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# Investment Highlights



## Heavy Minerals Limited (HVY) is an **Emerging Industrial Minerals Explorer**

- Listed 14<sup>th</sup> September 2021, raising AU\$5.5M<sup>1</sup> @ \$0.20 per share
- Funds used to define and expand upon Garnet, Ilmenite and Zircon resources
- AU\$4.8M EV with AU\$5.5M¹ cash offers an attractive entry for investors into two highly prospective projects

## Projects adjacent to world class deposits in Pro-Mining Jurisdictions

- Western Australia Port Gregory Project adjacent to GMA Garnet mine, supplying 30% of world premium Almandine Garnet<sup>2</sup>
- HVY targeting Industrial Garnet @ Port Gregory
- Australian Garnet Vended into RDG.ASX for AU\$22M<sup>3</sup>
- Mozambique Inhambane Project Adjacent to Rio Tinto / Savannah Resources "Jangamo Mineral Sands Project"

## Post Listing, **HVY has the team, plan and funds** to generate results and news flow through 2021/2022

- Proven and prospective tenure with which to expand current resource and exploration target
- 12,000m drilling campaign planned to begin late September 2021 (Port Gregory)
- Potential for generational assets with free cash flow delivered to shareholders

<sup>1</sup>Does not include listing costs and @ share price of 20c, <sup>2</sup>2021 USGS Mineral Commodity Summary, <sup>3</sup>RDG.ASX Announcement 1st February 2021 4M Cash and \$18M Scrip @ 5c

Zircon

Garnet

TiO<sub>2</sub>

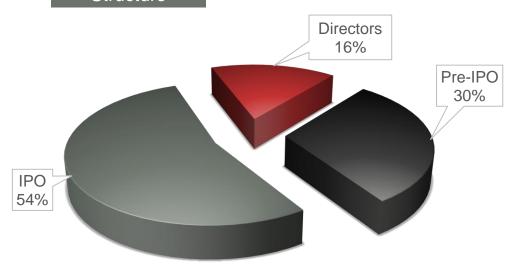
# Capital Structure



Initial public offer of 27,500,000 new Shares issued at a price of 20c per share (**Offer Price**) raised a total of AU\$5.5 million

Oversubscribed offer well supported by Institutional and High Net Worth Investors

## Structure



| Key Details                                       | Metrics            |
|---|--------------------|
| Total Shares on Issue                             | 51,308,158         |
| Shares escrowed at ASX Listing (Approximate)      | 14,640,574 (28.5%) |
| Indicative Market Capitalisation at Listing (20c) | AU\$10,261,600     |
| Gross Proceeds of the Offer (before costs)        | AU\$5,500,000      |
| EV (Enterprise Value) at listing                  | AU\$4,761,600      |
| Options on Issue                                  | 13,782,226         |
| Total Securities on Issue at ASX listing          | 65,090,384         |

## **Compelling valuation metrics**

- Options @ 25c strike price (2yr / 3yr expiry)
- Performance rights milestones: Stretch targets with the aim of generating shareholder wealth

Lead Manager



Solicitor





# **HVY Project Overview**





Two projects with the potential to grow into globally significant deposits

Both Projects adjacent to Tier 1 Assets (GMA & Rio Tinto)

## Port Gregory Garnet Project (30km North of Geraldton, Western Australia)

- Exploration Target (see slides 10 and 11)
- Upside potential along 50km of underexplored coastline with 181km<sup>2</sup> of contiguous tenure
- Adjacent to world class GMA operating Garnet mine and the proposed Lucky Bay Mine

## **Inhambane Heavy Mineral Sands Project 17km From Inhambane Mozambique)**

- Inferred Mineral Resource<sup>1</sup>
   51 million tonnes @ 3.4% THM (1.7 Mt HM)
- In demand mineral suite (5% Zircon, 29% Altered Ilmenite, 31% Primary Ilmenite, 2% Rutile, 4% Hi-Ti,)
- Mining application pending
- Adjacent to Power, Road Infrastructure and Port

## **Board of Directors**



## Maurice (Nic) Matich - B Eng (Mech) (Hons), B Sci (Phys, IT),

GradDip (Finance)

### **Executive Director**

Mr. Matich is a mechanical engineer and finance professional with over 15 years' of varied experience in the resources sector. His industry experience includes the provision of engineering, risk consulting and insurance services to numerous Tier 1 mining companies with operations in Mineral Sands, Talc, Iron Ore, Gold, Lithium and Zinc. Nic has a deep understanding of the industrial minerals thematic having covered the sector as an analyst for Patersons Securities. Mr Matich is a director of Mobile Crisis Construction Limited, an Australian Charity that operates Internationally.

