



## HIGHLY ENCOURAGING METALLURGY RESULTS FROM INHAMBANE

- ✖ Metallurgy results have been received with test work confirming that the Inhambane mineral sands can be processed readily using typical mineral sands processing methodologies and equipment
- ✖ The following key products were produced:
  - Primary Ilmenite containing 49.8%  $\text{TiO}_2$ , 0.6%  $\text{SiO}_2$ , 0.4%  $\text{Al}_2\text{O}_3$  and <0.1%  $\text{Cr}_2\text{O}_3$
  - Zircon containing 66%  $\text{ZrO}_2 + \text{HfO}_2$ , < 0.1%  $\text{TiO}_2$  and < 500ppm U + Th
  - High Titanium product containing >90%  $\text{TiO}_2$
- ✖ In addition to the production of the key products, potential exists to produce a secondary ilmenite product containing >57%  $\text{TiO}_2$  and a monazite product. This will be investigated further as part of the next phase of test work
- ✖ Overall recovery of ilmenite into the primary ilmenite product is high at 85.5%, without the need for roasting, whilst the recovery of rutile and zircon into a non-magnetic concentrate (feed to produce zircon and high titanium) is 82% and 91.1% respectively.

Heavy Minerals Limited (ACN 647 831 833) ("HVY", "Heavy Minerals" or the "Company") is pleased to announce that the metallurgy results for the Inhambane Mineral Sands Project have been received from IHC Mining. The results highlight the very marketable nature of the potential product suite from the project which can be produced using a basic process utilising typical mineral sands equipment.



Figure 1: Wet shaking table separation

The quality of the zircon product was praised by IHC Mining's Metallurgy team who were quoted as saying "There are not many projects in development that can produce a zircon product with less than 500 ppm uranium and thorium contaminants".

Executive Director & CEO, Mr. Nic Matich said:

*"HVY's Inhambane project has a highly desirable final product suite, including zircon and direct sulphate/slag feed grade ilmenite. This coupled with the low impurities significantly improves the potential to market, develop and mine the project. The Board are very excited about the results returned by the metallurgical testwork which have completely exceeded what we as a team were expecting."*

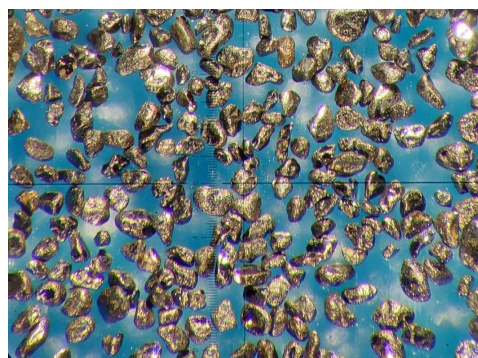
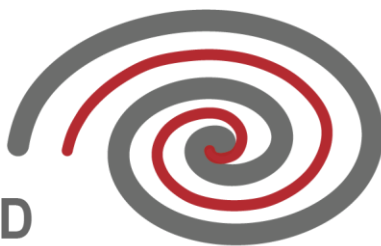


Figure 2: Primary ilmenite



Figure 3: Primary zircon



## Upcoming News:

- ✂ **May 2022:** Scoping Study Commencement (Port Gregory)
- ✂ **July 2022:** Metallurgy results (Port Gregory)
- ✂ **3<sup>rd</sup> Quarter 2022:** Scoping Study delivery
- ✂ **3<sup>rd</sup> Quarter 2022:** Red Hill drilling and 2<sup>nd</sup> phase Port Gregory drilling

## Metallurgical Testing Overview:

IHC Mining completed scoping metallurgical process development test work on a bulk sample from HVY's Inhambane heavy mineral sands project.

