



Quarterly Activities Report – September 2022

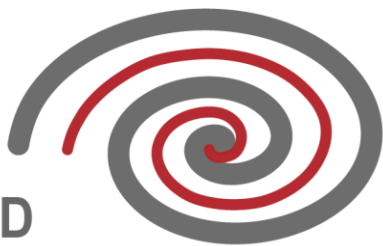
- ✧ **Port Gregory Scoping Study (PGSS) delivered in September (ASX 12 September 2022)**
 - NPV AU\$253M
 - 16 year Life of Mine (averaging 141kt garnet and 6kt ilmenite per annum)
 - IRR 33%
 - \$588M after tax free cash flow
 - \$1.59B LOM revenue
 - Payback in 4.2 years
 - Capex \$110M
- ✧ **Highly encouraging metallurgy results from Port Gregory Garnet Project**
 - Indicates Port Gregory mineral sands can be processed readily via standard processing
 - High grade garnet concentrate product containing 98.3% garnet
 - Potential primary ilmenite product containing 53.8% TiO₂
 - Head feed Garnet recovery is 87.0%. Further work is planned to increase the recovery rate
- ✧ **Metallurgical testwork includes:**
 - Evaluation of material processibility
 - Development of conceptual metallurgical process
 - Generation of potential products
 - Recommendations for progressing project to next stage of feasibility
- ✧ **Heavy Minerals to further determine bulk sampling testwork required to develop suitable samples for “offtake” partners**

Commentary from Non-Executive Chairman, Mr. Adam Schofield:

“The third quarter of 2022 was a significant quarter for the company with the release of the Positive Port Gregory Scoping Study which highlights the real potential for the Port Gregory project to become a world class producing asset. The company looks forward to its upcoming drilling programs commencing in the fourth quarter and future feasibility work as it heads towards project development.

We are very pleased with what we have achieved since listing just over 12 months ago and we will keep delivering exceptional outcomes for our shareholders.”





Heavy Minerals Limited (ASX: HVY) ("Heavy Minerals" or the "Company") is pleased to present the September 2022 Quarterly Activities Report.

Scoping Study Overview

The Port Gregory Garnet Project consists of six tenements totalling 227.28 km² located approximately 50 km North of Geraldton. The Port Gregory Project is the initial focus of the Company and is prospective for industrial minerals, in particular garnet. The Project has a JORC Mineral Resource estimate of 135 Mt @ 4.0% (THM) or 4.9 Mt Contained garnet.

The Port Gregory Mineral Resource estimate is reported at a cut-off grade of 2.0% THM and is presented below in Table 1. This table conforms to guidelines set out in the JORC Code (2012). At a cut-off grade of 2.0% THM the Port Gregory deposit comprises a total Mineral Resource of 135 Mt @ 4.0% THM, 10% SLIMES and 10% OS (Over Size) containing 5.4 Mt of THM with an assemblage of 90% garnet, 4% ilmenite, 1% rutile and 0.6% zircon. The JORC categories are specifically stated as:

- an Indicated Mineral Resource of 88 Mt @ 3.8% THM, 10% SLIMES and 9% OS containing 3.3 Mt of THM with an assemblage of 89% garnet, 4% ilmenite, 2% rutile and 0.6% zircon; and
- an Inferred Mineral Resource of 47 Mt @ 4.5% THM, 10% SLIMES and 11% OS containing 2.1 Mt of THM with an assemblage of 91% garnet, 4% ilmenite, 1% rutile and 0.5% zircon.