## Glenn Simpson - B. Com

## **Non-Executive Director**

Mr. Simpson has been a Chartered Accountant for over 32 years, with global experience in accounting with a strong mining focus. His experience includes managing the Touché Ross & Co (Deloitte) practice in Bougainville, Papua New Guinea for 3 years and establishing his own large commercial accounting practice in West Perth & Kalgoorlie. Over the last decade, he established a large insurance broking and underwriting business from Perth that operated Nationally. These businesses were sold to a "national brand" underwriting and broking companies. Glenn is a sophisticated investor and has been involved in many commercial ventures including capital raising and business start-ups. He has also mentored many small cap companies.

## **Greg Jones** - B App Sc (Geol) (Hons), FAusIMM

### **Non-Executive Director**

Mr. Jones has over 25 years' experience primarily as a mineral sands Geologist with Iluka Resources in senior resource estimation/management roles and in the capacity of Competent Person for the reporting and management of Mineral Resources and Ore Reserves. Greg has helped develop a number of new discoveries into reportable Mineral Resources including Jacinth-Ambrosia. He is a 20 year member of the AusIMM, holding the grade of Fellow, sitting on review committees and has co-published multiple technical and resource estimation mineral sands papers. For the past eight years, Greg has held various consulting roles, firstly establishing GNJ Consulting Pty Ltd specialising in geological, geometallurgical and resource estimation consulting services to the mineral sands sector, then joining IHC Robbins where he is currently the Commercial and Business Development Manager.

## Adam Schofield - Dip (MechEng)

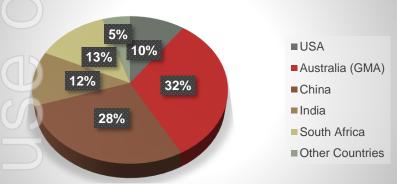
### Chairman

Mr. Schofield is a mining company executive with over 20 years' experience in the resources sector in Australia and Africa. He has significant experience in conducting feasibility studies and taking projects from feasibility stage into operations. He has extensive experience in Mineral Sands, Gold, Copper, and Iron Ore. Adam is an Executive Director and the CEO of Nelson Resources Limited (ASX:NES) and a Non-Executive Director of Kingfisher Mining Limited (ASX:KFM).

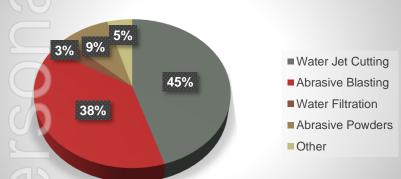
# Industrial Garnet

~1,000,000 T Worldwide Production 2020<sup>1</sup>

## **Garnet Production by Region<sup>1</sup>**



## **Garnet Use by Category 2019**<sup>2</sup>



## **ABRASIVE / GARNET APPLICATIONS:**

- Prepare and clean surfaces
- Water jet cutting applications
- Water filtration media
- Reliant Industry Sectors: Oil & Gas, Manufacturing, Ship building

## **MAJOR PRODUCERS:**

- GMA (Australia) ~30% of the worlds production¹ (Alluvial)
- Rizhao Garnet (China) (Hard rock)
- V.V. Mineral (India) (Alluvial)

