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VHM Limited

VHM Presentation

Securing critical and rare earth minerals for future technologies

January 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.

Investment highlights

Emerging Tier 1 integrated rare earth and minerals sands project with globally significant mineral assemblage

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Globally significant Tier 1 rare earth and mineral sands project	▪ Goschen is one of the world's largest, rare earth deposits (**413,107 tonnes of contained TREO**) with an accompanying world-class mineral sands resource (Proved and Probable Ore Reserve of 198Mt within a 629Mt Mineral Resource) (see JORC tables on slides 16 – 18) ▪ Size, grade and processability of the resource supports a **>20 year LOM** ▪ Scalable project underpinned by significant mineral inventory and further resource expansion potential provides basis for a Tier 1 market leading rare earth producer
Compelling economics underpinned by unique commodity mix	▪ VHM completed a definitive feasibility study (DFS) in Q1 2022 to initially produce a rare earth mineral concentrate (**REMC**) and zircon/titania heavy mineral concentrate (**HMC**) products, whilst assessing the staged development of further downstream products including a mixed rare earth carbonate (**MREC**) ▪ 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 ▪ **87%** of Goschen's rare earth minerals basket value expected to be derived from high value **dysprosium, neodymium, praseodymium** and **terbium** oxides
Strategic asset in a stable established mining jurisdiction	▪ Granted "**Major Project Status**" by the Australian Government given its national significance – a key step to secure government funding and approvals support ▪ **VHM to produce "Critical Minerals"** (rare earths, zircon, titanium) important to the green energy transition and with strategic defence applications ▪ Located in a premier mining jurisdiction with existing infrastructure, a skilled workforce and strong local, state and federal government support
Offtake and clear pathway to production	▪ DFS and FEED studies have assessed a staged development approach to minimise up front capital requirements and mitigate commercialisation risk ▪ Executed a MOU with Shenghe Resources for 60% of the REMC and zircon/titania HMC produced at Goschen ▪ DFS studies completed in March 2022, with Front End Engineering and Design (FEED) studies commenced in April 2022; Updated DFS expected in H1 2023 ahead of FID expected in H2 2023 with **targeted production in H1 2025**
Strong early funding support	▪ VHM has raised ~A$108 million to date advancing Goschen, with funds used to expedite project development activities, delivering a unique value proposition for investors ▪ Actively progressing all funding options and VHM Board targeting funding being secured inline with **FID in H2 2023**
Experienced Board, Management team and Consultants	▪ **Experienced Board and Executive Management** team involved in delivering some of Australia's most successful resource projects ▪ Management team has been supported by Tier 1 consultants engaged every step with rigorous project and testwork studies

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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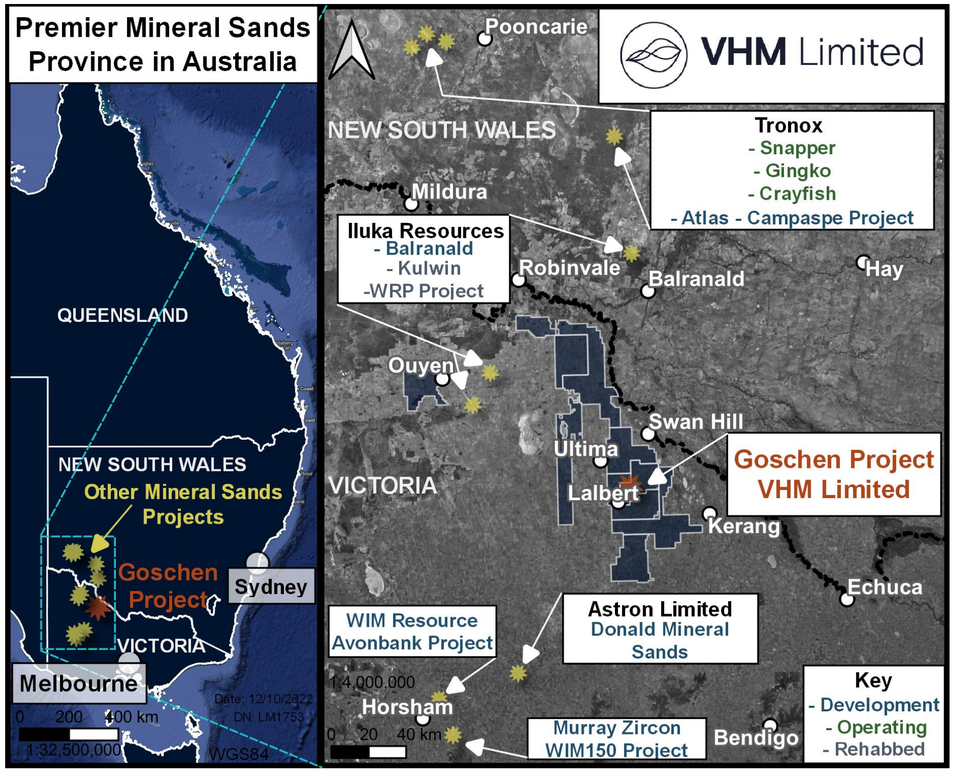
The Goschen Project