The metallurgical test work was completed to a scoping level, resulting in:

- ✂ Evaluation of material processability
- ✂ Development of a conceptual metallurgical process
- ✂ Testwork metallurgical balances including mass yields, grades and recoveries
- ✂ Generation of potential products
- ✂ Identification of any potential metallurgical risks and opportunities
- ✂ Recommendations for progressing the project to the next phase of feasibility

Follow-up work to process ilmenite concentrate material (middlings) over Rare Earth Drum, Rare Earth Roll Magnetic Separator combination to ascertain if a > 57% TiO<sub>2</sub> product with < 1.0% Cr<sub>2</sub>O<sub>3</sub> can be produced is currently underway.

## About IHC Mining (Metallurgical Services):

IHC Mining's (Brisbane-based) laboratory is capable of a range of industry-standard analytical techniques, bench-scale metallurgical evaluations and bulk processing on full-scale mineral processing equipment. Being at the forefront of process technology developments and stocking equipment from a range of industry-leading manufacturers enables IHC Mining to independently deliver optimal process solutions.

IHC Mining's team of experts provide technical knowledge and industry experience into a client-collaborative approach to ensure customers' goals are achieved and that the interpretation and implications of the outcomes are understood.





## Final Product Images:

Images of the products produced from the Inhambane raw material are presented in Figure 4 through Figure 11. Of note is the cleanliness of the ilmenite and zircon final product, highlighted by the absence of gangue mineral and surface coatings.

### Primary ilmenite



Figure 4: Primary ilmenite

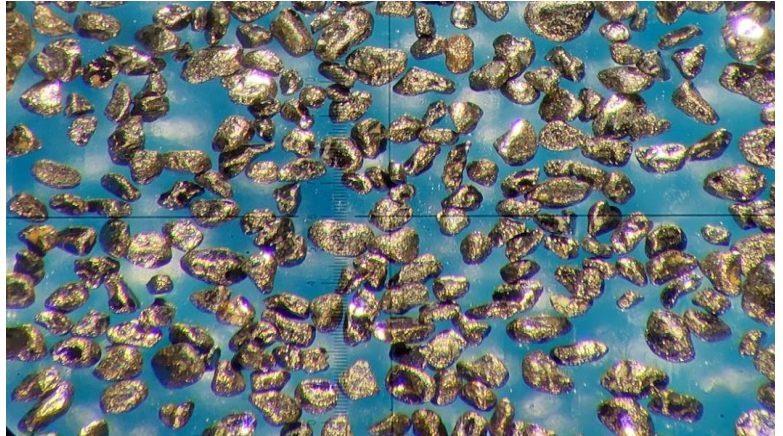


Figure 5: Primary ilmenite

### Primary Zircon



Figure 6: Primary Zircon

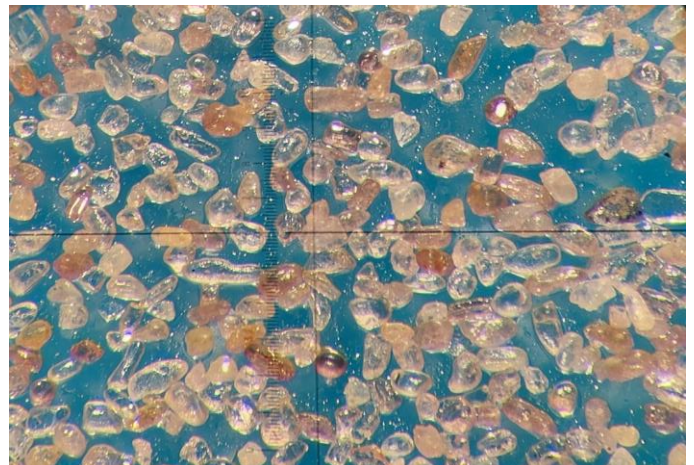
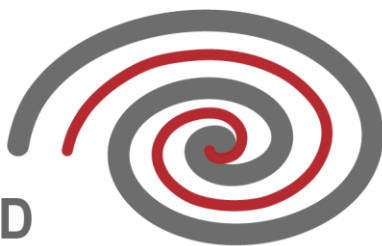