## **MAJOR MARKETS:**

USA, EU, Asia and Middle East

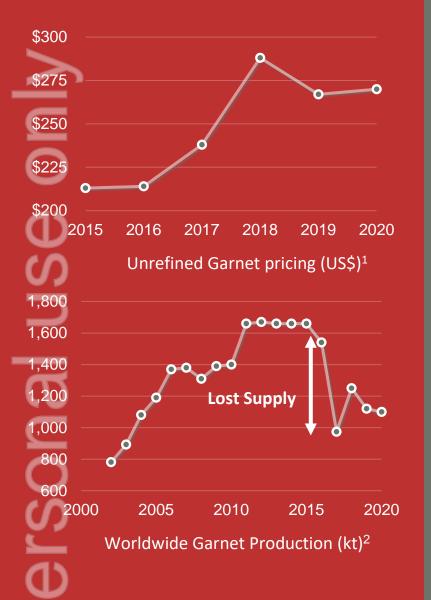
## **ALLUVIAL ALMANDINE GARNET UNIQUE QUALITIES:**

- Superior hardness (7.5 Mohs hardness³)
- High productivity (lower abrasive consumption)
- Cleaner finish (required for surface treatments)
- Low dust (OH&S requirement)
- Minimal health and safety risks (inert)
- Almandine garnet from Australia can be recycled several times (hard rock garnets which fracture easily can not)
- Environmentally friendly (no hazardous by-products)



 $^1$ 2021 USGS Mineral Commodity Summary,  $^2$ TZMI Garnet Market Data (Project 11759) Jan 2021  $^3$ Geoscience Australia

# Garnet Market



## Water jet cutting drives demand:

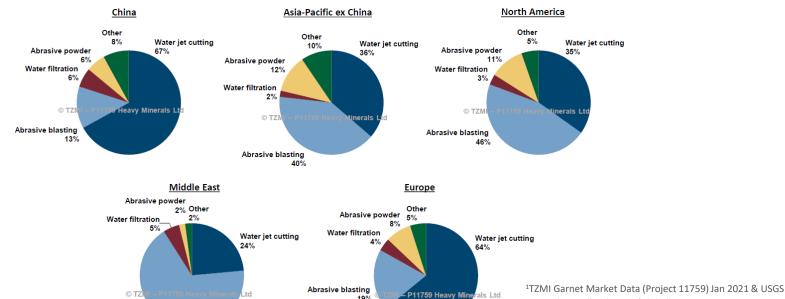


**Significant** production **removed**<sup>1</sup> from the market in 2017 - 135kt (Harts Range) and 350kt (India) - **Still unaccounted for!** 

- Refined garnet commands a premium of up to 100% on unrefined product (US\$300-US\$500+ per tonne)<sup>3</sup>. To be explored in Scoping study (2022)
- 5.9% CAGR in pricing 2016-2020<sup>4</sup>

Abrasive blasting

Water Jet cutting drives current demand and is the dominant end use in advanced manufacturing economies (Europe & China)



Source: TZML estimates Ian 202

Minerals Handbook 2021 (Global Average 2015-2019, USA 2020) <sup>2</sup>USGS Minerals Handbook 2004 – 2021

<sup>3</sup>2016 USGS Minerals Yearbook and HVY extrapolations.

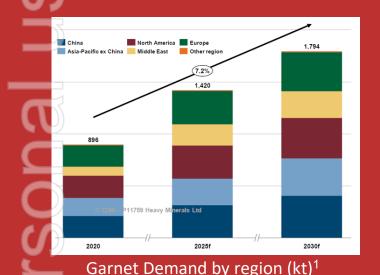
<sup>4</sup>HVY calculations

# Garnet to 2030

**540kT deficit** in 2030 without new sources of supply

TZMI 2019 forecast long-term price of US\$210 per tonne (indexed to 2020) for unrefined product

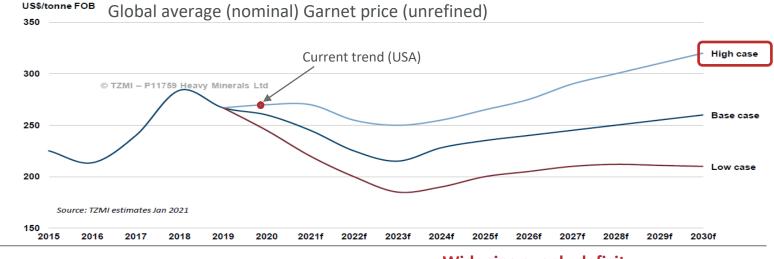
USA 2020 average pricing trended @ TZMI "High Case"<sup>3</sup>

