |  |
| Payback        | r from commencement of production (year                      | s)                 | 2.8     |  |  |  |  |  |  |  |  |
| Ore Res        | serve LoM (years)  |                    | 20.5    |  |  |  |  |  |  |  |  |
| Average        | ore grade (THM)  |                    | 4.0%    |  |  |  |  |  |  |  |  |
| Average        | strip ration (waste : ore)                                   |                    | 2.6 : 1 |  |  |  |  |  |  |  |  |
|                |  | 9,428              |         |  |  |  |  |  |  |  |  |
|                | Average Production (tpa)                                     | 8,568              |         |  |  |  |  |  |  |  |  |
| f Mine         |  | Zircon-titania HMC | 134,500 |  |  |  |  |  |  |  |  |
| of M           | Average revenue per annum (A\$ m)                            |                    | 564     |  |  |  |  |  |  |  |  |
| 1              | Average opex per annum (A\$ m)                               |                    | 273     |  |  |  |  |  |  |  |  |
| First 10 Years | Average EBITDA per annum (A\$ m)                             |                    | 291     |  |  |  |  |  |  |  |  |
| )t 10          | Average unlevered, pre-tax FCF per ann                       | 270                |         |  |  |  |  |  |  |  |  |
| Fire           | Average revenue A\$/t ore                                    | 118                |         |  |  |  |  |  |  |  |  |
|                | Average operating costs A\$/t ore                            |                    | 57      |  |  |  |  |  |  |  |  |
|                | Payback period (years)                                       | 2.8                |         |  |  |  |  |  |  |  |  |

# Capex is amongst the lowest of selected rare earth projects





## Goschen's low development capex

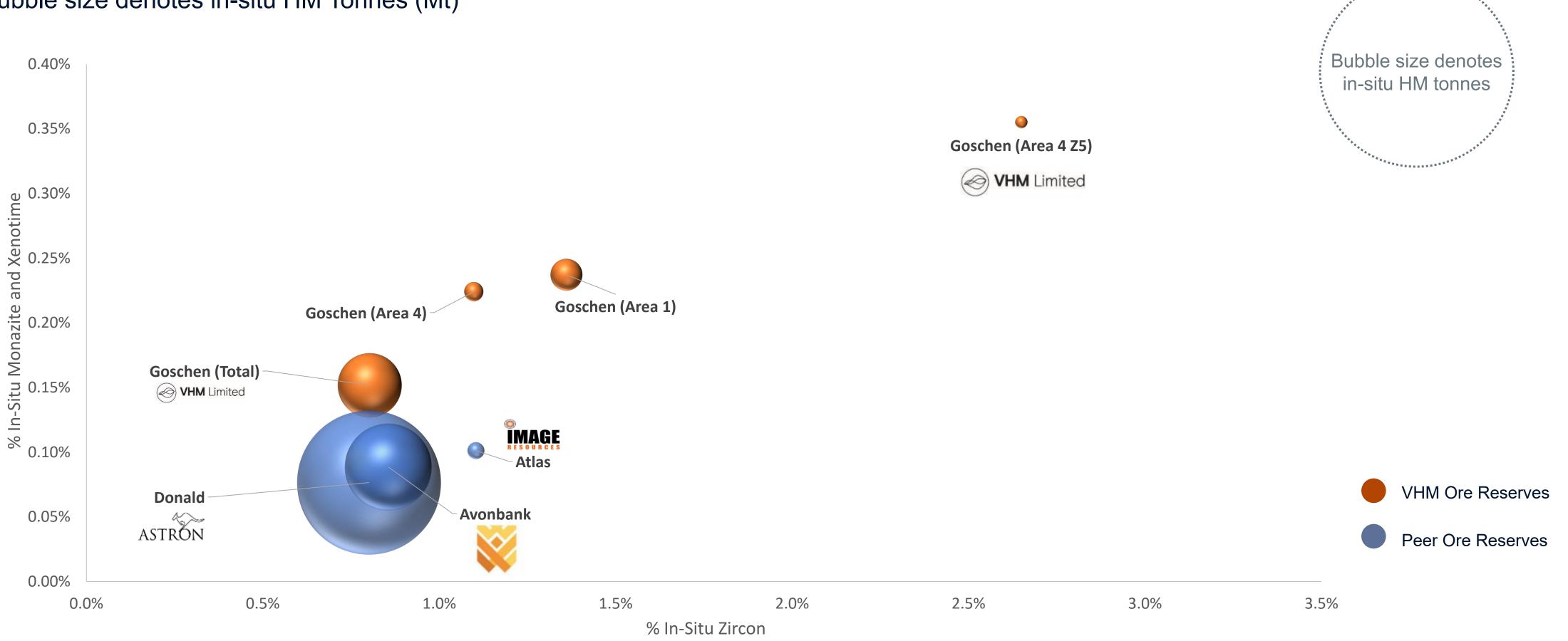






Selected Global Rare Earth and Mineral Sand Reserves

- Monazite and Xenotime (% in-situ) vs. Zircon (% in-situ)
- Bubble size denotes in-situ HM Tonnes (Mt)