- The Goschen Project is one of the world's largest, rare earth deposits (413,107 tonnes of TREO) with an accompanying world-class mineral sands resource (629 Mt Mineral Resource)
- 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 197,073,248

Share price (11 January 2022) A$0.97

Market Capitalisation A$195.10M

Share options 11,405,811

Near-Term Priorities

- **Updated DFS / Engineering Studies**
  - FEED studies – expected in H1 2023
  - Updated DFS – expected in H1 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

Notes: (1) Market data as at 11 January 2023 and sourced from ASX market based data

Goschen Project overview

The DFS demonstrates the Goschen Project economics to be compelling

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Definitive Feasibility Study

- **Significant exploration to date delivers a JORC Resource and substantial Ore Reserve**
  +1,000 holes for 39km drilled to date at Goschen.

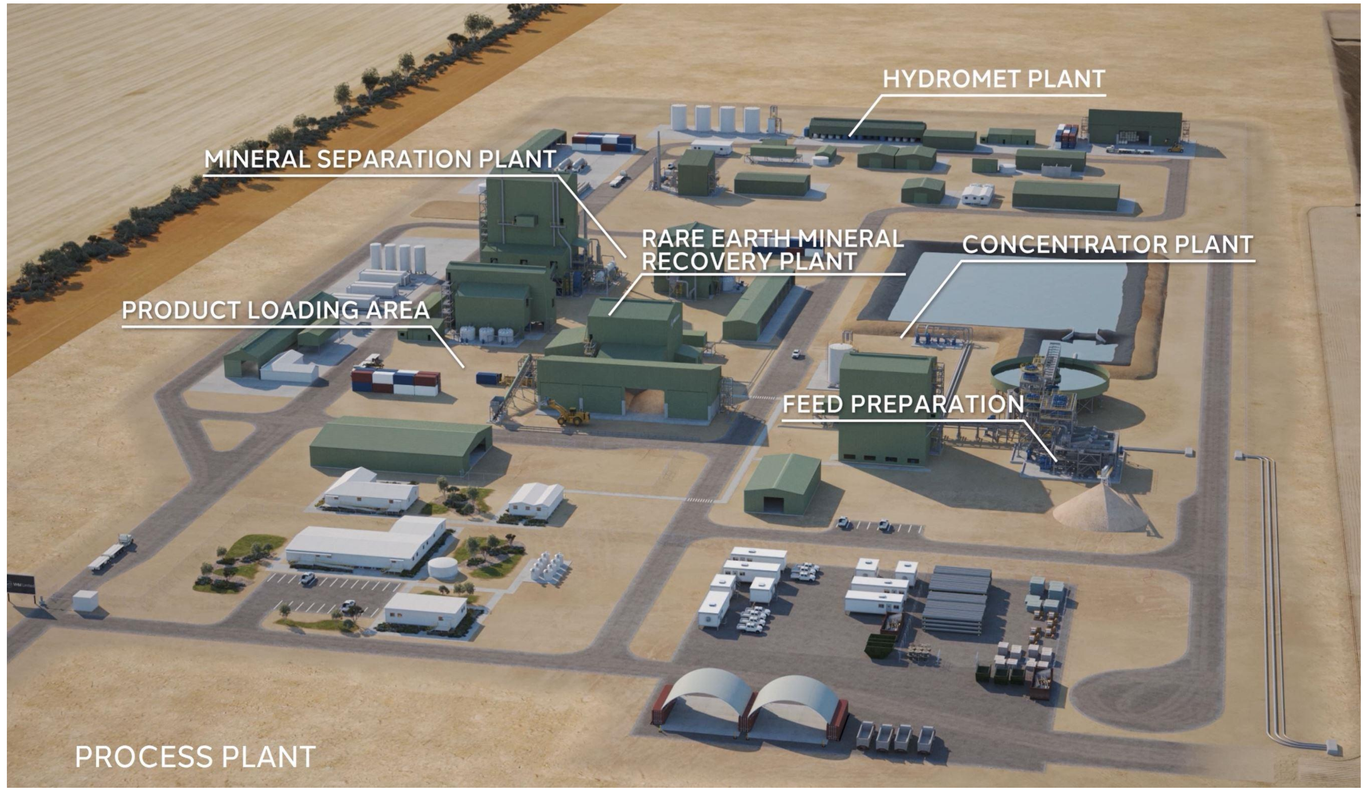
- **Well understood geology and mineralogy in a mineral sands mining province of the Murray Basin**
  Goschen ore consists of weathered sands enriched in REE-bearing minerals Monazite and Xenotime, zircon, rutile and ilmenite.