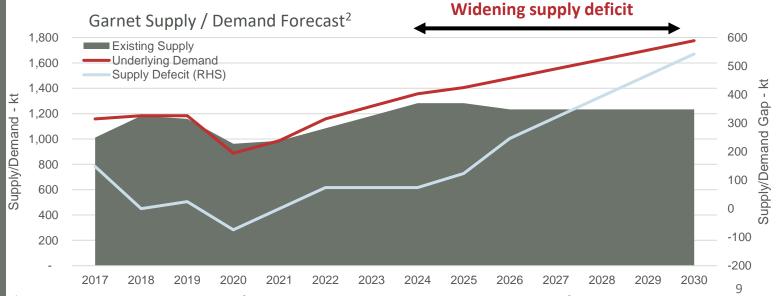


## **HVY's OPPORTUNITY:**



## Significant and widening supply deficit forecast 2022 onwards<sup>2</sup>





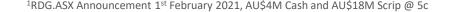
<sup>1</sup>TZMI Garnet Market Data (Project 11759) Jan 2021, <sup>2</sup>TZMI Garnet Market Data (Project 11759) Jan 2021 & Internal forecasting, <sup>3</sup> USGS Minerals Handbook 2021 and HVY internal calculations

# Port Gregory Garnet Project



- 181 sq.km of contiguous tenure 30km from the port of Geraldton, Adjacent to the worlds largest Garnet mine (GMA)
- Exploration Target of 170 to 250 million tonnes @ 3.5% to 4.5% THM containing approximately 46% Garnet (E70/5160). The potential quantity and grade of the Exploration Target is conceptual in nature, and there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
- HVY tenure includes areas GMA were forced to surrender due to inactivity having completing 52 holes for 1725m in 2013-2015
- Underexplored greenfields tenure packaged with known target to provide exploration upside
- Balline Garnet Project (WA) transacted in 2021 for AU\$22M, vending into RDG.ASX<sup>1</sup>

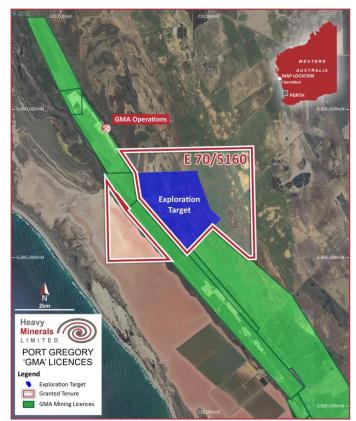




# **Exploration Target Disclosure**

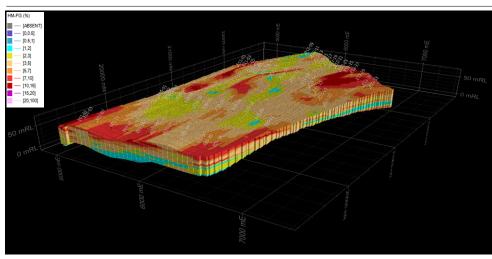


- Exploration Target of 170 to 250 million tonnes @ 3.5% to 4.5% THM containing approximately 46% Garnet (E70/5160).
- The potential quantity and grade of the Exploration Target is conceptual in nature, and there has been insufficient exploration to estimate a Minerals Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
- The Exploration Target takes no account of geological complexity, possible mining method or metallurgical recovery factors. The Exploration Target was estimated in order to provide an assessment of the potential scale and exploration at E70/5160. The work on which the Exploration Target is based is included in Appendix B of Annexure D of the Company's Prospectus and includes air cored drilling undertaken at E70/5160. The Company intends to test the Exploration Target with further drilling as per the work program set out in Section 2.6 of the Company's Prospectus.
- Competent Person Statement: The information in this presentation and accompanying Prospectus that relates to technical assessment of the mineral assets, exploration targets and exploration results in respect of the Port Gregory Project is based on, and fairly represents, information and supporting documentation prepared by Mr Robert Wason. Mr Wason is a Competent Person who is a member of the Australian Institute of Mining and Metallurgy. Mr Wason is a Senior Consultant (Geology) of Mining Insights Pty Ltd. Mr Wason has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Wason consents to the inclusion of the matters based on his information in the form and context in which it appears.