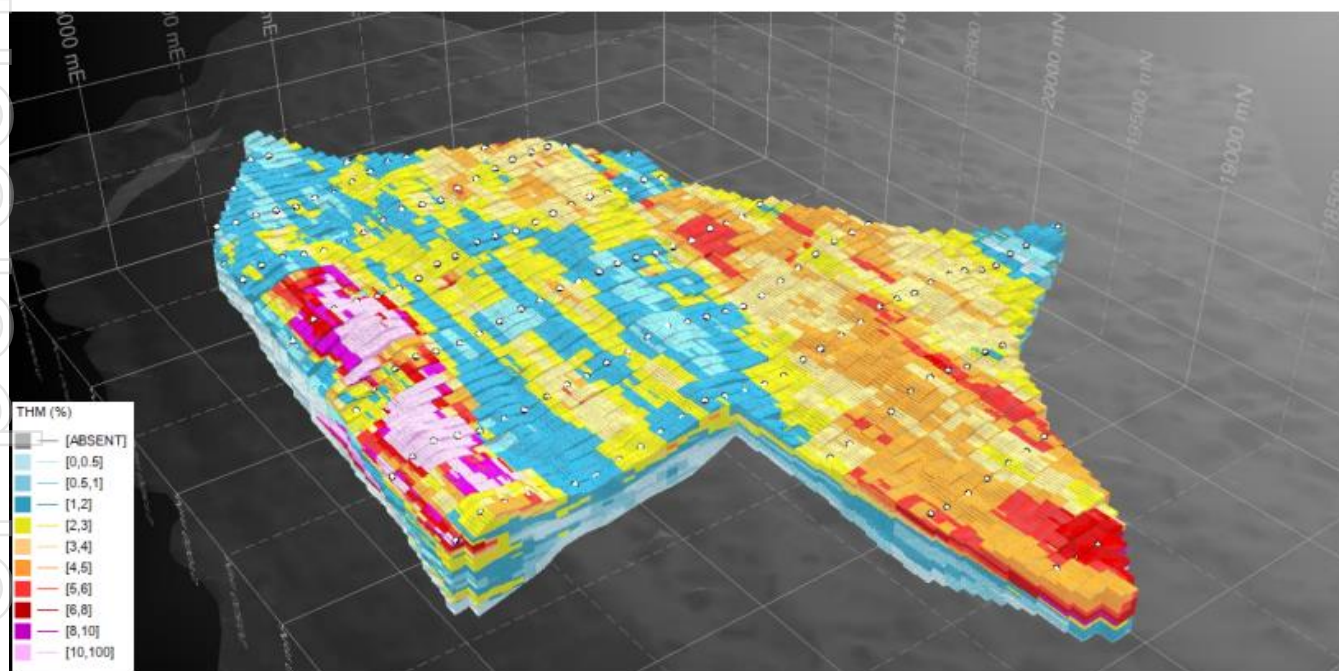


Figure 1. Port Gregory Block Model showing Total Heavy Minerals grade

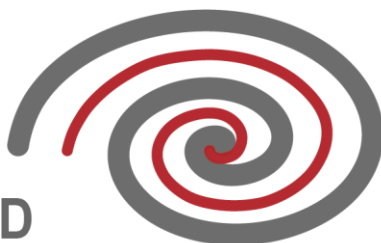


Table 1. Summary of Mineral Resource estimate

Summary of Mineral Resource estimate ⁽¹⁾							THM Assemblage ⁽²⁾					
Classification	In Situ		In Situ		SL (%)	OS (%)	Garnet (%)	Ilmenite (%)	Zircon (%)	Rutile (%)	Anatase (%)	Other (%)
	Material (Mt)	THM (Mt)	Garnet (Mt)	THM (%)								
Indicated	88	3.3	3.0	3.8	10	9	89	4	0.6	2	0.4	4
Inferred	47	2.1	1.9	4.5	10	11	91	4	0.5	1	0.2	3
Grand Total	135	5.4	4.9	4.0	10	10	90	4	0.6	1	0.3	4

Notes:

(1) Mineral Resource reported at a cut-off-grade of 2.0% THM.

(2) Mineral assemblage is reported as a percentage of in situ THM content.

The Scoping Study highlights that the project has a low capital requirement for production with substantial operating margins which has the potential to elevate Heavy to the ranks of producer in the coming years. The cash flow and economic analysis has been prepared on a 100% of project ownership.