- **Rigorous testwork program conducted by reputable third parties**
  Mineral Technologies (Downer Group) and Australian Nuclear Science and Technology Organisation (ANSTO) have conducted comprehensive metallurgical testwork programs, validating the flowsheet and producing **HMC, REMC and MREC products** using Goschen ore used for customer qualification.

- **Conventional open-pit mining methods**
  Mining of ore will be undertaken at a rate of 5Mtpa using dry strip mining by conventional 'truck and shovel' bulk earthmoving equipment, with **pits maintained above the water table**. Process tailings will be returned to the pit with mined overburden and topsoil placed on top as part of rehabilitating the land.

- **Simple processing and proven conventional flowsheet**
  Limited on-site processing required: Wet Concentrator Plant (WCP), Rare Earth Flotation Circuit to produce HMC and REMC (Phase 1), and a Hydrometallurgical Circuit to produce MREC (Phase 1A).

- **Staged development approach mitigates funding and development risks**
  VHM will implement a phased approach to the development to mitigate start-up / commercialisation risks and potentially enable a staging of the capital requirements for self-funding further downstream developments[1].



Source: Goschen Project DFS +/- 10-15%
Notes (1): If permitted by Goschen Project debt financiers

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

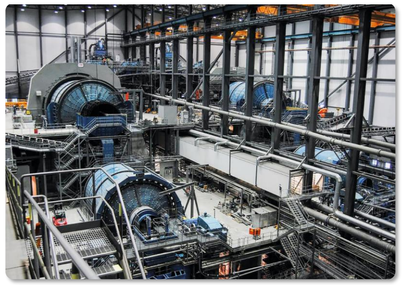
- 9 - 11ktpa REMC
- 184ktpa Zircon/titania HMC

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
- Scheduled to commence operations approx. 18 months post first production of base project
- **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)

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

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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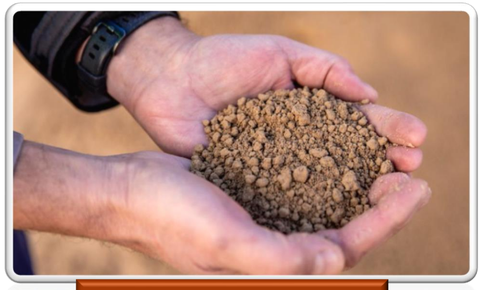

Near-term

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.