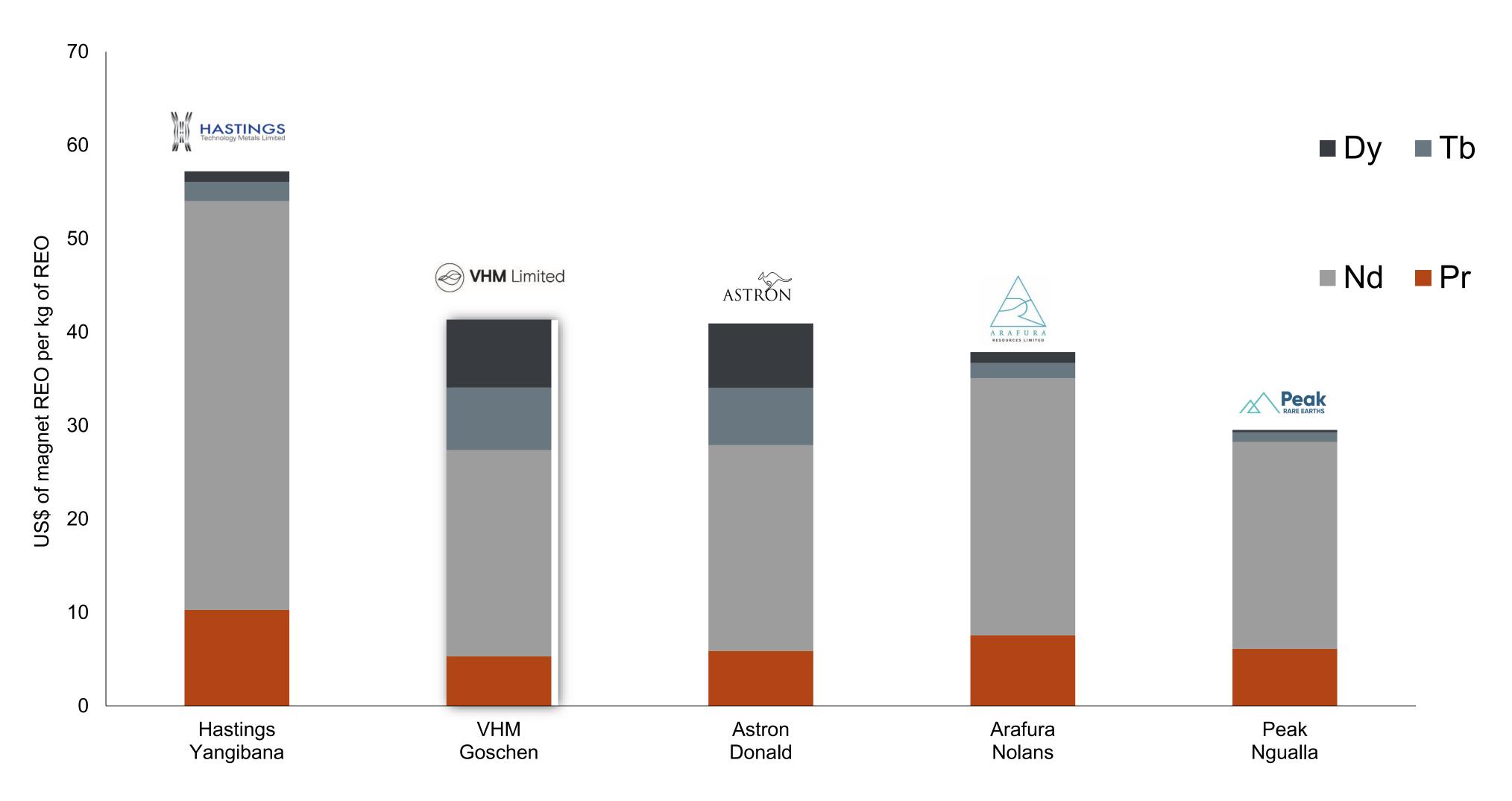
Note: See peer comparison table for source data in Appendix A



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# Magnet rare earth oxide basket value peer comparison

Attractive proportion of valuable rare earth elements – heavy and light (US\$/kg)





# Hydromet Pilot Plant results demonstrate potential

Exceptional recoveries meet specifications required by Western strategic offtake partners

- Market leading recoveries achieved at ANSTO producing a high purity mixed rare earth carbonate (MREC) product
  - >97% critical light rare earths Nd/Pr
  - >92% and 94% for critical heavy rare earths Dy and Tb, respectively
- Measurements of the final content of uranium or thorium were considered exceptionally low.