Cost estimations are considered to be at a scoping study level of accuracy of $\pm 35\%$. There are two major mining areas which will be selectively mined with mining initially beginning on the eastern flank of the project where material will be mined for approximately 12 years. The western flank will be mined for the remaining 4 years of the life of mine which is currently estimated at 16 years. Given the resource is open to the north and south there is the potential for the mine life to be extended with successful drilling.

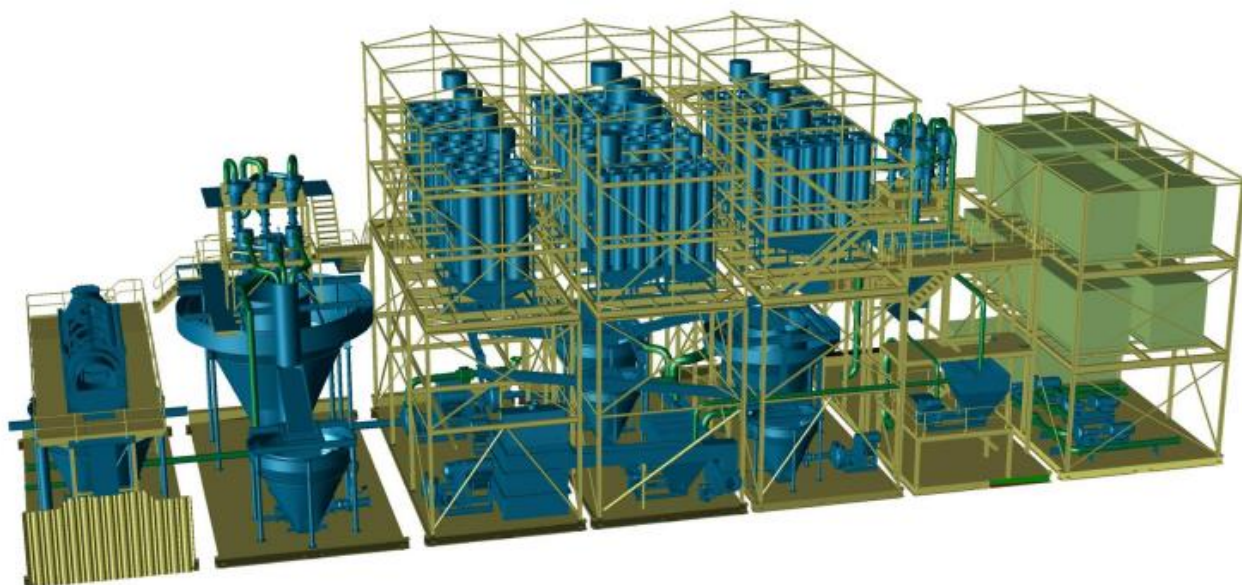
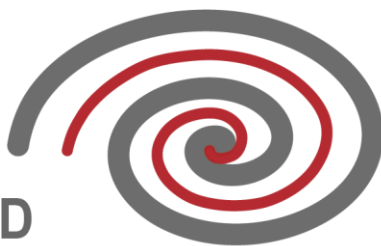


Figure 2. Conceptual mineral sands modular pilot plant (IHC Mining)



Production Projections and Options Investigated

The production profile of the Port Gregory Garnet Mine (Figure 3) demonstrates annual production of 71 kt of Blasting grade garnet, 70 kt of Water Jet grade garnet and 6 kt of Ilmenite product. 77% of production throughout the life of mine is sourced from Indicated Mineral Resources with the remainder from Inferred Mineral Resources. Nameplate capacity is conservatively modelled to be reached within 3 months of commissioning. It should be noted that the 80 mesh garnet could be placed into the blasting market as well as the waterjet market.

Key Study Outcomes and Assumptions

The Scoping Study demonstrated the technically simple and robust nature of the project and the significant potential economic value that would result from a future development at Port Gregory.

There remains significant upside to add to the Mineral Resource Estimate at Port Gregory as highlighted by the Mineral Resource Estimate which shows that it is open to both the North and South within HVY tenure. Should this occur the effect on the NPV of the project will rerate upwards accordingly.