# Port Gregory – Geological Model

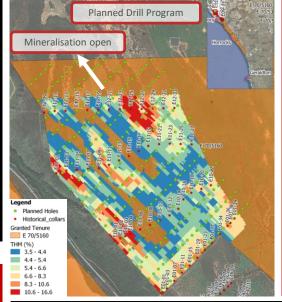




#### **EXPLORATION TARGET SUMMARY FOR PORT GREGORY PROJECT AS AT 20 APRIL 2021**

| Summary of Exploration Target <sup>1</sup> |                  |                       |                           |           |           |           | HM Assemblage <sup>2</sup> |                 |                              |  |
|--|------------------|-----------------------|---------------------------|-----------|-----------|-----------|----------------------------|-----------------|------------------------------|--|
|  | Material<br>(Mt) | In situ<br>HM<br>(Mt) | In situ<br>Garnet<br>(Mt) | HM<br>(%) | SL<br>(%) | OS<br>(%) | Garnet<br>(%)              | Ilmenite<br>(%) | Non<br>Valuable<br>HM<br>(%) |  |
| Exploration Target                         | 170 – 250        | 7 – 9                 | 3.5 – 4.5                 | 3.5 – 4.5 | 10        | 20        | 46                         | 1               | 53                           |  |
| <b>Grand Total</b>                         | 170 – 250        | 7-9                   | 3.5 – 4.5                 | 3.5 – 4.5 | 10        | 20        | 46                         | 1               | 53                           |  |

Approximately 46% Garnet in HM assemblage, with low slimes.



Mineralisation open to the North and South

HVY to **fast track** resource definition

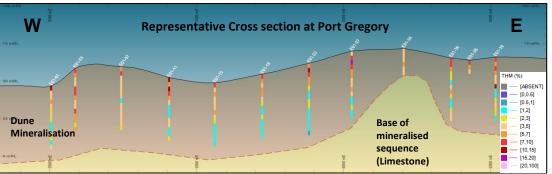
300 hole, 12,000m drilling program planned to **define** and potentially **extend** upon 3.5-4.5Mt exploration target

Average hole depth 40m

Air-core drilling program is inexpensive and rapid relative to other drilling techniques

Resource definition planned 1Q22<sup>3</sup>

Scoping study planned 1H22<sup>3</sup>



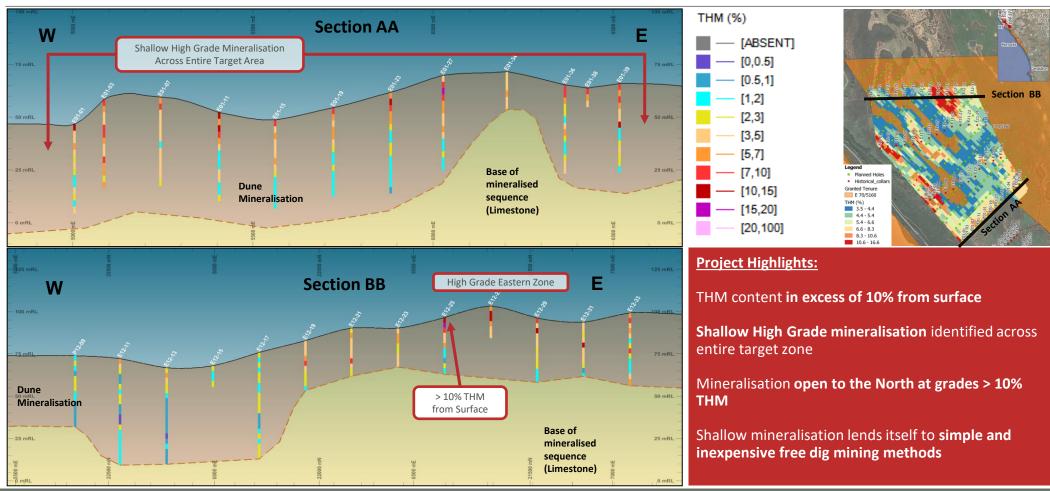
<sup>&</sup>lt;sup>1</sup>Exploration Target reported at an upper cut-off-grade of 2.5% HM and a lower cut-off grade of 1.5%

<sup>&</sup>lt;sup>2</sup>Mineral assemblage is reported as a percentage of in-situ HM content

<sup>&</sup>lt;sup>3</sup>Assuming successful exploration program. These timelines are indicative and subject to change

# High Grade Garnet From Surface





# Port Gregory Potential

Exploration target located in a fraction of the highly prospective tenement package!