Goschen MREC product contains less than 3% total impurities

Above: Goschen's rare earth product undergoing bench scale sulphation kiln testwork at ANSTOLLEFT: Final MREC product from the Hydromet Pilot program.



# Upcoming milestones



Commence Public
Hearing stage of
Goschen EES Process



Finalise further offtake and strategic partnerships



**Secure arrangements** for a Final Investment Decision



**Construction** for Phase 1 subject to final approvals





# Project comparison table data for capex

| Name                  | Project   | Product                   | Plant type                  | Plant Feed<br>Rate | Annual Production                                  | Stage of Development | Location | Capital Cost<br>(\$A) |
|-----------------------|-----------|---------------------------|-----------------------------|--------------------|--|----------------------|----------|-----------------------|
| Arafura <sup>1</sup>  | Nolans    | Oxide                     | SX Facility                 | 1 Mtpa             | 4.9ktpa  | DFS                  | N.T.     | \$1.680B              |
| ASM <sup>2</sup>      | Dubbo     | Oxide                     | SX Facility                 | 1 Mtpa             | 1.5ktpa  | DFS                  | N.S.W    | \$1.678B              |
| Hastings <sup>3</sup> | Yangibana | Concentrate and Carbonate | Hydrometallurgical<br>Plant | 1.1 Mtpa           | Stage1: 37ktpa REMC<br>Stage 2: 15ktpa MREC        | DFS                  | W.A.     | \$948M                |
| VHM <sup>4</sup>      | Goschen   | Concentrate and Carbonate | Hydrometallurgical<br>Plant | 5 Mtpa             | Phase 1: 9.4ktpa REMC<br>Phase 1A: 8.5ktpa<br>MREC | DFS                  | VIC      | \$606M                |
| Peak <sup>5</sup>     | Ngualla   | Concentrate               | RE Flotation                | 0.8 Mtpa           | 16.2ktpa   | BFS                  | Tanzania | \$434M                |

### Source data

- 1. Arafura Rare Earths (ARU:ASX) Nolans Project sourced from "ASX Announcement Quarterly Activities Report and Appendix 5B on 31 October 2023 A\$1,680M.
- 2. Australian Strategic Materials (ASM:ASX) Dubbo Project data sourced from ASX release "Chief Executive Officer's AGM Presentation" published on 22 November 2023 A\$1,678M.
- 3. Hastings (HAS:ASX) Yangibana data sourced from ASX release "YANGIBANA PROJECT UPDATE Staged development strategy to reduce project delivery risk and enable faster pathway to cash flow" published on 31 May 2023 A\$948M
- 4. VHM (VHM:ASX) Goschen Project data sourced from ASX release "DFS Refresh" published on 28 March 2023. A\$376M Phase 1 Plant and A\$124M Phase 1A Hydromet. Includes A\$106M pre-production mining and ancillary costs A\$606M
- 5. Peak Rare Earths (PEK:ASX) Ngualla data sourced from ASX release "Completion of FEED Study" published on 30 November 2023. US\$287M converted to A\$ at 0.66 FX = A\$434M.

<sup>\*</sup>All data is subject to change without notice.