A total of 8 production and processing scenarios were originally evaluated during the Scoping Study, with Scenario 1 originally the production base case. This Scenario was left out due to overproduction and bottlenecking of the processing flowsheet. The results of the Scenario modelling for Scenarios 2 to 7 are presented in Table 4. Scenario 6 was selected as the production and financial case for the Scoping Study as it does not exceed WCP / MSP capacity and allows for the reasonable placement of product in the market. A summary of the initial physical and financial evaluation of the project is shown below in Tables 2 and 3.

Table 2. Port Gregory Scoping Study Project Summary – Physicals and costs

Port Gregory Garnet Project Summary		
Mining Physicals		
Total Mining Inventory	Mt	57
Average Grade	%	5.1
Mining Rate	Mtpa	3.5
Mine Life	years	16
HMC Produced (Annual)	ktpa	158
Production		
Ilmenite Product	ktpa	6
Bulk Garnet – 20/40	ktpa	14
Bulk Garnet – 30/60	ktpa	56
Bulk Garnet 80 – WJ80	ktpa	69
Bulk Garnet 12 – WJ120	ktpa	1
Total Production	ktpa	146
Capital Expenditure		
Development Capital	AUD\$m	109.5
Cash Costs		
	AUD\$m	(638)
	\$/t Ore	(11.1)
	\$/t HMC	(249)
Royalties (State and Vendor)	\$/t HMC	(46.6)



Table 3. Port Gregory Scoping Study Project Summary – Financials and Key Assumptions

Port Gregory Garnet Project Summary		
Financials and Key Assumptions		
Bulk Garnet – 20/40 (Price)	\$/t	752
Bulk Garnet – 30/60 (Price)	\$/t	714
Bulk Garnet 80 – WJ80 (Price)	\$/t	714
Bulk Garnet 12 – WJ120 (Price)	\$/t	785
Ilmenite Product (Price)	\$/t	640
Garnet Revenue	AUD\$m	1,643
Ilmenite Revenue	AUD\$m	65
Total Revenue	AUD\$m	1,708

*Garnet pricing assumptions were sourced from a variety of open-source data and publications including Garnet distributors marketing pricing and Garnet producers market releases. Industry expert interviews were also conducted. Low to midpoint pricing was utilised to ensure robustness in the model. Ilmenite concentrate pricing was sourced from current ferroalloy.net pricing data for ilmenite product ex-WA.

Several alternative production and processing scenarios were investigated as part of the PGSS.

- ✂ Scenario 2: MUP de-rated and then unconstrained; limited to WCP HMC production rate;
- ✂ Scenario 3: MUP mining smoothed production rate to ~150 ktpa of product, small increase in CAPEX;
- ✂ Scenario 4: MUP mining smoothed production rate to ~240 ktpa of product, increase in CAPEX;
- ✂ Scenario 5: Scenario 2 plus screening and bagging plant for sized product, transport to Geraldton;
- ✂ Scenario 6: Scenario 3 plus screening and bagging plant for sized product, transport to Geraldton; and
- ✂ Scenario 7: Scenario 4 plus screening and bagging plant for sized product, transport to Geraldton.

Table 1: Options investigated as part of the Scoping Study (highlighted is the selected case for presentation)

Option	Capex (AUD\$m)	NPV (AUD\$m)	IRR (%)	Mine life (years)	TPA (kt HMC)
Scenario 2	89	161	27	17	145
Scenario 3	96	176	29	16	158
Scenario 4	140	269	40	9	257
Scenario 5	104	233	31	17	145
Scenario 6	110	253	33	16	158
Scenario 7	155	370	46	9	257

