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VHM Limited

VHM Presentation

Securing critical and rare earth minerals for future technologies

February 2023

ASX:VHM

Acknowledgement of Country

VHM acknowledges the Australian Aboriginal and Torres Strait Islander peoples as the first inhabitants of the nation and the traditional custodians of the lands where we live, learn and work. We pay our respects to past, present and emerging Elders.

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The information in this presentation that relates to the DFS & FEED studies, the JORC estimates of Mineral Resources and Ore Reserves was first reported in the Prospectus dated 21 November 2022 as supplemented by the supplementary prospectus dated 5 December 2022, lodged with ASX on 5 January 2023. The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resource and Ore Reserve previously reported and that all material assumptions and technical parameters underpinning the estimates in the relevant market 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 been materially modified.

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Agenda

1	▪ Key highlights
2	▪ Goschen Project overview
3	▪ Staged mine development
4	▪ Offtake strategy
5	▪ Approvals update
6	▪ Results achieved and upcoming milestones

Compelling investment drivers

Strategic rare earths project with defined pathway to production and strong sector tailwinds

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The Goschen Asset

- The Goschen Project is **one of the world's largest, rare earth deposits**
  - **413,107** tonnes of contained total rare earth oxide (TREO)
  - **629Mt Mineral Resource**[1] inventory (30.7Mt Measured, 310.3Mt Indicated and 287.7Mt Inferred) (JORC 2012) and **Ore Reserve of 198.7Mt**[2] (24.5Mt Proved and 174.2Mt Probable) supporting **a life of mine greater than 20 years**
- The Goschen Project, consisting of four rich rare earth deposits, is in the **premier mineral sands province** of North-West Victoria, with existing infrastructure, a skilled mining workforce and strong local, state and federal government support
- Superior resource in **scale, grade and processability,** with both mixed light and heavy rare earth carbonates present
- The Project has been granted **"Major Project Status"** by the Australian Government given its national significance

Strategic Importance

- **Demand for rare earth elements is expected to grow** on a CAGR of 5.7% until 2030, led by the permanent magnet category – critical for electric vehicle motors, wind power generators, and consumer appliances[3]
- **~87% of Goschen's rare earth minerals basket value** derived from high value dysprosium, neodymium, praseodymium and terbium oxides
- Downstream processing of the MREC into separable rare earth products offers an **opportunity to capture greater value,** particularly delivery of niche intermediate products
  - Initial modelling and metallurgical design has been completed for the **Hydrometallurgy Circuit**
- **Positive long-term price outlook**, with the greatest gains among the "magnet rare earths" as supply out of China struggles to keep up with rapidly growing demand
- **Offtake MOU signed with Shenghe Resources** an important step to developing one of the world's largest, high-grade heavy mineral sand and rare earth mineral deposits

Pathway to Production

- Ongoing discussions with **strategic western supply chain participants** (USA and Europe) to complement the Shenghe Resources offtake
- The Company has **completed all major environmental and social impact assessments** needed to obtain the environmental effects statement
- The Company has raised A$108M to date advancing Goschen, with funds used to expedite project development activities
- **Near-term catalysts:**
  - **Refreshed DFS** expected in Q1 2023
  - **Ministerial Approval** under the Environment Effects Act 1978 (Vic) anticipated in H2 2023 with secondary approvals H1 2024
  - Pilot plant testwork for the **subsequent stages of the Hydromet Circuit** H1 2023
  - **Drilling and assay results** for Cannie and Nowie Prospects

(1): See Goschen Mineral Resource estimate page 18
(2): See Goschen Ore Reserve page 19
(3): Adamas Intelligence estimates

VHM Limited

VHM owns 100% of the Goschen Project, an advanced and globally significant rare earth and mineral sands project located in Victoria, Australia

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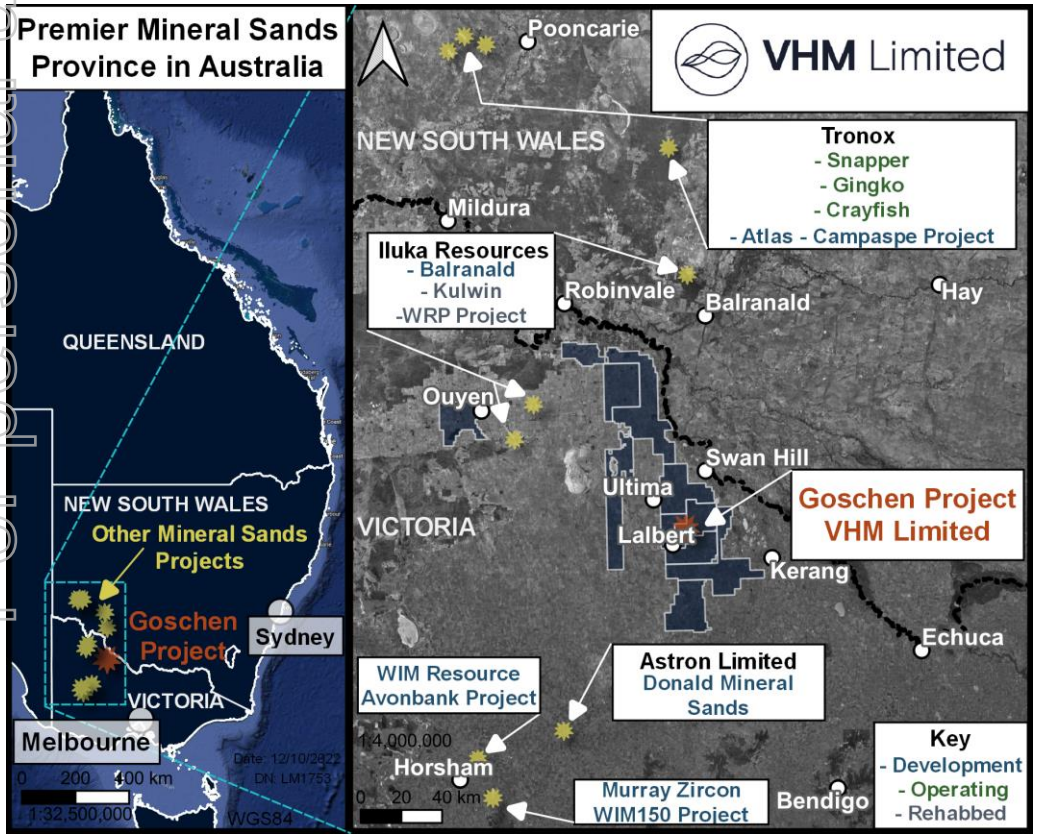
The Goschen Project