# Project comparison data table for Ore Reserve

| Company                           | Project                    | Location | Commodity<br>Product       | Reserve<br>Classification | Material<br>tonnes (Mt) | In-situ HM<br>tonnes (Mt) | % HM Grade | % Zircon<br>Grade | % Rutile<br>Grade | % Monazite<br>& Xenotime<br>Grade | % In-situ<br>Zircon | % In-situ<br>rutile | % In-situ Titanium Minerals (rutile, ilmenite and leucoxene) | % In-situ<br>Monazite &<br>Xenotime | Stage of Development |
|-----------------------------------|----------------------------|----------|----------------------------|---------------------------|-------------------------|---------------------------|------------|-------------------|-------------------|-----------------------------------|---------------------|---------------------|--|-------------------------------------|----------------------|
| VHM <sup>(1)</sup>                | Goschen Area 1             | VIC      | Rare Earth & Mineral Sands | Proved                    | 24.5                    | 1.3                       | 5.4        | 29.9              | 10.8              | 5.1                               | 1.6                 | 0.6                 | 2.4  | 0.28                                | DFS                  |
| VHM <sup>(1)</sup>                | Goschen Area 1             | VIC      | Rare Earth & Mineral Sands | Probable                  | 14.6                    | 0.5                       | 3.2        | 29.2              | 11.7              | 5.4                               | 0.9                 | 0.4                 | 1.5  | 0.17                                | DFS                  |
| VHM <sup>(1)</sup>                | Goschen (Total)            | VIC      | Rare Earth & Mineral Sands | Proved                    | 24.5                    | 1.3                       | 5.4        | 29.9              | 10.8              | 5.1                               | 1.6                 | 0.6                 | 2.4  | 0.28                                | DFS                  |
| VHM <sup>(1)</sup>                | Goschen (Total)            | VIC      | Rare Earth & Mineral Sands | Probable                  | 185.7                   | 6.7                       | 3.6        | 20.9              | 9.8               | 4.0                               | 0.8                 | 0.4                 | 1.6  | 0.14                                | DFS                  |
| VHM <sup>(1)</sup>                | Goschen Area 4             | VIC      | Rare Earth & Mineral Sands | Probable                  | 11.5                    | 0.6                       | 5.6        | 19.6              | 12.2              | 4.0                               | 1.1                 | 0.7                 | 2.7  | 0.2                                 | DFS                  |
| VHM <sup>(1)</sup>                | Goschen Area 4<br>(Zone 5) | VIC      | Rare Earth & Mineral Sands | Probable                  | 2.6                     | 0.2                       | 9.6        | 27.6              | 14.0              | 3.7                               | 2.6                 | 1.3                 | 5.3  | 0.4                                 | DFS                  |
| Astron <sup>(2)</sup>             | Donald                     | VIC      | Rare Earth & Mineral Sands | Proved                    | 415                     | 19.9                      | 4.8        | 18.6              | 7.2               | 1.8                               | 0.9                 | 0.3                 | 2.7  | 0.09                                | DFS                  |
| Astron <sup>(2)</sup>             | Donald                     | VIC      | Rare Earth & Mineral Sands | Probable                  | 410                     | 16.8                      | 4.1        | 16.9              | 7.3               | 1.6                               | 0.7                 | 0.3                 | 2.4  | 0.07                                | DFS                  |
| WIM<br>Resource <sup>(3)</sup>    | Avonbank                   | VIC      | Rare Earth & Mineral Sands | Proved                    | 220.4                   | 9.7                       | 4.4        | 20.2              | 14.9              | 2.1                               | 0.9                 | 0.7                 | 2.2  | 0.09                                | BFS                  |
| WIM<br>Resource <sup>(3)</sup>    | Avonbank                   | VIC      | Rare Earth & Mineral Sands | Probable                  | 91.4                    | 3.66                      | 4.0        | 19.3              | 16.9              | 2.1                               | 0.8                 | 0.7                 | 2.2  | 0.08                                | BFS                  |
| Image<br>Resources <sup>(4)</sup> | Atlas                      | WA       | Rare Earth & Mineral Sands | Proved                    | 4.5                     | 0.48                      | 10.6       | 12.0              | 8.0               | 1.1                               | 1.3                 | 0.8                 | 7.1  | 0.12                                | BFS                  |
| Image<br>Resources <sup>(4)</sup> | Atlas                      | WA       | Rare Earth & Mineral Sands | Probable                  | 0.9                     | 0.02                      | 2.1        | 8.1               | 5.2               | 0.8                               | 0.2                 | 0.1                 | 0.8  | 0.02                                | BFS                  |

### Source data:

- 1. VHM (VHM:ASX) Goschen Area 1 and Area 3 data sourced ASX release "DFS Refresh" published on 28 March 2023. Goschen Orion Area 4 Zone 5 sourced from ASX release "Outstanding Results for Area 4 of the VHM Leases" published on 18 September 2023.
- 2. Astron (ATR:ASX) data sourced from ASX releases "Donald Rare Earth and Mineral Sands Project Phase 1 Project Ore Reserves" published on 31 March 2023 and "RL2002 Ore Reserve Update & Project Financial Update" published on 27 June 2023.

<sup>3.</sup> WIM Resource data sourced from their website Projects | WIM Resource Pty Limited WIM.