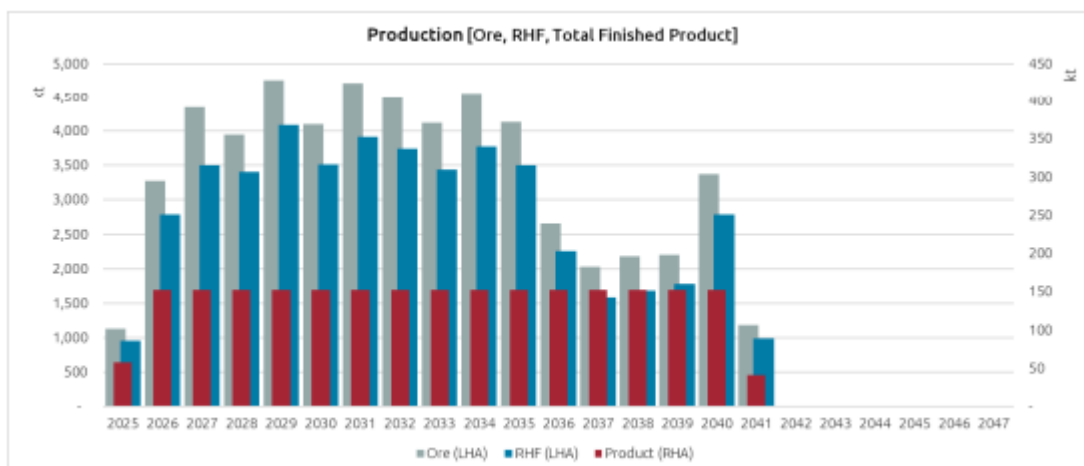
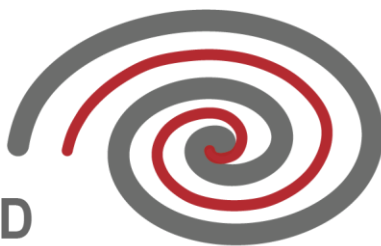


Figure 3: Production profile over the life of the project

Favourable Metallurgy Results for Port Gregory Garnet Mineralisation

Metallurgy results for the Port Gregory Garnet Project have been received from IHC Mining. The results highlight that the potential products produced could be marketed as 30/60 mesh and 80 mesh blasting grade products and 80 mesh and 120 mesh water jet cutting products. The ilmenite stream has the potential to also add revenue to the project as a valuable by-product

IHC Mining were quoted as saying: “Metallurgical scoping test work completed confirms the Port Gregory material processes readily using typical physical separation methodologies and standard equipment. The produced combined garnet product is high grade and is determined to contain 98.3% garnet. The magnetic concentrate was readily upgraded to a potential ilmenite product containing 53.8% TiO₂ and low levels of contaminants.”

Metallurgical Results Final Product Images

Images of the products produced from Port Gregory raw material samples are presented in Figure 4 and Figure 5.

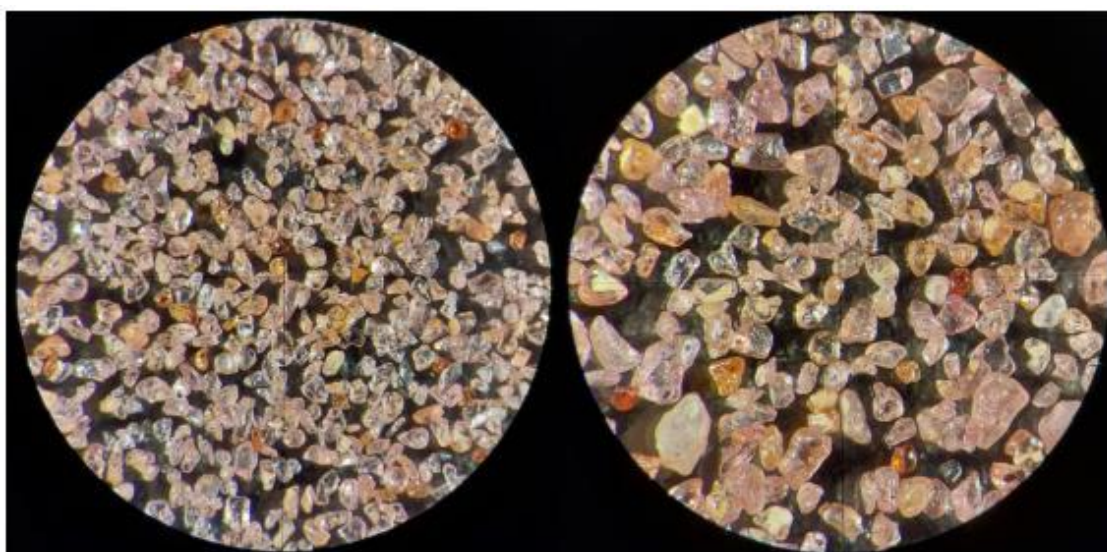
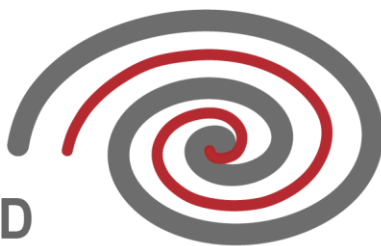