Figure 7: Primary Zircon





**Rutile**



Figure 8: Rutile

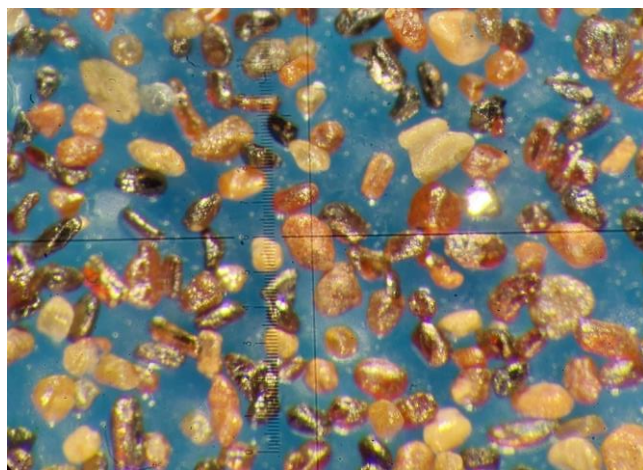


Figure 9: Rutile

**Monazite concentrate**



Figure 10: Monazite concentrate

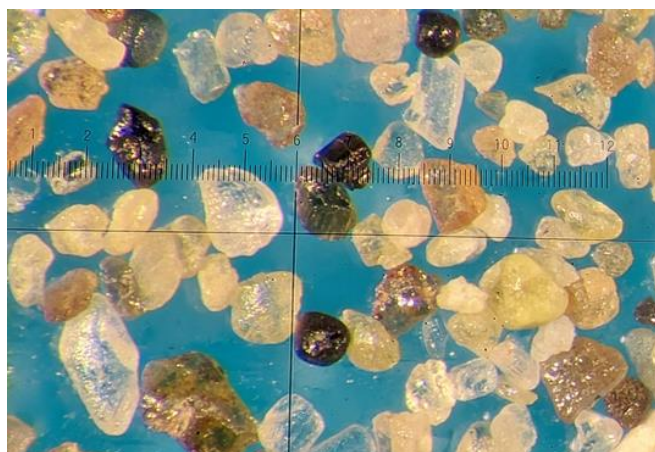


Figure 11: Monazite concentrate

## **Inhambane Mineral Sand Project (Mozambique)**

The Inhambane Heavy Mineral Sands Project in Mozambique consists of a mining concession application (which was lodged on 11 March 2020). The Inhambane Project has a JORC (2012) Inferred Mineral Resource of 90 million tonnes @ 3.0% Total Heavy Mineral. The Company has a 70% direct interest in the Inhambane Project (via its wholly owned subsidiary, Mozmin Resources (Mauritius) Limited with the remaining 30% owned by Galilei LDA (which will be free carried until a decision to mine is made by the Company). While the exploration licence preceding the mining concession application has expired, the grant of the Mining Concession supersedes this and is currently pending.

Access to the project has been impacted by COVID with all on ground exploration activities being paused. A site visit was conducted in May to review the project and to update the in-country partners on planned future exploration activities. Desktop studies and additional metallurgical characterisation work is planned to add value to the project until the next round of exploration activities.





The Mineral Resource at the Inhambane Heavy Mineral Sands Project is 90 Mt @ 3.0% THM with 2.7 Mt of contained THM. The Inferred Mineral Resource is highlighted in Table 1 and is ilmenite dominated with credits of zircon, rutile, and leucoxene.