<sup>4.</sup> Image (IMA:ASX) data sourced from ASX release "Revised Announcement – Atlas Project Ore Reserve Update" published on 21 December 2022.

<sup>\*</sup>All data is subject to change without notice.



# Project comparison table data for rare earth basket value

### **Magnet Rare Earth Oxide % Distribution of Rare Earth Product**

| Name                  | Project   | Product                 | Neodymium<br>(Nd) | Praseodymium<br>(Pr) | Dysprosium<br>(Dy) | Terbium<br>(Tb) | Stage of Development | Location | Market Cap*<br>(\$A) |
|-----------------------|-----------|-------------------------|-------------------|----------------------|--------------------|-----------------|----------------------|----------|----------------------|
| Arafura <sup>1</sup>  | Nolans    | Oxide                   | 20.5              | 5.9                  | 0.3                | 0.1             | DFS                  | N.T.     | \$277.23M            |
| Hastings <sup>2</sup> | Yangibana | Concentrate & Carbonate | 32.6              | 8.0                  | 0.3                | 0.1             | DFS                  | W.A.     | \$76.97M             |
| Peak <sup>3</sup>     | Ngualla   | Concentrate             | 16.5              | 4.8                  | 0.1                | 0.1             | BFS                  | Tanzania | \$63.82M             |
| VHM <sup>4</sup>      | Goschen   | Concentrate & Carbonate | 16.5              | 4.1                  | 1.9                | 0.3             | DFS                  | VIC      | \$119.44M            |
| Astron <sup>5</sup>   | Donald    | Concentrate             | 16.4              | 4.6                  | 1.8                | 0.3             | DFS                  | VIC      | \$96.42M             |

### Source data

- 1. Arafura (ARU:ASX) data sourced from ASX release "Nolans Project Definitive Feasibility Study" published on 7 February 2019.
- 2. Hastings (HAS:ASX) data sourced from ASX release "Yangibana Project NPV increases 84% to A\$1Billion (post tax)" published on 21 February 2022.
- 3. Peak (PEK:ASX) data sourced from ASX release "2023 Annual Report" published on 26 October 2023.
- 4. VHM (VHM:ASX) data sourced from ASX release "ANSTO Testwork Demonstrates High Extraction of Rare Earth Minerals" published on 17 January 2023.
- 5. Astron (ATR:ASX) data sourced from ASX release "Investor Presentation Donald Project DFS" published on 17 May 2023.

All data is subject to change without notice

<sup>\*</sup>Market capital data at 30 January 2024 and sourced from the ASX





# Company Ore Reserves

## 210.2Mt Ore Reserve

| Area        | Classification | Ore   | In-situ | THM | THM Assemblage <sup>1</sup> |        |           |          |          |          |  |  |  |  |  |
|-------------|----------------|-------|---------|-----|-----------------------------|--------|-----------|----------|----------|----------|--|--|--|--|--|
|             |                |       | THM     |     | Zircon                      | Rutile | Leucoxene | Ilmenite | Monazite | Xenotime |  |  |  |  |  |
|             |                | (Mt)  | (Mt)    | (%) | (%)                         | (%)    | (%)       | (%)      | (%)      | (%)      |  |  |  |  |  |
| Area 1      | Proved         | 24.5  | 1.3     | 5.4 | 29.9                        | 10.8   | 9.0       | 24.7     | 4.3      | 0.8      |  |  |  |  |  |
| Area 1      | Probable       | 14.6  | 0.5     | 3.2 | 29.2                        | 11.7   | 9.2       | 25.5     | 4.5      | 0.9      |  |  |  |  |  |
| Area 3      | Probable       | 159.6 | 5.6     | 3.5 | 20.3                        | 9.4    | 8.1       | 25.8     | 3.4      | 0.6      |  |  |  |  |  |
| Area 4      | Probable       | 11.5  | 0.6     | 5.6 | 19.6                        | 12.2   | 10.1      | 24.6     | 3.0      | 0.7      |  |  |  |  |  |
| Total       | Proved         | 24.5  | 1.3     | 5.4 | 29.9                        | 10.8   | 9.0       | 24.7     | 4.3      | 0.8      |  |  |  |  |  |
|             | Probable       | 185.7 | 6.7     | 3.6 | 20.9                        | 9.8    | 8.4       | 25.7     | 3.4      | 0.6      |  |  |  |  |  |
| Grand Total |                | 210.2 | 8.0     | 3.8 | 22.4                        | 10.0   | 8.5       | 25.5     | 3.6      | 0.7      |  |  |  |  |  |