Figure 4: Fine garnet product (8.5mm field of view) Figure 5: Coarse garnet product (8.5mm field of view)



Corporate

Heavy Minerals released an updated Company Presentation on 15 September.

See Presentation at this link: <https://www.heavyminerals.com/news-and-presentations/>

In September (ASX 13 September 2022) Mr Maurice Matich resigned from the board of Heavy Minerals.

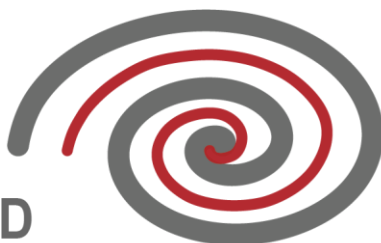
The Company is actively seeking a new CEO and anticipates the role being filled promptly.

Financial Commentary

The Company closed the quarter with \$1.936M in cash, details are provided in the Appendix 5B report.

Comparison of Forecast to Actual Use of Funds Statement from Prospectus¹ [as required under ASX LR 5.3.4]:

Expenditure Item	Forecast (2 years) \$'000	Actual (15 months) [inclusive of GST] \$'000	Variance \$'000	Explanation
Exploration expenditure: Port Gregory	2,430	1,414	(1,016)	Forecast based on 8 quarters whereas actual based on only 5 quarters
Exploration expenditure: Inhambane	358	99	(259)	Forecast based on 8 quarters whereas actual based on only 5 quarters
Directors' fees	763	807	44	Higher than forecast
Vendor payment	50	15	(35)	Lower than forecast
General administration fees & working capital	756	878	122	Higher than forecast
Future acquisition costs	596	33	(563)	Forecast based on 8 quarters whereas actual based on only 5 quarters
Estimated expenses of the offer	547	491	(56)	Lower than forecast.
Total	5,500	3,737	(1,763)	



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

Ends

For further information, please contact:

Heavy Minerals Limited

Adam Schofield, Non-Executive Chairman Ph: +61 (08) 9481 0389

E: info@heavyminerals.com

Media & Investor Enquiries

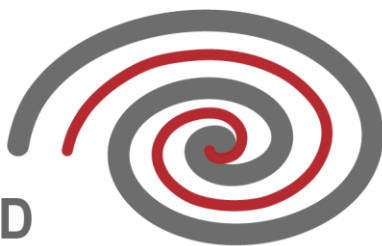
Peter Taylor Investor Relations Ph: +61 (0) 412 036 231

E: Peter@nwrcommunications.com.au

About Heavy Minerals Limited

Heavy Minerals Limited (ASX: HVY) is an Australian listed industrial mineral exploration company. Our projects are prospective for industrial minerals including but not limited to Garnet, Zircon, Rutile and Ilmenite. Our initial focus is the Port Gregory Garnet Project and the Inhambane Heavy Mineral Project in Mozambique which contains a JORC (2012) inferred Mineral Resource of 51 million tonnes @ 3.4% total heavy mineral.

To learn more please visit: www.heavyminerals.com



Competent Person Statements

The information in this announcement that relates to Exploration Results, Exploration Targets and Mineral Resource estimates is based on and fairly represents information and supporting documentation prepared by Mr. Greg Jones (FAusIMM) who is a Non-Executive Director for Heavy Minerals Limited. Mr. Jones is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being reported on 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". Mr. Jones has reviewed this announcement and consents to the inclusion in the announcement of the matters in the form and context with which it appears.