- Located in the premier minerals sands province of north-west Victoria, approximately 35km southwest of Swan Hill and 280km north west of Melbourne



Corporate Snapshot[1]

Australian listed company ASX:VHM

Top 20 shareholders ~ 35%

Issued shares 202,214,113

Share price (08 February 2022) A$0.96

Market Capitalisation A$198.16M

Share options 9,392,132

Near-Term Priorities

- **Updated DFS / Engineering Studies**
  - FEED studies – expected in H1 2023
  - Refreshed DFS – expected in Q1 2023
- **Permitting** - approval under the Environment Effects Act 1978 (Vic) (Ministerial approval anticipated in H2 2023 with secondary approvals H1 2024)
- **Offtake** – continue conversations with strategic western supply chain participants (USA and Europe) to complement the Shenghe Resources offtake
- **Final Investment Decision** - upon receipt of all necessary approvals and permits, VHM is seeking to make FID in H2 2023

Strategic MOU for Offtake with Shenghe Resources

- The MOU relates to a dual product take or pay offtake agreement of REMC and zircon/titania HMC
- Outlines terms for a commitment to purchase ~60% of production over an initial 3 year term
- Prices to be determined in US$ against agreed published benchmark prices with pricing yet to be finally agreed
- Shenghe is a world developer, producer, and supplier of rare earth products, and is listed on the Shanghai Stock Exchange

(1): Market data as at 8 February 2023 and sourced from ASX market based data

Project highlights

The compelling opportunity presented by the Goschen Project

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Project Highlights

Globally significant Tier 1 rare earth and mineral sands project

- Goschen is one of the world's largest, rare-earth and zircon mineral deposits (413,107 tonnes of TREO), hosted in sand next to the Lake Boga Granite
- Located in the premier mineral sands province of Victoria, Australia

Rare earth minerals – Market fundamentals ,unique basket and exceptional extraction

- Positive long-term price outlook
- 87% of Goschen's rare earth minerals basket value based on Nd/Pr oxides and Dy/Tb oxides
- Testwork confirms extraction rate of 99% for Nd/Pr oxides (light rare earths) 98% for Dy/Tb oxides (heavy rare earths)

Strategic asset in a stable established mining jurisdiction

- "Major Project Status" was granted by the Australian Government given its national significance
- VHM will produce "Critical Minerals" (rare earth elements, zircon, titanium) important to the green energy transition and with strategic defence applications
- The project aligns with the Critical Minerals Strategic vision for Australia to be a critical minerals powerhouse

High concentration of rare earth elements is expected to enable VHM to meet more than **4%** of global rare earth demand(1)

The Goschen Ore Reserve contains approximately **198.7 million tonnes** of ore(2)

(1) Forecast of 11ktpa, whilst current global production is approx. 280ktpa as of December 2021 (Adamas Intelligence Report)
(2) Goschen Project Ore Reserve (JORC 2012) see page 19

Aligned to Australia's Critical Minerals Strategy

Project aligns with the Critical Minerals strategic vision of Australia becoming a major global producer of critical minerals

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Key Project Benefits

- The Project will be a fully integrated critical minerals asset, comprising the mine, processing facility and hydromet plant. It represents a **major investment in Australia's critical minerals capability** in an industry that continues to attract attention for its strategic importance to global high-tech manufacturing in Australia and its geopolitical partners
- In addition, VHM's investment will deliver major value-added opportunities for the Australian economy by delivering significant **direct and indirect employment**, as well as a wide range of flow-on benefits to **rural and regional economies**. Goschen production capabilities include rare earth elements, Titanium and Zirconium, which form part of the **24 critical minerals** selected by the Australian Government in its Critical Mineral Strategy

Australian benefit

- Fully integrated critical minerals asset producing REMC (Phase 1) and MREC (Phase 1A)
- Creation of 250 jobs in construction and up to 470 jobs in operations
- Significant local industry engagement for testwork , engineering, equipment, logistics and work force

Market

- Advancing potential offtake discussions with multiple end-users in the US, Europe and Asia
- Marketability and value of products has been confirmed by independent third parties

Minerals

- One of the world's largest, zircon, rutile and rare earth mineral deposits is in the Loddon-Mallee region of Victoria in Australia. VHM proposes to mine these deposits and process them to produce and market a range of products; in particular, neodymium, praseodymium, dysprosium and terbium
- Mineral Resource Inventory is 629Mt and contains 413kt TREO[1]

Proven technology

- In the mineral sands industry, the existing technology is tried and proven, and no new technology will be used in the processing plant
- The Project equipment is standard and, in general, is available from Australian vendors. In addition, the Project is expected to deliver considerable opportunities across the Australian supply chain including logistics, procurement and manufacturing