Strong sector tailwinds

Goschen rare earth minerals assemblage well positioned to meet increasing demand from permanent magnets

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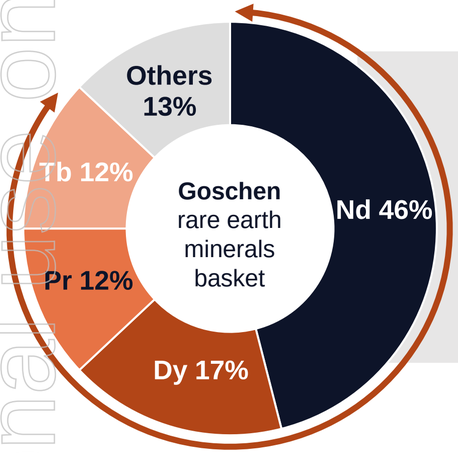
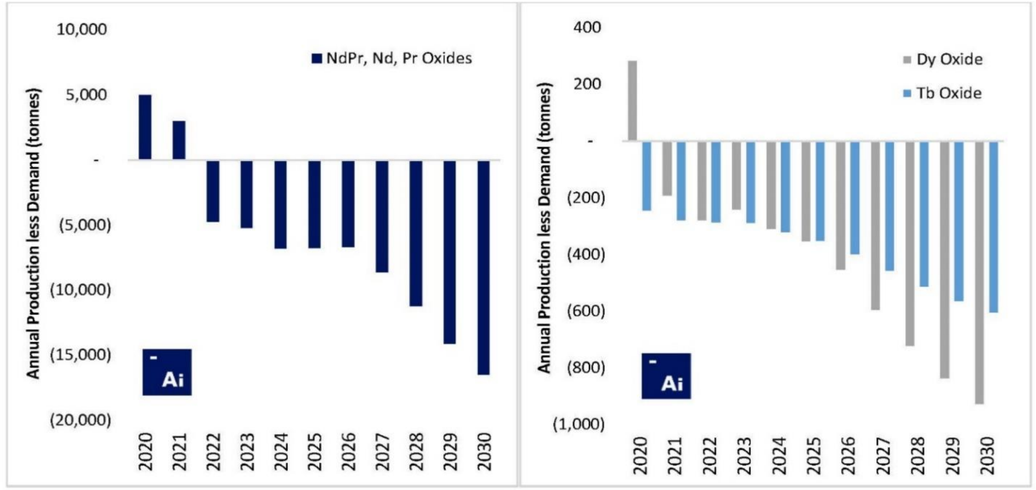
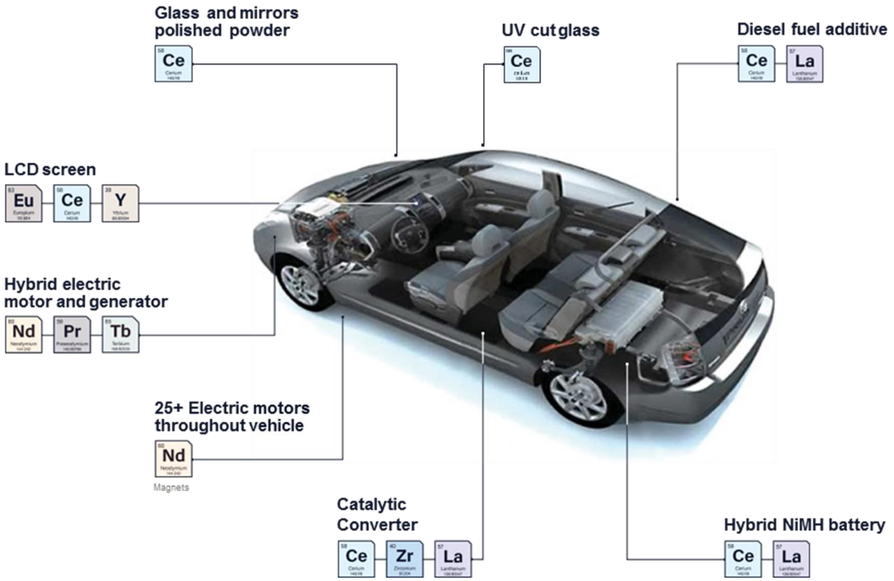


- **~87% of Goschen's rare earth minerals basket value derived from high value dysprosium, neodymium, praseodymium and terbium oxides, all of which are high-demand 'critical' rare earths** used in permanent magnets for EV traction motors, wind power generators, among others
- **Goschen Project offers 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

Global production-demand balance for REO in permanent magnets





Sources: Adamas Intelligence Q2 2022 Market Outlook Report for the Goschen Project

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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Historical achievements and roadmap to production

First production in H1 2025

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Key Historical Milestones | **Key Development Timeline**