Table 1: Inhambane Mineral Resource Summary

**MINERAL RESOURCE SUMMARY FOR INHAMBANE PROJECT AS AT DECEMBER 2021**

| Summary of Mineral Resources <sup>(1)</sup> |               |                  |            |          |          | HM Assemblage <sup>(2)</sup> |                      |            |                      |            |            |
|---|---------------|------------------|------------|----------|----------|------------------------------|----------------------|------------|----------------------|------------|------------|
| Mineral Resource Category                   | Material (Mt) | In Situ THM (Mt) | THM (%)    | SL (%)   | OS (%)   | Altered Ilmenite (%)         | Primary Ilmenite (%) | Rutile (%) | Leucoxene (HiTi) (%) | Zircon (%) | Others (%) |
| Inferred                                    | 90            | 2.7              | 3.0        | 5        | 0        | 29                           | 31                   | 2          | 4                    | 5          | 29         |
| <b>Grand Total<sup>(3)</sup></b>            | <b>90</b>     | <b>2.7</b>       | <b>3.0</b> | <b>5</b> | <b>0</b> | <b>29</b>                    | <b>31</b>            | <b>2</b>   | <b>4</b>             | <b>5</b>   | <b>29</b>  |

**Notes:**

- (1) Mineral resources reported at a cut-off-grade of 1.7% HM.
- (2) Mineral assemblage is reported as a percentage of in situ HM content.
- (3) HVY has a 70% interest in the Inhambane heavy mineral sands project



Figure 12: Inhambane project - Photo from recent field visit (May 2022)



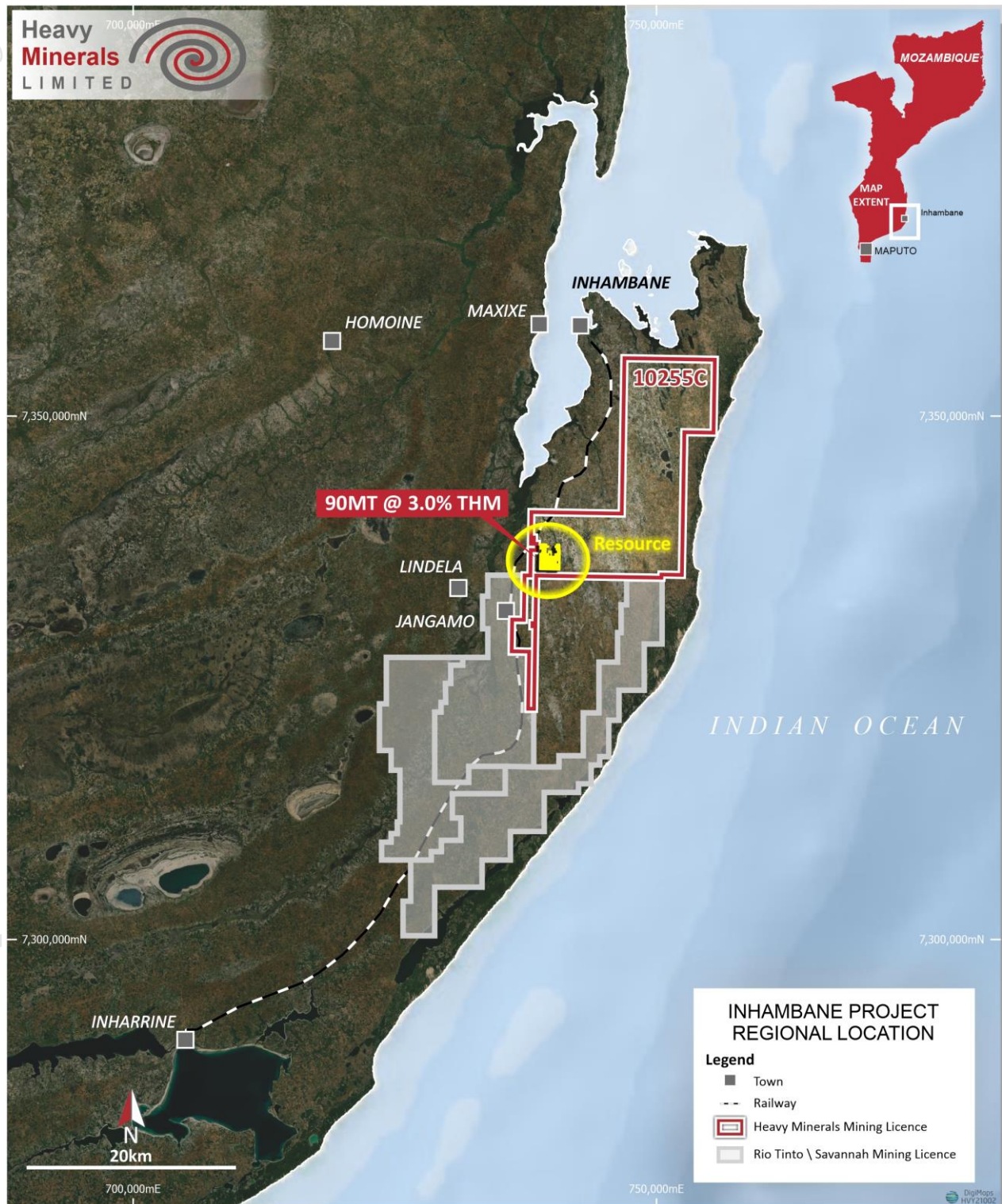
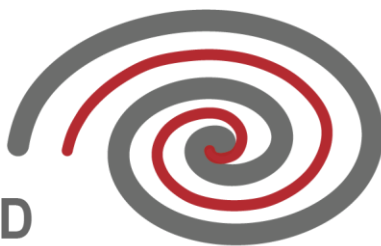