Feasibility

- The Definitive Feasibility Study (DFS) was completed in March 2022 and an updated DFS is targeted to be refreshed in Q1 2023
- The DFS has defined an execution strategy for the development of the Project to deliver a fully commissioned mining and treatment operation that achieves a nameplate production rate, based on a feed rate to the process plant of 5 Mtpa, to produce and market a range of products to national and international consumers

Capability & Readiness

- Final Investment Decision (FID) expected in H2 2023 with targeted production in H1 2025
- Engineering studies for Hydromet to be completed in H2 2023 and FEED H2 2024
- Experienced Board and Senior Leadership Team; Tier 1 consultants engaged every step with rigorous project studies

(1): See Goschen Mineral Resource estimate page 18

Staged mine development

Clear pathway to revenue

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Current development plan

Phase 1 Base Project

- Near-term production
- Low capex and low opex expected
- MUP, FFP, WCP, and REM flotation circuit
- Significant testwork conducted at Mineral Technologies
- First production targeted H1 2025
- Mineral Technologies appointed for FEED
- **Capex estimate: A$360 million (+A$85 million ancillary costs)**

Annual production targets

- 9 - 11ktpa REMC
- 184ktpa Zircon/titania HMC

Phase 1A Hydromet

- Additional Hydromet Circuit with a throughput of 1.6 tonnes per hour
- Co-located at Goschen
- Driven by high grade REMC from Goschen
- Included in the EES approval program
- Pilot plant testwork to commence in January 2023 at ANSTO
- **Capex estimate: A$115-125 million**

Annual production targets

- 9 - 11ktpa MREC
- 184ktpa Zircon/titania HMC

Phase 2 MSP & HAL

- Additional MSP, HAL and chrome removal circuit
- The MSP and HAL were considered in the Goschen DFS in March 2022 and carried forward into FEED
- Zircon leach testwork confirm the level of upgrade to the raw zircon product stream
- Subject to prevailing market conditions scheduled to commence operations approx. 18 months post first production of base project.
- **Capex estimate: A$148 million**

Annual production targets

- 9 - 11ktpa MREC
- 49.6ktpa Premium zircon
- 8.4ktpa Zircon concentrate
- 15.4ktpa HiTi rutile
- 2.8ktpa Leucoxene
- 49.8ktpa Low chrome ilmenite

Phase 3 AREM (Rare Earth Refinery)

- National strategic value
- Generates new industry in Australia
- Scoping Study complete and site selection commenced
- Sulphate bake selected route based on testwork at ANSTO
- Solvent extraction facility located in Australia.

Products based on testwork

- Mixed light and heavy rare earth carbonate
- Light and heavy rare earth oxides, including high value neodymium (Nd), praseodymium (Pr), dysprosium (Dy) and terbium (Tb)

(1): Capex estimates are current nominal mid-point estimates and may change

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Board and management team

Experienced team with track record of delivering major resource projects

Don Runge, BE (Mining), MAusIMM

Non-Executive Chairman

- 40+ years' operational and project experience including industrial minerals where he managed the development of the Uley Graphite Project in South Australia.
- Don has held executive management 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 Corporation on development of its Silangan Au/Cu Project.

Graham Howard, BAppSc (Geology), FAusIMM

Managing Director

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

Gamini Colless, BA (Arts), BLaw

Non-Executive Director

- Gamini has been practicing as a solicitor for over 30 years and is highly experienced in the key areas of corporate finance, project finance, structured finance, major property, and infrastructure projects.
- Gamini is a Partner in HWL Ebsworth's Banking & Financial Services Group and has advised a number of corporate, Government and joint-venture clients on complex financing transactions for numerous large-scale development projects in Australia.

Michael Allen, BA (Accounting), CA

Executive Director

- Chartered Accountant and experienced Chief Financial Officer with more than 30 years' financial management experience in businesses such as KPMG, Walt Disney International, Opportunity International and Engineers Australia.
- Mr Allen has been a key member of the VHM executive team in steering VHM to date, and has unique experience in Indigenous, business and government relations.

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.
- Michael has held responsibility for origination and negotiation of project acquisition and development debt and refinancing facilities of c.US$600m.

Ms Carly O'Regan, MBA, GDipCom

Executive General Manager, Corporate Affairs and Strategy

- 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.

Deborah Rice, DipTeach, DipMan

General Manager, People and Culture

- Strong background in conducting strategic and business planning sessions, facilitating community consultation, strengthening community stakeholder engagement and developing and delivering outcomes.
- Previous experience as Director of Community Development/Regional Capacity with the WA Department.

Lauren Robinson, BAppSc (CME)

Manager, Executive Project, and Cost Control

- Lauren has invaluable experience in a diverse range of industries, including commercial, resource, health and infrastructure, and mining.
- Lauren has gained a vast amount of knowledge in providing services such as project planning, project scheduling, project controls and dispute resolution.

Offtake strategy considerations

VHM seeks to achieve the ultimate objective of its offtake strategy by aligning with its phased production development

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Near-term

The key objective of the near-term phase is to secure an offtake partner that:

- Is globally recognised as a leader in the processing of rare earth mineral concentrates (REMC) and mixed rare earth carbonates (MREC);
- Has the capacity to absorb a material volume of the production offtake from Phase 1 and Phase 1A; and
- May have an interest in providing additional funding, by way of an equity investment into the Company to facilitate and accelerate production development to Phase 2 and Phase 3.

Based on the key objectives of this near-term strategy, VHM has determined the most suitable offtake partner for the Project to be Shenghe Resources.

Mid-term

The Company's mid-term offtake strategy will see it expand its offtake into European and US markets while continuing its relationship with Shenghe.

The maturing of the Offtake Strategy through this mid-term phase aligns with VHM's phased development, such that as the Company progresses towards producing a combination of MREC and premium zircon and titania products, its universe of potential buyers expands.