| Area     | Classification |                  | Rare Earth Oxides <sup>1</sup> |                                |                                |                                |                                |                                |                                 |                                |                                |                                |                               |                                |       |
|----------|----------------|------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|-------|
|          |                | CeO <sub>2</sub> | Dy <sub>2</sub> O <sub>3</sub> | Er <sub>2</sub> O <sub>3</sub> | Eu <sub>2</sub> O <sub>3</sub> | Gd <sub>2</sub> O <sub>3</sub> | La <sub>2</sub> O <sub>3</sub> | Nd <sub>2</sub> O <sub>3</sub> | Pr <sub>6</sub> O <sub>11</sub> | Sm <sub>2</sub> O <sub>3</sub> | Tb <sub>4</sub> O <sub>7</sub> | Tm <sub>2</sub> O <sub>3</sub> | Y <sub>2</sub> O <sub>3</sub> | Yb <sub>2</sub> O <sub>3</sub> | TREO  |
|          |                | (%)              | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                             | (%)                            | (%)                            | (%)                            | (%)                           | (%)                            | (%)   |
| Area 1   | Proved         | 0.960            | 0.070                          | 0.050                          | 0.004                          | 0.060                          | 0.480                          | 0.380                          | 0.110                           | 0.070                          | 0.012                          | 0.008                          | 0.470                         | 0.050                          | 2.720 |
| Area 1   | Probable       | 0.971            | 0.067                          | 0.047                          | 0.004                          | 0.060                          | 0.468                          | 0.400                          | 0.108                           | 0.072                          | 0.011                          | 0.007                          | 0.458                         | 0.050                          | 2.721 |
| Area 3   | Probable       | 0.805            | 0.057                          | 0.039                          | 0.003                          | 0.056                          | 0.378                          | 0.339                          | 0.093                           | 0.064                          | 0.009                          | 0.006                          | 0.386                         | 0.040                          | 2.297 |
| Area 4   | Probable       | 0.655            | 0.049                          | 0.035                          | 0.002                          | 0.046                          | 0.310                          | 0.277                          | 0.073                           | 0.050                          | 0.008                          | 0.006                          | 0.335                         | 0.037                          | 1.884 |
| Total    | Proved         | 0.960            | 0.070                          | 0.050                          | 0.004                          | 0.060                          | 0.480                          | 0.380                          | 0.110                           | 0.070                          | 0.012                          | 0.008                          | 0.470                         | 0.050                          | 2.720 |
|          | Probable       | 0.802            | 0.057                          | 0.039                          | 0.003                          | 0.055                          | 0.378                          | 0.338                          | 0.092                           | 0.064                          | 0.009                          | 0.006                          | 0.386                         | 0.041                          | 2.287 |
| Grand To | otal           | 0.828            | 0.059                          | 0.041                          | 0.003                          | 0.056                          | 0.395                          | 0.345                          | 0.095                           | 0.065                          | 0.010                          | 0.006                          | 0.400                         | 0.042                          | 2.359 |