Figure 13: Mining license application – highlighting Inferred Mineral Resource outline



This announcement has been authorised by the Board of Directors of the Company.

**Ends**

**For further information, please contact:**

**Heavy Minerals Limited**

Nic Matich, Executive Director & CEO Ph: +61 (08) 9481 0389

E: [info@heavyminerals.com](mailto:info@heavyminerals.com)

**Media & Investor Enquiries**

Peter Taylor, NWR Communications Ph: +61 (0) 412 036 231

E: [Peter@nwrcommunications.com.au](mailto:Peter@nwrcommunications.com.au)

**About Heavy Minerals Limited**

Heavy Minerals Limited (ASX: HVY) is an Australian listed industrial mineral exploration company. The Company's projects are prospective for industrial minerals including but not limited to garnet, zircon, rutile, and ilmenite. The Company's initial focus is the Port Gregory Garnet Project which has a JORC Mineral Resource estimate of 135 Mt @ 4.0% (THM) or 4.9 Mt Contained Garnet. The Company's other project is the Inhambane Heavy Mineral Sands Project in Mozambique which has an ilmenite dominated JORC Inferred Mineral Resource of 90 Mt @ 3.0% THM

To learn more please visit: [www.heavyminerals.com](http://www.heavyminerals.com)

**Competent Persons Statement**

*The Mineral Resource estimates referred to in this announcement were first reported in accordance with ASX Listing Rule 5.7 in the Company's prospectus dated 27 July 2021 and released on the ASX market announcements platform on 10 September 2021 and subsequently revised in Heavy Minerals Limited's ASX release dated 6<sup>th</sup> December 2021. The JORC Mineral Resource report that supports this original Mineral Resource estimate is hosted on the company website at the following link:*

<https://www.heavyminerals.com/technical-reports/>

*The Company has released updated information that confirms an increase in the Mineral Resource estimate that was reported in the prospectus by way of changing the reporting THM cut-off grade and the expansion of tenure that increases the extent of the Mineral Resource to the south.*

*The information in this announcement that relates to Metallurgical Test Results was based on information compiled by Mr Arno Kruger, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Kruger is the Manager of the Geological and Metallurgical Services division for IHC Mining. IHC Mining was engaged by Heavy Minerals Limited to conduct the Metallurgical testwork prior to beginning the scoping study phase of the Inhambane project. Mr Arno Kruger 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*