Long-term

The long-term phase will see the completion of the phased production development, most notably the construction of the Australian Rare Earth Mineral (AREM) Refinery Project. The AREM will facilitate the production of rare earth oxides locally in Australia, such as neodymium, praseodymium, and terbium, which are used in the production of high-strength permanent magnets.

These permanent magnets are critical components of numerous products across a wide range of applications.

The production of such rare earth oxides in Australia means that VHM's products can be sold to a multitude of end users, both those aligned to Australia's overseas geopolitical allies, as well as those companies domiciled locally in Australia.

Approvals and permitting

AECOM appointed for their permitting expertise and credentials

Approvals and Permitting Status

- ✓ Project has strong, demonstrable local support from Gannawarra and Swan Hill Councils and community
- ✓ All major environmental and social impact assessments needed to obtain major development approvals are well advanced
- ✓ Operational impacts are well understood, with all material risks either eliminated or minimised to the extent practicable
- ✓ Public review of the Environmental Effects Statement to occur in Q1 2023, with VHM expecting a decision to be received from the Minister by H2 2023

Key Outcomes of Environment Impact Assessments

- ✓ Project area located on cleared farm paddocks – negligible native vegetation clearing required
- ✓ All mining to take place above the water table; no dewatering or drawdown impacts
- ✓ No material risk to groundwater dependent ecosystems
- ✓ No aboriginal cultural heritage places or native title claims in project footprint
- ✓ Low rainfall, dry land cropping area – no highly sensitive agricultural receptors
- ✓ Studies indicate that the Goschen Project is low impact compared to similar projects

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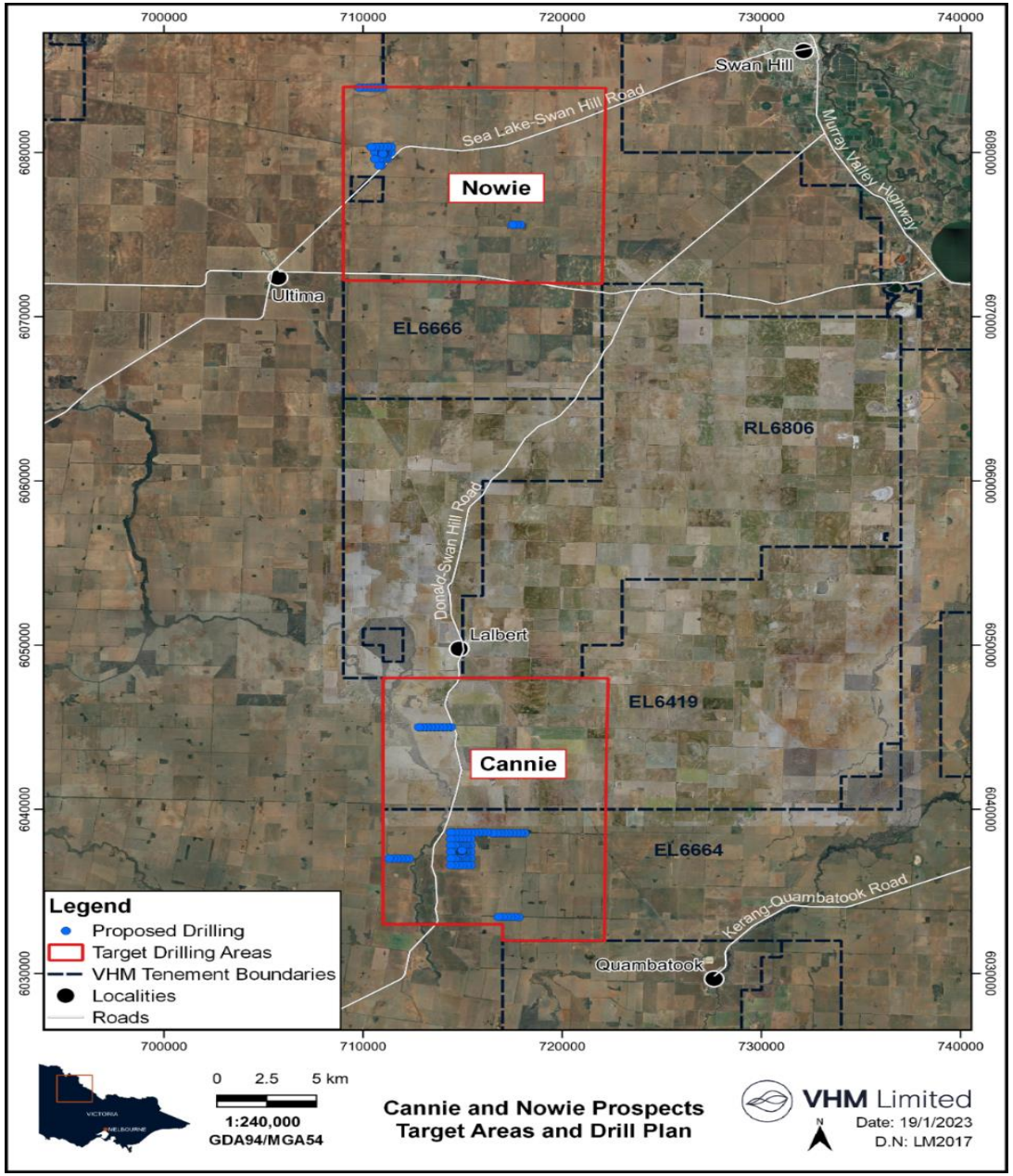
Cannie Project and Nowie Prospects