Over 50 km of coastal dunes with geology analogous to GMA's operations (Dunal accumulations of sand overlaying Tamala Limestone)

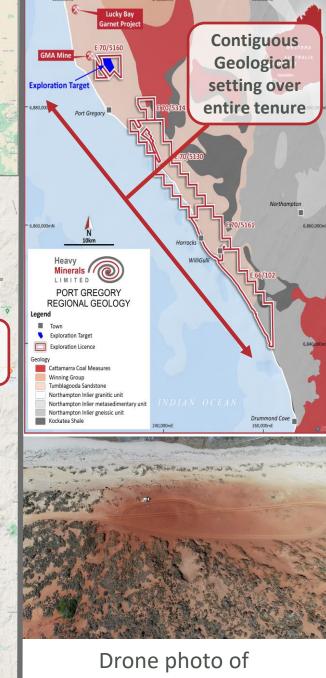
## Historic Auger Sampling<sup>1</sup>:

- Q620-630: 0-19ft, 5.1%-19.8% THM, 63-92% Garnet
  - Q610-614: 0-7.5ft, 3.3% 53.4% THM, 54-78% Garnet
- Q605, 607: 0-5ft, 3% 4% THM, 19-85% Garnet

Historical sampling using hand auger highlights the overall tenure prospectivity

HVY plans to systematically explore its' tenure for Garnet and other industrial minerals including silica sand and limesand





Garnet in HVY4tenure

\*WAMEX A No.:1660 Title: Geraldton-Hutt Lagoon, WA, Quarterly Report for the period Feb to May 1967, Temporary Reserve No. 4017H. Operator(s): New Consolidated Goldfields (Australasia) Pty Ltd

# Market Outlook – Mineral Sands



## Zircon Pricing<sup>3</sup>



## Rutile Pricing<sup>3</sup>





## Heavy Mineral Sands Market Dynamics – Rapid uplift in pricing over the last 12 months

- Existing producers are seeing a rebound in pricing on the full suite of valuable heavy minerals (VHM) with strong gains seen since October 2020<sup>3</sup>
- Full suite of valuable heavy minerals (VHM) have seen growth over the previous five years, highlighting supply side constraints which has been exacerbated in the past 12 months

## Titanium dioxide concentrates

- Ilmenite accounts for 90% of the worlds consumption of titanium minerals<sup>1</sup>. Inhambane mineral assemblage contains 60% ilmenite
- Ilmenite has seen strong year on year gains since 2016 (CAGR 19%) with pricing now US\$340 per tonne (up 60% since October 2020)<sup>3</sup>
- Chinese imports of titanium concentrates increased by 19% YOY in 2020<sup>4</sup>
- Chinas largest TiO<sub>2</sub> pigment producer in Asia added 260kT of TiO<sub>2</sub> capacity in 2019<sup>5</sup>

## Zircon

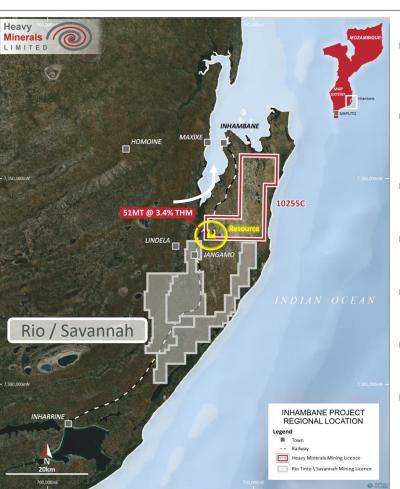
- Urbanisation, with a preference for tiled flooring in Asia is driving demand
- China accounts for 55% Global demand<sup>2</sup> and has seen GDP growth per capita of > 5% YOY since 1995<sup>6</sup>
- Zircon used in Foundry and Refractories for steel manufacture