Operational Developments

2014
- VHM established

2016
- First JORC Mineral Resource Estimate (MRE)

2019
- Goschen Scoping Study, Pre-Feasibility Study and pilot metallurgical testwork completed
- Upgraded MRE, Initial Ore Reserves

2020:
- Extended MRE and maiden Ore Reserves

2021
- Goschen DFS Stage 1 complete
- Advancement of all Environmental Impact Assessments

H1 2022
- Goschen DFS complete (Phase 1+2)

H2 2022
- Advancing FEED studies and testwork (Phase 1)
- Engineering Study testwork commences (Phase 1A)

H1 2023
- Completion of updated DFS
- FEED studies (Phase 1)

H2 2023
- Goschen primary approvals granted (Phase 1+1A+2)
- Engineering Study commences (Phase 1A)
- FID approved (Phase 1)

H1 2024
- Goschen secondary approvals granted (Phase 1+1A+2)
- Implementation and construction commences (Phase 1)

H2 2024
- Engineering study complete (Phase 1A)
- FEED commences (Phase 1A)

H1 2025
- Commissioning complete and first production
- FEED complete and FID (Phase 1A)

H2 2025
- Implementation and construction commences (Phase 1A+2)

H2 2026
- Implementation and commissioning complete (Phase 1A+2)

2022 | 2023 | 2024 | 2025 | 2026

Strategic / Funding Developments

2017
- A$2.4M capital raised

2018
- A$12.6M capital raised

2019
- A$6.8M capital raised

2020
- A$8.6M capital raised with A$3.1M issued in convertible notes (converted)

2021
- Successful A$15M capital raise closed April 2021 75% equity and 25% via the issue of convertible notes.

H1 2022
- A$31M Capital raise

H2 2022
- A$30M IPO listing on ASX

2023
- Implement financing plan for the development capital for Phase 1
- Finalise financing arrangements; obtain financial commitments (debt and equity) for development expenditure
- Completion of further offtake agreements to facilitate project funding

Post 2024
- Potential material and sustained annual free cashflow available for investment in:
  - Value-adding solvent extraction plant and MSP, chrome removal and hot acid leach plant for zircon and titania products
  - Scale up of plant throughput
  - Expansion of mining areas

Strategic MOU for offtake with Shenghe Resources

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Key Terms of MOU

- MOU relates to a binding dual product take or pay offtake agreement of REMC and zircon/titania HMC.
- Shenghe has committed to purchase 6,400tpa of REMC and 100,000tpa of HMC for each calendar year of the agreement term, on a take or pay basis.
- This represents approximately 60% of nominal production rate based on the 5Mtpa Goschen Project.
- Key terms of the agreement include:
  - Initial three-year agreement term commencing on the first commercial shipment.
  - Conditions precedent including; final contract documentation, all required approvals for construction and operation of the Goschen Project, and requisite debt and equity funding.

Shenghe Resources

- Shenghe is a world-class developer, producer, and supplier of rare earth products, including rare earth concentrate, oxidants, compounds, metals, metallurgical materials, and catalysts, as well as zircon sand, titanium concentrate, and rutile.
- Shenghe's parent company is a publicly listed company on the Shanghai Stock Exchange and is headquartered in Sichuan, China.
- Shenghe distributes its products within the domestic market as well as to overseas markets.