Exploration upside

- Drilling targeting the Cannie Deposit has commenced in January, this work aims to increase our Mineral Resource inventory
- Exploration testing of Cannie deposit extends between 12 km N-S and 5 km E-W
- Nowie drilling scheduled to commence late February targeting strandline and sheet style deposits



Notes: See ASX announcement on 25 January 2023

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Phase 1 (Base Project) and Phase 1a (Hydromet Plant) process flowsheet

Conventional Ore processing and refining developed through extensive testwork programs

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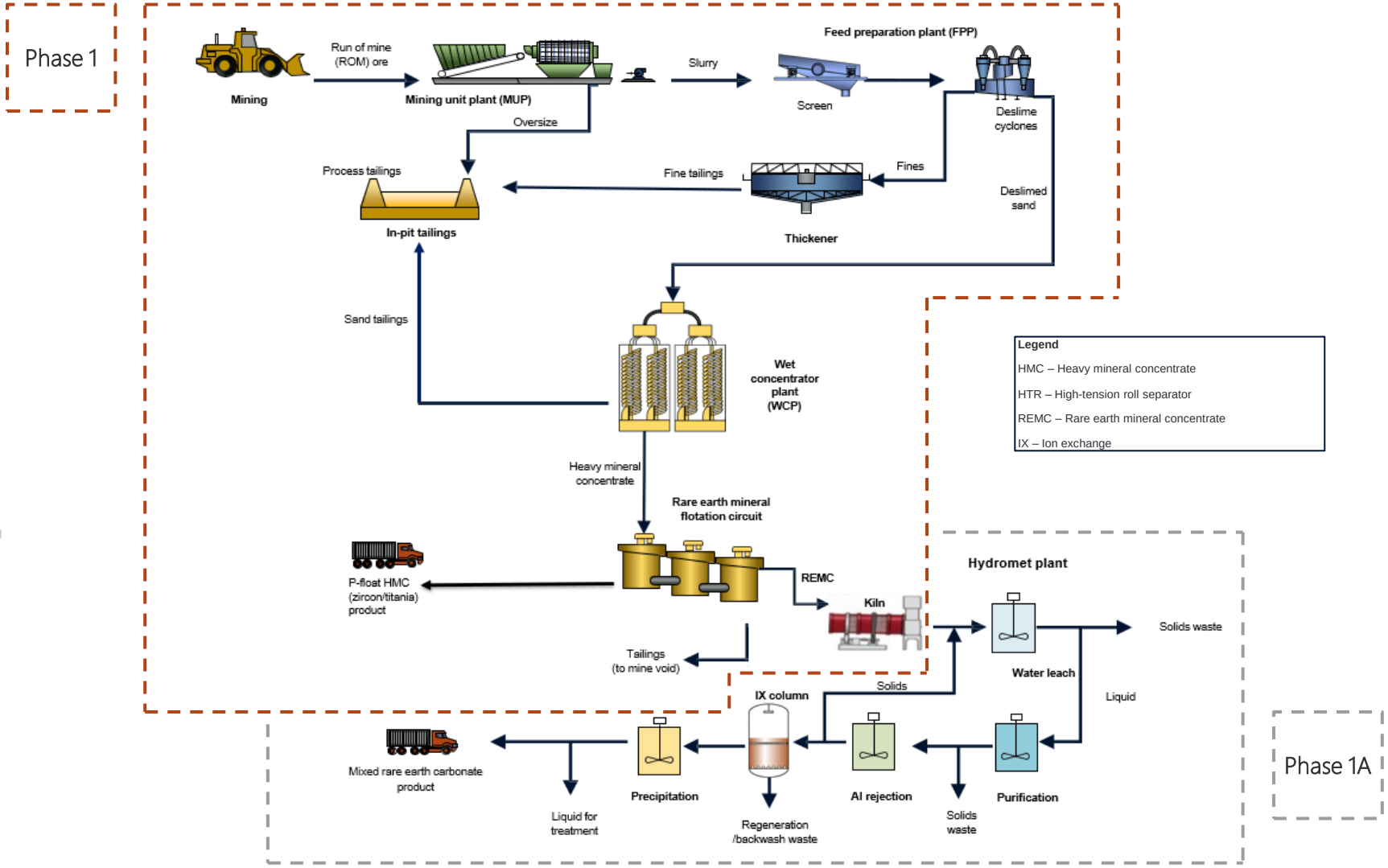

- **Rigorous testwork program conducted by reputable third parties** - Mineral Technologies (Phase 1) and ANSTO (Phase 1A)
- **Simple processing:** Limited on-site processing required - wet concentrator plant, rare earth flotation circuit and hydrometallurgical circuit
- **High recoveries likely at Goschen Mine:** Continuous improvements achieved through testwork has delivered high recoveries of valuable rare earth, zircon and titanium products
- **Final products:** Zircon and titania products, REMC and MREC will be containerised in sealed sea containers on site and exported
- **Logistics solutioning:** Ultima terminal (18km from the processing facility) will provide intermodal rail solution, to reach the shipping export ports

Goschen's rare earth mineral quality provides for higher recovery per tonne and greater economics