# Company Mineral Resources

## 836.8Mt Mineral Resource estimate – at end of period 31 December 2023

|             |                                 |          |             |              | Total Heavy      |        | Oversize         |        |        | THM Asse  | emblage <sup>(4)</sup> |          |          |                                |                  |                                 |                                |                                |                                | Rare Ear                       | th Oxides                      |                                |                                |                                |                                |                               |        |
|-------------|---------------------------------|----------|-------------|--------------|------------------|--------|------------------|--------|--------|-----------|------------------------|----------|----------|--------------------------------|------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------|
| Area        | Mineral<br>Resource<br>Category | Material | In Situ THM | Bulk Density | Mineral<br>(THM) | Slimes | material<br>>2mm | Zircon | Rutile | Leucoxene | Ilmenite               | Monazite | Xenotime | La <sub>2</sub> O <sub>3</sub> | CeO <sub>2</sub> | Pr <sub>6</sub> O <sub>11</sub> | Nd <sub>2</sub> O <sub>3</sub> | Sm <sub>2</sub> O <sub>3</sub> | Eu <sub>2</sub> O <sub>3</sub> | Gd <sub>2</sub> O <sub>3</sub> | Tb <sub>4</sub> O <sub>7</sub> | Dy <sub>2</sub> O <sub>3</sub> | Er <sub>2</sub> O <sub>3</sub> | Tm <sub>2</sub> O <sub>3</sub> | Yb <sub>2</sub> O <sub>3</sub> | Y <sub>2</sub> O <sub>3</sub> | TREO + |
|             |                                 | (Mt)     | (Mt)        | (gcm3)       | (%)              | (%)    | (%)              | (%)    | (%)    | (%)       | (%)                    | (%)      | (%)      | (%)                            | (%)              | (%)                             | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                            | (%)                           | (%)    |
|             | Measured                        | 30.7     | 1.8         | 1.76         | 5.72             | 15     | 5                | 29.9   | 10.8   | 9.0       | 24.7                   | 4.3      | 0.8      | 0.48                           | 0.96             | 0.11                            | 0.38                           | 0.07                           | 0.004                          | 0.06                           | 0.01                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.47                          | 2.72   |
| Area 1      | Indicated                       | 62.2     | 1.4         | 1.72         | 2.31             | 18     | 2                | 26.6   | 11.5   | 9.2       | 25.0                   | 4.6      | 0.9      | 0.53                           | 1.11             | 0.12                            | 0.46                           | 0.08                           | 0.004                          | 0.07                           | 0.02                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.48                          | 3.04   |
|             | Total <sup>(1)</sup>            | 92.9     | 3.2         | 1.73         | 3.44             | 17     | 3                | 27.7   | 11.2   | 9.1       | 24.9                   | 4.5      | 0.8      | 0.51                           | 1.06             | 0.12                            | 0.43                           | 0.08                           | 0.004                          | 0.07                           | 0.02                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.48                          | 2.94   |
|             | Indicated                       | 26.0     | 0.7         | 1.72         | 2.80             | 20     | 8                | 22.0   | 16.0   | 12.0      | 25.0                   | 3.0      | 1.0      | 0.31                           | 0.66             | 0.07                            | 0.28                           | 0.05                           | 0.003                          | 0.05                           | 0.01                           | 0.06                           | 0.04                           | 0.01                           | 0.04                           | 0.39                          | 1.97   |
| Area 2 West | Total <sup>(1)</sup>            | 26.0     | 0.7         | 1.72         | 2.80             | 20     | 8                | 22.0   | 16.0   | 12.0      | 25.0                   | 3.0      | 1.0      | 0.31                           | 0.66             | 0.07                            | 0.28                           | 0.05                           | 0.003                          | 0.05                           | 0.01                           | 0.06                           | 0.04                           | 0.01                           | 0.04                           | 0.39                          | 1.97   |
|             | Indicated                       | 204.1    | 6.9         | 1.73         | 3.38             | 19     | 3                | 19.2   | 9.0    | 8.0       | 25.0                   | 3.2      | 0.6      | 0.36                           | 0.78             | 0.09                            | 0.33                           | 0.06                           | 0.003                          | 0.05                           | 0.01                           | 0.05                           | 0.04                           | 0.01                           | 0.04                           | 0.37                          | 2.19   |
| Area 3      | Inferred                        | 287.7    | 6.7         | 1.72         | 2.32             | 18     | 3                | 17.2   | 8.7    | 7.5       | 22.7                   | 2.9      | 0.5      | 0.35                           | 0.76             | 0.08                            | 0.31                           | 0.06                           | 0.003                          | 0.05                           | 0.01                           | 0.05                           | 0.03                           | 0.01                           | 0.03                           | 0.36                          | 2.10   |
|             | Total <sup>(1)</sup>            | 491.8    | 13.6        | 1.73         | 2.76             | 18     | 3                | 18.2   | 8.9    | 7.7       | 23.9                   | 3.0      | 0.6      | 0.36                           | 0.77             | 0.09                            | 0.32                           | 0.06                           | 0.003                          | 0.05                           | 0.01                           | 0.05                           | 0.03                           | 0.01                           | 0.04                           | 0.36                          | 2.14   |