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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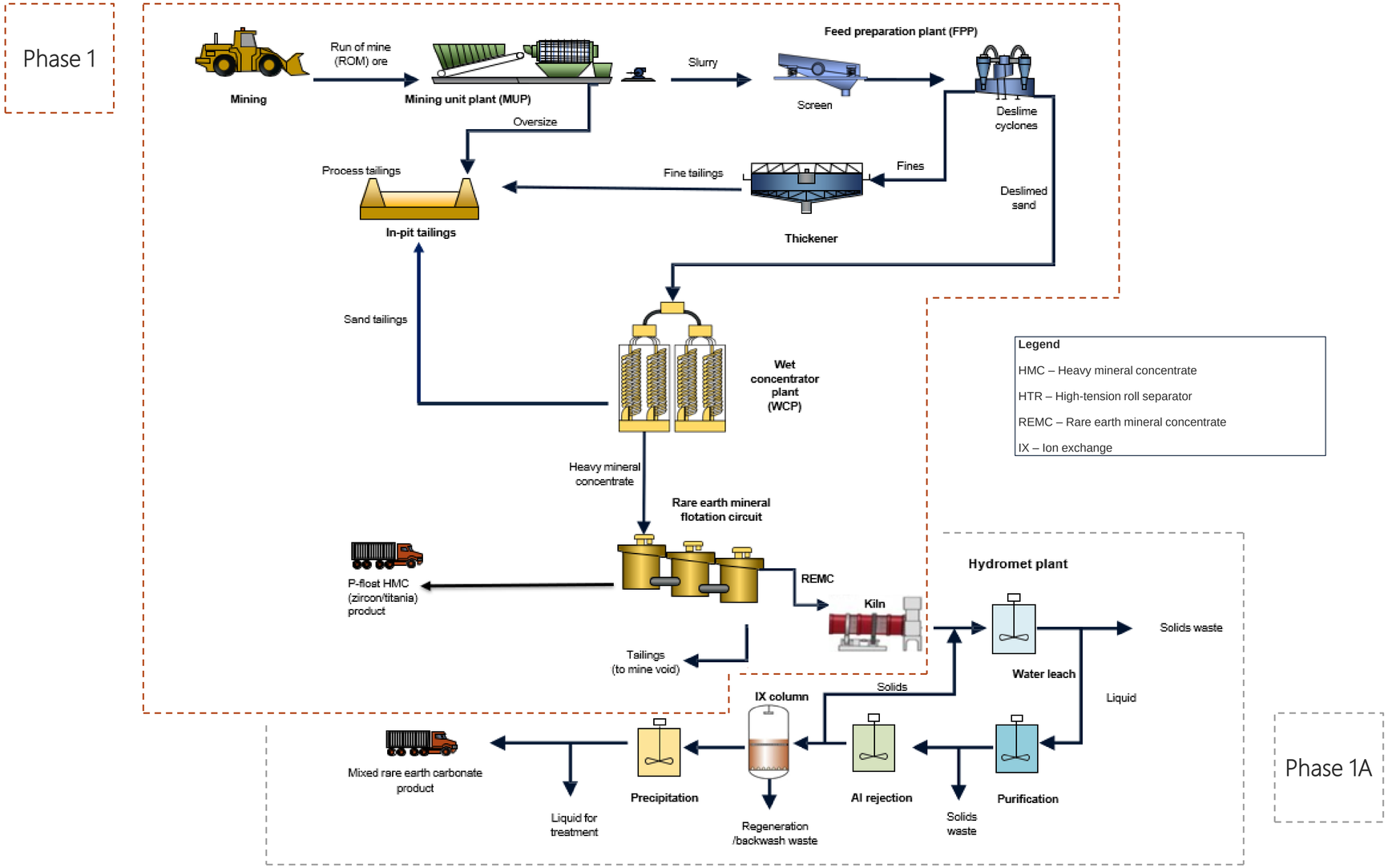

- **Rigorous testwork program conducted by reputable third parties** - Mineral Technologies (Phase 1) and ANSTO (Phase 1A)
- **Simple processing:** Limited on-site processing required - wet concentrator plant, rare earth flotation circuit and hydrometallurgical circuit
- **High recoveries likely at Goschen 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