<sup>&</sup>lt;sup>1</sup> Iluka Resources Full Year 2020 Results Presentation (net realised FOB), <sup>2</sup>Iluka Resources Full Year 2020 Results Presentation (net realised FOB), <sup>3</sup>Image Resources (IMA.ASX) ASX release 20/07/2021, <sup>4</sup>USGS Mineral Commodity Summaries 2021, <sup>5</sup>Lomon Billions website (www.lomonbillions.global/key-facts), <sup>6</sup>World Bank statistics

# Inhambane – Mineral Sands Project



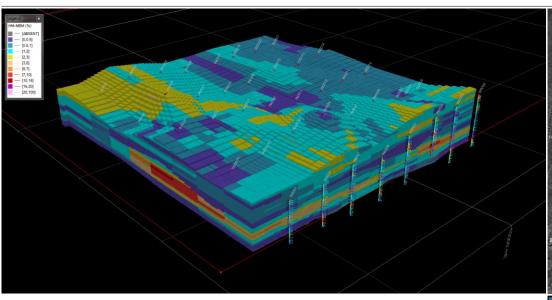


- 183km<sup>2</sup> of land under mining application adjacent to HV Power, Major HWY and the Port of Inhambane. Mining Concession application lodged (25-year tenure), pending regulatory approvals
- JORC Inferred Mineral Resource of 51 million tonnes @ 3.4% THM (1.7 Mt contained HM) with high value assemblage, Exploration has only scratched the surface
- Ilmenite (60%), Zircon (5%), HiTi (4%) and Rutile (2%) with low clay and slimes content
- Ilmenite accounts for 90% of the world's consumption of titanium minerals<sup>1</sup>
- Adjacent to World Class Rio Tinto and Savannah Resources Joint Venture "Jangamo Mineral Sands Project"
- 70% owned by Heavy Minerals, 30% local partners (free carry to decision to mine)
- In conjunction with Mobile Crisis Construction Limited (Australian Charity) tailings can be repurposed into blocks and donated to local communities to build community infrastructure

<sup>1</sup>2021 USGS Mineral Commodity Summary

# JORC Resource: 51MT @ 3.4% HM







**5 drill ready targets** identified with a substantial footprint with which to expand upon resource

Historical auger data and field mapping guiding exploration program

Potential strandlines identified

Potential to grow resource into a globally significant deposit

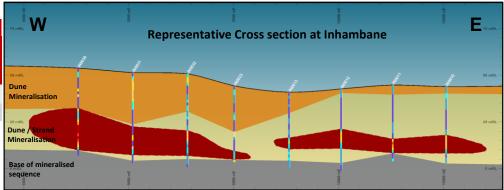
#### MINERAL RESOURCE SUMMARY FOR INHAMBANE PROJECT AS AT 20 APRIL 2021

| Summary of                      | nmary of Mineral Resources <sup>1</sup> |                       |         |           |           | HM Assemblage <sup>2</sup> |                            |               |                            |               |                              |
|---------------------------------|---|-----------------------|---------|-----------|-----------|----------------------------|----------------------------|---------------|----------------------------|---------------|------------------------------|
| Mineral<br>Resource<br>Category | Material<br>(Mt)                        | In situ<br>HM<br>(Mt) | HM<br>% | SL<br>(%) | OS<br>(%) | Altered<br>Ilmenite<br>(%) | Primary<br>Ilmenite<br>(%) | Rutile<br>(%) | Leucoxene<br>(HiTi)<br>(%) | Zircon<br>(%) | Non<br>Valuable<br>HM<br>(%) |
| Inferred                        | 51                                      | 1.7                   | 3.4     | 5         | -         | 29                         | 31                         | 2             | 4                          | 5             | 30                           |
| <b>Grand Total</b>              | 51                                      | 1.7                   | 3.4     | 5         | -         | 29                         | 31                         | 2             | 4                          | 5             | 30                           |



<sup>1</sup>Mineral resources reported at a cut-off-grade of 2% HM.