| 0           | Indicated                       | 18.0     | 0.8         | 1.74         | 4.60             | 20     | 5                | 19.0   | 11.0   | 10.0      | 24.0                   | 3.0      | 1.0      | 0.32                           | 0.67             | 0.07                            | 0.28                           | 0.05                           | 0.002                          | 0.05                           | 0.01                           | 0.05                           | 0.03                           | 0.01                           | 0.04                           | 0.33                          | 1.90   |
| Area 4      | Total <sup>(1)</sup>            | 18.0     | 0.8         | 1.74         | 4.60             | 20     | 5                | 19.0   | 11.0   | 10.0      | 24.0                   | 3.0      | 1.0      | 0.32                           | 0.67             | 0.07                            | 0.28                           | 0.05                           | 0.002                          | 0.05                           | 0.01                           | 0.05                           | 0.03                           | 0.01                           | 0.04                           | 0.33                          | 1.90   |
| Camaia      | Inferred                        | 191.7    | 5.9         | 1.70         | 3.1              | 19     | 6                | 24.5   | 15.5   | 24.3      | 2.1                    | 4.1      | 0.8      | 0.49                           | 1.06             | 0.12                            | 0.45                           | 0.08                           | 0.004                          | 0.07                           | 0.01                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.49                          | 3.00   |
| Cannie      | Total <sup>(2)</sup>            | 191.7    | 5.9         | 1.70         | 3.1              | 19     | 6                | 24.5   | 15.5   | 24.3      | 2.1                    | 4.1      | 0.8      | 0.49                           | 1.06             | 0.12                            | 0.45                           | 0.08                           | 0.004                          | 0.07                           | 0.01                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.49                          | 3.00   |
| Navia       | Inferred                        | 16.4     | 0.6         | 1.73         | 3.8              | 19     | 5                | 16.1   | 15.6   | 24.4      | 5.0                    | 2.1      | 0.5      | 0.28                           | 0.61             | 0.07                            | 0.26                           | 0.05                           | 0.000                          | 0.04                           | 0.01                           | 0.05                           | 0.04                           | 0.01                           | 0.04                           | 0.33                          | 1.80   |
| Nowie       | Total <sup>(3)</sup>            | 16.4     | 0.6         | 1.73         | 3.8              | 19     | 5                | 16.1   | 15.6   | 24.4      | 5.0                    | 2.1      | 0.5      | 0.28                           | 0.61             | 0.07                            | 0.26                           | 0.05                           | 0.000                          | 0.04                           | 0.01                           | 0.05                           | 0.04                           | 0.01                           | 0.04                           | 0.33                          | 1.80   |
|             | Measured                        | 30.7     | 1.8         | 1.76         | 5.72             | 15     | 5                | 29.9   | 10.8   | 9.0       | 24.7                   | 4.3      | 0.8      | 0.48                           | 0.96             | 0.11                            | 0.38                           | 0.07                           | 0.004                          | 0.06                           | 0.01                           | 0.07                           | 0.05                           | 0.01                           | 0.05                           | 0.47                          | 2.72   |
| Grand       | Indicated                       | 310.3    | 9.8         | 1.73         | 3.19             | 19     | 3                | 20.5   | 10.1   | 8.6       | 24.9                   | 3.4      | 0.7      | 0.38                           | 0.81             | 0.09                            | 0.34                           | 0.06                           | 0.003                          | 0.05                           | 0.01                           | 0.05                           | 0.04                           | 0.01                           | 0.04                           | 0.38                          | 2.27   |
| Total       | Inferred                        | 495.8    | 13.1        | 1.71         | 2.67             | 18     | 4                | 20.4   | 12.0   | 15.8      | 12.7                   | 3.4      | 0.7      | 0.41                           | 0.89             | 0.10                            | 0.37                           | 0.07                           | 0.003                          | 0.06                           | 0.01                           | 0.06                           | 0.04                           | 0.01                           | 0.04                           | 0.42                          | 2.49   |
|             | TOTAL                           | 836.8    | 24.7        | 1.72         | 2.98             | 18     | 4                | 21.1   | 11.2   | 12.4      | 18.4                   | 3.4      | 0.7      | 0.40                           | 0.86             | 0.10                            | 0.36                           | 0.07                           | 0.003                          | 0.06                           | 0.01                           | 0.06                           | 0.04                           | 0.01                           | 0.04                           | 0.41                          | 2.42   |

|   | Material    | In-Situ TREO + Y <sub>2</sub> O <sub>3</sub><br>Grade <sup>(5)</sup> | In-Situ TREO + Y <sub>2</sub> O <sub>3</sub> |
|---|-------------|--|--|
|   | (t)         | (%)  | (t)  |
| Area 1, Area 2 West, Area 3,<br>Area 4, Cannie, Nowie | 836,764,884 | 0.07   | 601,965                                      |

Notes: Any discrepancies in totals are a function of rounding

Mineral resources reported at a cut-off grade of 1.0% THM

2 Mineral resources reported at a cut-off grade of 1.75% THM

2

3 Mineral resources reported at a cut-off grade of 1.0% TVHM

4 Mineral assemblage, via QEMScan Particle Analysis, is reported as a percentage of in-situ THM content.

5 In-situ TREO Grade is calculated by THM Grade (2.98%) multiplied by TREO Grade (2.42%)



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