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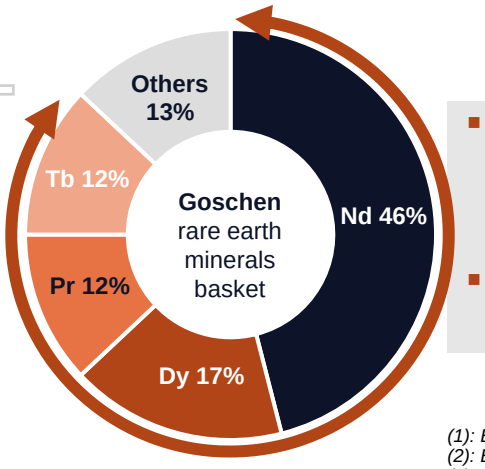
- High grade rare earth mineral concentrate (REMC) of 61.4% TREO[1]
- Further refined high value mixed rare earth carbonate (MREC) of 59.7% TREO[2]
- Pre-pilot testwork has demonstrated exceptional extractions >99% for the critical light rare earth metals (praseodymium and neodymium) and >98% for the critical heavy rare earth metals (terbium and dysprosium)[3]
- Goshen REMC is highly amenable to conventional Sulphate Bake processing through to a high value upgraded MREC product
- The REMC is considered industry leading not only in its exceptionally high rare earth grade (>60% TREO), but also in the very high proportion of high value critical rare earths Pr, Nd, Tb and Dy. These rare earths are essential to the automotive industries transition from internal combustion engine vehicles to battery electric vehicles and plug-in hybrid electric vehicles.

Bright yellow shade indicative of low impurity levels and high grade



- **~87% of Goschen's rare earth minerals basket value derived from high value dysprosium, neodymium, praseodymium and terbium oxides, all of which are high-demand 'critical' rare earths** used in permanent magnets for EV traction motors, wind power generators, among others
- **Goschen Project offers strong economic exposure to the rare earth permanent magnet sector, which is the fastest-growing end-use category** and most in need of additional rare earth supply, according to Adamas Intelligence[4]

(1): Based on testwork at Mineral Technologies see ASX announcement on 17 January 2023
(2): Based on testwork at ANSTO 2018
(3): Based on testwork at ANSTO 2022 see ASX announcement on 17 January 2023
(4): Adamas Intelligence Q2 2022 Market Outlook Report for the Goschen Project

Advancing the Goschen Project

VHM has advanced key milestones

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Recent Achievements

Rare Earth Hydromet Circuit[1]

- Pre-pilot testwork completed January 2023 delivered exceptional extractions of 98% for heavy rare earths (DyTb oxides) and 99% light rare earths (NdPr oxides)
- GPA Engineering engaged to deliver next stage of engineering for circuit
- The Company will commence pilot plant testwork in Q1 2023 with ANSTO, the results of which will inform future engineering work
- Multiple national and international corporations in discussion with respect to offtake for mixed rare earth carbonate (MREC)

Front End Engineering Design (FEED)

Mineral Technologies delivered FEED optimisation program with DFS level estimates and engineering design including:

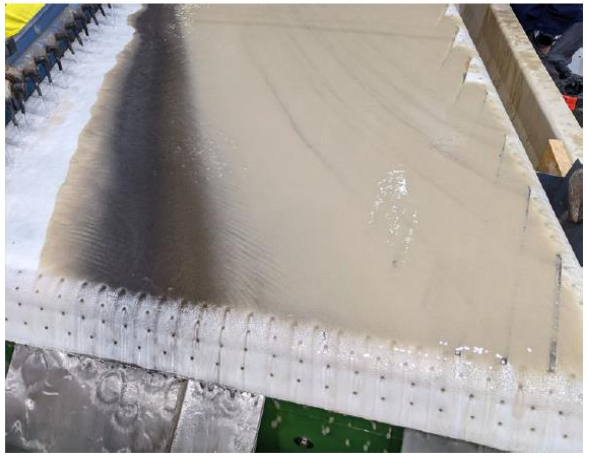
- Addition of a Hot Acid Leach (HAL) circuit for further raw zircon product stream upgrade
- Development and further improvement of the product loadout facility for the MSP plant
- Site layout changes based on modified traffic requirements and a staged project implementation of future circuits
- Optimise interfacing between the WCP plant, REMC plant and future MSP plant and future hydromet circuit
- Updates to the CAPEX and OPEX estimates

Metallurgical[2]

- Metallurgical testwork programs were based on Sonic bulk sampling. A total of 234 holes in the project area were drilled totalling 8,854m
- Metallurgical testwork of 1.6 tonne bulk sample sourced from Area 4 confirms:
  - Total Heavy Mineral ("THM") grade of 11.1% in upper mineralised zone of Area 4 (2.8 times higher in THM grade compared to Goschen Project Ore Reserve average THM grade of 4%)
  - Mineralisation is amenable for processing through the flowsheet proposed for the Goschen Project
- The bulk sampling program generated sufficient REMC for pilot testing to support the hydromet plant process development, validation of the Mineral Resource Estimate (MRE) grade, MRE variability analysis and verification testwork for the FEED program

Environmental Approvals

- All site surveys and environmental assessments relating to the EES submission have been completed. VHM plans to progress the EES submission to the public exhibition phase in the first half of 2023



Images of Goschen material metallurgical testwork program at Mineral Technologies Lab, QLD

(1): See ASX announcement on 25 January 2023
(2): See ASX announcement on 17 January 2023

Summary and upcoming milestones

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Advanced, globally significant Tier 1 rare earth and mineral sands project	▪ Goschen is one of the **world's largest rare earth deposits** with an accompanying world-class mineral sands resource to deliver a strategic, long mine life asset ▪ Well advanced with a DFS completed and FEED underway ▪ Significant capital raised to date (~A$108m) and advanced stage of development delivers a unique value proposition for investors
Compelling economics underpinned by unique mineralogy	▪ Feasibility studies completed to date indicate the unique rare earth and mineral sands product mix is expected to deliver compelling economics ▪ **Low operating cost** and capital intensity expected using proven, well understood processing technology to deliver high quality, low impurity REMC and HMC products
Strategic asset in an established mining jurisdiction	▪ Granted "**Major Project Status**" by the Australian Government given its national significance ▪ Located in a premier mining jurisdiction with existing infrastructure, a skilled workforce and strong local, state and federal government support
Industry validation for product	▪ **MOU with Shenghe Resources** for a take-or-pay offtake arrangement for 60% of the REMC and zircon/titania HMC to be produced at Goschen (subject to final documentation and customary conditions linked to milestone hurdles)