<sup>2</sup>Mineral assemblage is reported as a percentage of in-situ HM content



# Proposed Expenditure / Timeline Minerals /



| Proposed use of funds – Year 1         | AU\$ (000's) | %   |
|--|--------------|-----|
| Exploration expenditure                | 1,483        | 27  |
| Directors' fees (inc Consultants)      | 510          | 9   |
| General administration Working Capital | 398          | 7   |
| Vendor Payment                         | 50           | 1   |
| Future acquisition costs               | 375          | 7   |
| Estimated expenses of the offer        | 527          | 10  |
| Total funds allocated – Year 1         | 3,363        | 61  |
| Proposed use of funds – Year 2         | AU\$ (000's) | %   |
| Exploration expenditure                | 1,305        | 24  |
| Directors' fees (inc Consultants)      | 253          | 5   |
| General administration Working Capital | 358          | 5   |
| Future acquisition costs               | 221          | 4   |
| Total funds allocated – Year 2         | 2,220        | 40  |
| TOTAL FUNDS ALLOCATED                  | 5,500        | 100 |

## Port Gregory (First 12 months post listing)

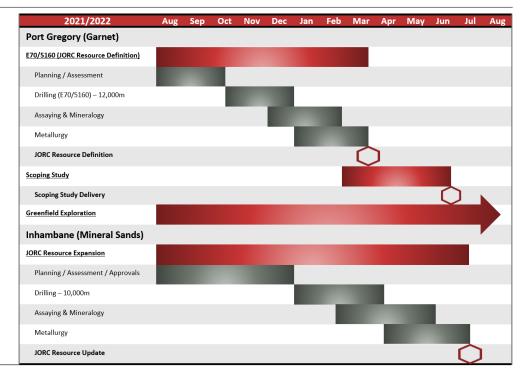
- 12,000m drill program to define Garnet resource (Beginning Sep 2021)
- Initial drilling results
- JORC Resource definition 102022
- Initiate scoping study 1Q2022
- Geological mapping (drone) to define secondary targets

## Port Gregory 2022 and beyond

- Scoping study 1H2022
- Drilling of secondary targets

### Inhambane 2021 & 20221

- 10,000m drill program (21/22) to increase resource size
- Scoping study delivery in 2H2022
- Investigate offtake agreements / partners



## HVY Objectives – Lean and selective use of funds to generate shareholder returns

- Deliver consistent news flow post listing
- Fast track Garnet resource definition
- Increase Inhambane mineral resource to include all target areas
- Utilise cost effective techniques to preserve capital while generating tangible results

## Port Gregory greenfield exploration & future acquisitions:

- Field surveys and auger sampling to identify potential exploration targets
- Follow up 10,000m drill program
- \$600k allocated to assess other opportunities and/or expand existing tenure

Proposed timeline is indicative only and is subject to change without notice

<sup>1</sup>Mozambique drill program and subsequent Scoping Study subject to Mozambique approvals and funds being available



# Contact Details:

Registered Office

Level 11, London House

216 St Georges Terrace

Perth WA 6000

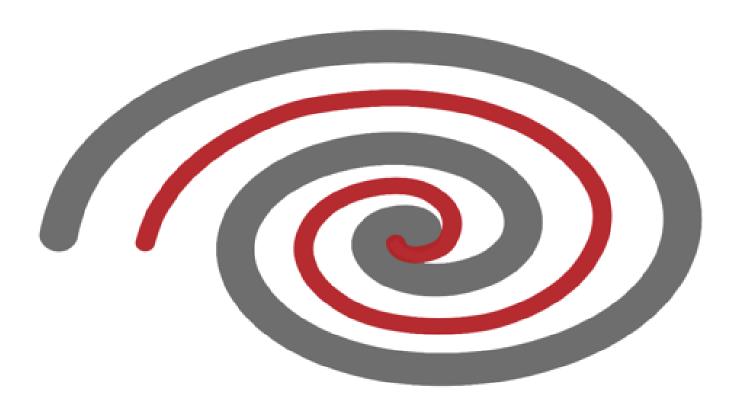
Australia

Tel: (08) 9481 0389

Fax: (08) 9463 6103

Web: www.heavyminerals.com

Email: info@heavyminerals.com



**Heavy Minerals Limited**