Rare earth and mineral sands exploration upside

Cannie and Nowie deposits are analogous to Goschen

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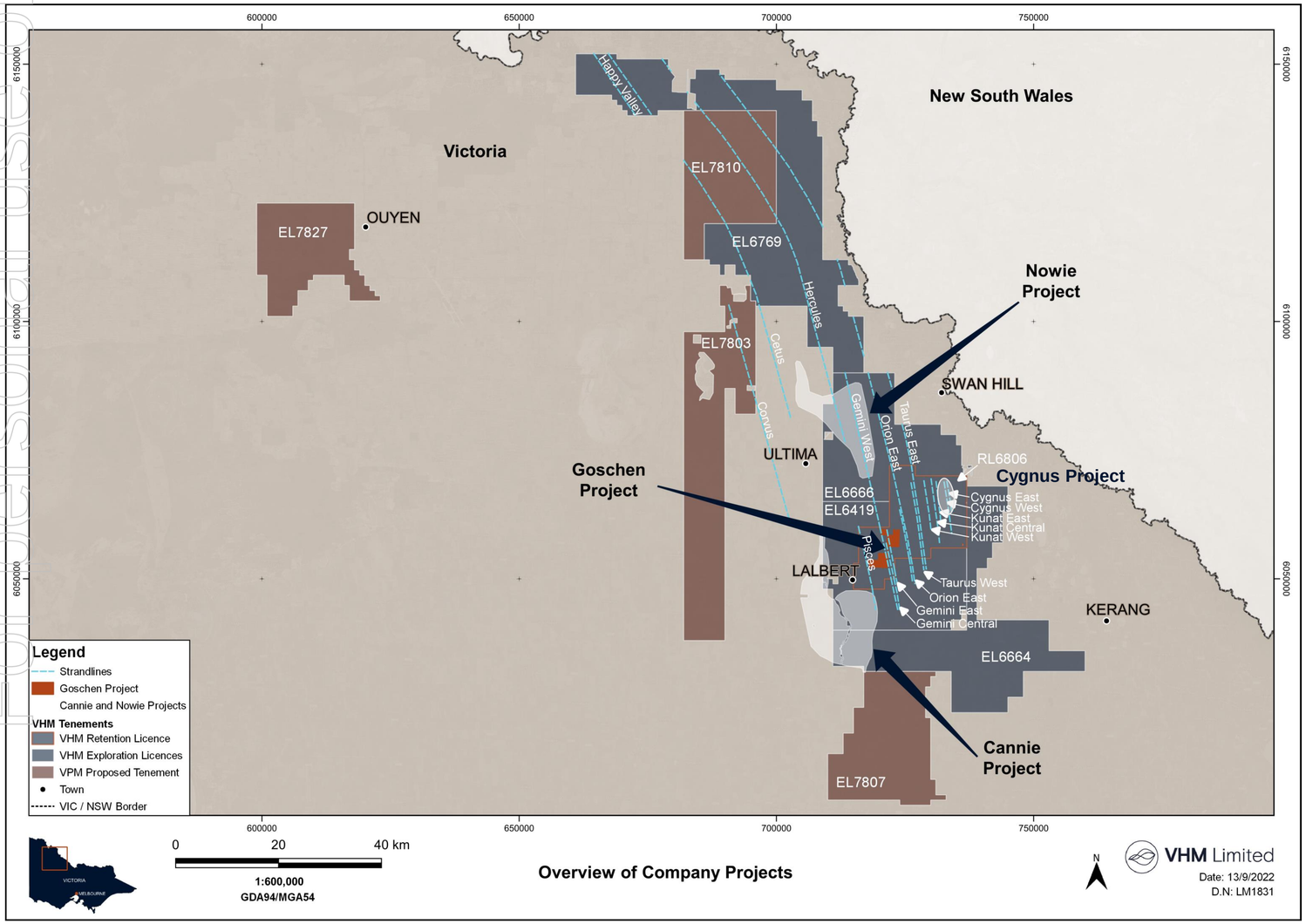

Cannie Project and Nowie Projects

- Significant number of historic drill holes indicates Cannie is of a similar scale sheet deposit to Goschen deposit
- Historic drilling indicates zircon and rare earth mineral assemblage
- Multiple targets identified from evaluation of wide spaced historic drill holes and 2021 geophysics data
- 2021 close spaced aerial geophysics program confirm strandlines and sheet deposit to north of Goschen
- LAAs with landowners are in place for advancement of drill programs
- Company plans to advance project with targeted exploration program during 2023 in order to gain Retention Licenses for both Cannie and Nowie

Summary and near-term priorities

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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)
Fast tracked development timeline	▪ **Permitting activities well advanced** – targeting receipt of EES decision by H2 2023 with secondary approvals in H1 2024 ▪ Minister decision on the ESS will facilitate Final Investment Decision in H2 2023, with **targeted production in H1 2025**

Key Deliverables Post IPO

Updated DFS and engineering studies	▪ FEED studies due for completion H1 2023 ▪ **Updated DFS** planned for completion in H1 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**)
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

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

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Company Ore Reserves

198.7Mt Ore Reserve

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

Notes (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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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**

Notes (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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