Upcoming Milestones

DFS update and engineering studies	▪ **DFS update** planned for completion in Q1 2023 ▪ FEED, engineering studies and detailed design work studies for Phase 1 + 1A. FEED consists of the final level of process definition and detailed engineering for development and implementation planning and execution
Permitting	▪ **Advance all approvals and permitting** towards receipt of EES decision, enabling grant of Mining License and further secondary approvals ▪ Obtain approval under the Environment Effects Act 1978 (Vic) for the proposed operation to proceed (anticipated **H2 2023**)
Drilling and assay results	▪ Validation of **future growth potential** beyond Goschen Project footprint
Offtakes and further validation	▪ VHM are continuing conversations with **strategic western supply chain participants** to complement the Shenghe Resources offtake
Final Investment Decision	▪ Upon receipt of all necessary approvals and permits, VHM is seeking to make **FID in H2 2023**

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Appendix: JORC Tables

Company Mineral Resources

629Mt Mineral Resource Estimate

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Area	Resource Category	Material	In-Situ THM	Bulk Density	Total Heavy Mineral (THM)	Slimes	Oversize material >2mm	THM Assemblage(2)						Rare Earth Oxides													
								Zircon	Rutile	Leucoxene	Ilmenite	Monazite	Xenotime	CeO_2	Dy_2O_3	Er_2O_3	Eu_2O_3	Gd_2O_3	La_2O_3	Nd_2O_3	Pr_6O_{11}	Sm_2O_3	Tb_4O_7	Tm_2O_3	Y_2O_3	Yb_2O_3	TREO
		(Mt)	(Mt)	(gcm^3)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Area 1	Measured	30.7	1.8	1.76	5.72	15	5	29.9	10.8	9.0	24.7	4.3	0.8	0.96	0.07	0.05	0.004	0.06	0.48	0.38	0.11	0.07	0.01	0.01	0.47	0.05	2.72
	Indicated	62.2	1.4	1.72	2.31	18	2	26.6	11.5	9.2	25.0	4.6	0.9	1.11	0.07	0.05	0.004	0.07	0.53	0.46	0.12	0.08	0.02	0.01	0.48	0.05	3.04
	Total(1)	**92.9**	**3.2**	**1.73**	**3.44**	**17**	**3**	**27.7**	**11.2**	**9.1**	**24.9**	**4.5**	**0.8**	**1.06**	**0.07**	**0.05**	**0.004**	**0.07**	**0.51**	**0.43**	**0.12**	**0.08**	**0.02**	**0.01**	**0.48**	**0.05**	**2.94**
Area 2 West	Indicated	26.0	0.7	1.72	2.80	20	8	22.0	16.0	12.0	25.0	3.0	1.0	0.66	0.06	0.04	0.003	0.05	0.31	0.28	0.07	0.05	0.01	0.01	0.39	0.04	1.97
	Total(1)	**26.0**	**0.7**	**1.72**	**2.80**	**20**	**8**	**22.0**	**16.0**	**12.0**	**25.0**	**3.0**	**1.0**	**0.66**	**0.06**	**0.04**	**0.003**	**0.05**	**0.31**	**0.28**	**0.07**	**0.05**	**0.01**	**0.01**	**0.39**	**0.04**	**1.97**
Area 3	Indicated	204.1	6.9	1.73	3.38	19	3	19.2	9.0	8.0	25.0	3.2	0.6	0.78	0.05	0.04	0.000	0.05	0.36	0.33	0.09	0.06	0.01	0.01	0.37	0.04	2.19
	Inferred	287.7	6.7	1.72	2.32	18	3	17.2	8.7	7.5	22.7	2.9	0.5	0.76	0.05	0.03	0.003	0.05	0.35	0.31	0.08	0.06	0.01	0.01	0.36	0.03	2.10
	Total(1)	**491.8**	**13.6**	**1.73**	**2.76**	**18**	**3**	**18.2**	**8.9**	**7.7**	**23.9**	**3.0**	**0.6**	**0.77**	**0.05**	**0.03**	**0.003**	**0.05**	**0.36**	**0.32**	**0.09**	**0.06**	**0.01**	**0.01**	**0.36**	**0.04**	**2.14**
Area 4	Indicated	18.0	0.8	1.74	4.60	20	5	19.0	11.0	10.0	24.0	3.0	1.0	0.67	0.05	0.03	0.002	0.05	0.32	0.28	0.07	0.05	0.01	0.01	0.33	0.04	1.90
	Total(1)	**18.0**	**0.8**	**1.74**	**4.60**	**20**	**5**	**19.0**	**11.0**	**10.0**	**24.0**	**3.0**	**1.0**	**0.67**	**0.05**	**0.03**	**0.002**	**0.05**	**0.32**	**0.28**	**0.07**	**0.05**	**0.01**	**0.01**	**0.33**	**0.04**	**1.90**
Grand Total	**Measured**	30.7	1.8	1.76	5.72	15	5	29.9	10.8	9.0	24.7	4.3	0.8	0.96	0.07	0.05	0.004	0.06	0.48	0.38	0.11	0.07	0.01	0.01	0.47	0.05	2.72
	Indicated	310.3	9.8	1.73	3.19	19	3	20.5	10.1	8.6	24.9	3.4	0.7	0.81	0.05	0.04	0.00	0.05	0.38	0.34	0.09	0.06	0.01	0.01	0.38	0.04	2.27
	Inferred	287.7	6.7	1.72	2.32	18	3	17.2	8.7	7.5	22.7	2.9	0.5	0.76	0.05	0.03	0.00	0.05	0.35	0.31	0.08	0.06	0.01	0.01	0.36	0.03	2.10
	TOTAL	**628.7**	**18.3**	**1.73**	**2.92**	**18**	**3**	**20.2**	**9.6**	**8.2**	**24.1**	**3.3**	**0.6**	**0.81**	**0.05**	**0.04**	**0.00**	**0.05**	**0.38**	**0.33**	**0.09**	**0.06**	**0.01**	**0.01**	**0.38**	**0.04**	**2.25**

	Material	In-Situ TREO Grade(3)	In-Situ TREO
	(t)	(%)	(t)
Area 1, Area 2 West, Area 3, Area 4	628,703,134	0.07	413,107

Notes:
Any discrepancies in totals are a function of rounding
(1) Mineral resources reported at a cut-off grade of 1.0% THM
(2) Mineral assemblage, via QEMScan Particle Analysis, is reported as a percentage of in-situ THM content
(3) In-Situ TREO Grade is calculated by THM Grade (2.92%) multiplied by TREO Grade (2.25%)
(4) The Mineral Resource estimate was prepared and first disclosed under the JORC Code (2012) in the Prospectus dated 21 November 2022 as supplemented by the supplementary prospectus dated 5 December 2022, lodged with ASX on 5 January 2023

Company Ore Reserves

198.7Mt Ore Reserve

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Area	Date	Classification	Ore	THM	Zircon	Rutile	Leucoxene	Ilmenite	Monazite	Xenotime
			(Mt)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Area 1	Mar-21	Proved	24.5	5.4	29.9	10.8	9.0	24.7	4.3	0.8
Area 1	Mar-21	Probable	14.6	3.2	29.2	11.7	9.2	25.5	4.5	0.9
Area 3	Feb-21	Probable	159.6	3.5	20.3	9.4	8.1	25.8	3.4	0.6
Total		**Proved**	**24.5**	**5.4**	**29.9**	**10.8**	**9.0**	**24.7**	**4.3**	**0.8**
		Probable	**174.2**	**3.5**	**21.0**	**9.6**	**8.2**	**25.8**	**3.5**	**0.6**
Grand Total			**198.7**	**3.7**	**21.7**	**9.7**	**8.2**	**25.7**	**3.5**	**0.6**

Area	Date	Classification	CeO_2	Dy_2O_3	Er_2O_3	Eu_2O_3	Gd_2O_3	La_2O_3	Nd_2O_3	Pr_6O_{11}	Sm_2O_3	Tb_4O_7	Tm_2O_3	Y_2O_3	Yb_2O_3	TREO
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Area 1	Mar-21	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	Mar-21	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	Feb-21	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
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	**0.817**	**0.058**	**0.039**	**0.003**	**0.056**	**0.385**	**0.344**	**0.094**	**0.065**	**0.009**	**0.006**	**0.391**	**0.041**	**2.328**
Grand Total			0.844	0.060	0.041	0.003	0.057	0.402	0.351	0.097	0.066	0.010	0.006	0.406	0.043	2.401

(1): The Ore Reserve was prepared and first disclosed under the JORC Code (2012) in the Prospectus dated 21 November 2022 as supplemented by the supplementary prospectus dated 5 December 2022, lodged with ASX on 5 January 2023

Goschen Project DFS Ore Reserves

Subset of global Company Ore Reserves 98.8Mt

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Area	Date	Classification	Ore	THM	Zircon	Rutile	Leucoxene	Ilmenite	Monazite	Xenotime
			(Mt)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Area 1	Mar-21	Proved	25.5	5.6	29.6	10.8	9.1	24.7	4.3	0.8
Area 1	Mar-21	Probable	7.6	2.2	27.6	12.7	10.5	25.9	4.3	0.9
Area 3	Feb-21	Probable	65.7	3.6	19.7	9.1	7.9	25.3	3.3	0.6
Total		**Proved**	**25.5**	**5.6**	**29.6**	**10.8**	**9.1**	**24.7**	**4.3**	**0.8**
		Probable	**73.3**	**3.4**	**20.2**	**9.3**	**8.1**	**25.4**	**3.4**	**0.6**
Grand Total			**98.8**	**4.0**	**23.6**	**9.9**	**8.5**	**25.1**	**3.7**	**0.7**

Area	Date	Classification	CeO_2	Dy_2O_3	Er_2O_3	Eu_2O_3	Gd_2O_3	La_2O_3	Nd_2O_3	Pr_6O_{11}	Sm_2O_3	Tb_4O_7	Tm_2O_3	Y_2O_3	Yb_2O_3	TREO
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Area 1	Mar-21	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	Mar-21	Probable	0.957	0.065	0.045	0.003	0.059	0.454	0.398	0.104	0.071	0.012	0.007	0.456	0.050	2.682
Area 3	Feb-21	Probable	0.795	0.056	0.038	0.003	0.055	0.373	0.335	0.091	0.063	0.009	0.006	0.383	0.039	2.271
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	**0.806**	**0.056**	**0.039**	**0.003**	**0.055**	**0.379**	**0.339**	**0.092**	**0.064**	**0.009**	**0.006**	**0.388**	**0.040**	**2.298**
Grand Total			**0.862**	**0.061**	**0.043**	**0.003**	**0.057**	**0.415**	**0.354**	**0.099**	**0.066**	**0.010**	**0.007**	**0.417**	**0.044**	**2.451**

(1): The Ore Reserve was prepared and first disclosed under the JORC Code (2012) in the Prospectus dated 21 November 2022 as supplemented by the supplementary prospectus dated 5 December 2022, lodged with ASX on 5 January 2023

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