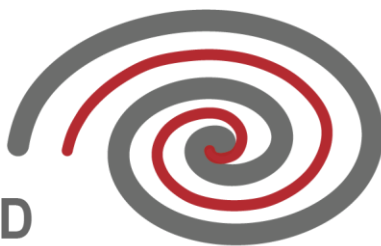
The information in this announcement that relates to the following: Production Targets, Processing, Infrastructure, Capital requirements and Operating Costs as announced 12 September 2022, Metallurgy as announced 15 August 2022, Mineral Resource Estimate (Port Gregory) as announced 2 May 2022, Exploration Results (Redhill) as announced 26 April 2022, Mineral Resource Estimate (Inhambane) as announced 6 December 2021 is available to view at www.heavyminerals.com.

The Company confirms that a) it is not aware of any new information or data that materially affects the information included in these announcements; b) all material assumptions included in these announcements continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this presentation have not been materially changed from the announcements.

Forward Looking Statement(s)

Statements relating to the estimated or expected future production, operating results, cash flows and costs and financial condition of Heavy's planned work at the Company's project and the expected results of such work are forward-looking statements. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by words such as the following: expects, plans, anticipates, forecasts, believes, intends, estimates, projects, assumes, potential and similar expressions. Forward-looking statements also include reference to events or conditions that will, would, may, could or should occur. Information concerning exploration results, metallurgical results and Mineral Resource Estimates may also be deemed to be forward-looking statements, as it constitutes a prediction of what might be found to be present when and if a project is developed.

These forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable at the time they are made, are inherently subject to a variety of risks and uncertainties which could cause actual events or results to differ materially from those reflected in the forward-looking statements, including, without limitation: uncertainties related to raising sufficient financing to fund the planned work in a timely manner and on acceptable terms; changes in planned work resulting from logistical, technical or other factors; the possibility that results of work will not fulfil projections/expectations and realise the perceived potential of the Company's projects; uncertainties involved in the interpretation of drilling results and other tests and the estimation of heavy mineral sand resources; risk of accidents, equipment breakdowns and labour disputes or other unanticipated difficulties or interruptions; the possibility of environmental issues at the Company's projects; the possibility of cost overruns or unanticipated expenses in work programs; the need to obtain permits and comply with environmental laws and regulations and other government requirements; fluctuations in the price of heavy mineral sands and other risks and uncertainties.



Schedule of Tenements

Project	Tenement / Concession Licence	Registered Holder	Status	Area (Ha)	Expiry Date	Interest Held @ 31-Mar-22	Interest Held @ 30-Jun-22
Port Gregory	E66/102	Mozmin Resources Pty Ltd	Granted	4,928.39	30-Oct-23	100%	100%
	E70/5130	Mozmin Resources Pty Ltd	Granted	7,125.91	18-Nov-23	100%	100%
	E70/5160	Mozmin Resources Pty Ltd	Granted	1,403.23	07-Jan-24	100%	100%
	E70/5161	Mozmin Resources Pty Ltd	Granted	3,810.91	08-May-24	100%	100%
	E70/5314	Mozmin Resources Pty Ltd	Granted	885.21	01-Jan-25	100%	100%
	E70/5934	Mozmin Resources Pty Ltd	Granted	4,552.00	13-Dec-26	100%	100%
Inhambane	10255C	+258 Limitada	Pending	21,388.35	N/A	70%	70%

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Heavy Minerals Limited

ABN

26 647 831 883

Quarter ended ("current quarter")

30 September 2022

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	-	-
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(137)	(137)
	(e) administration and corporate costs	(134)	(134)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	1	1
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (deposits paid)	(3)	(3)
1.9	Net cash from / (used in) operating activities	(273)	(273)

2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	(12)	(12)
	(d) exploration & evaluation	(188)	(188)
	(e) investments	-	-
	(f) other non-current assets	-	-

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	(1)	(1)
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(201)	(201)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(1)	(1)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	(1)	(1)
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	(2)	(2)

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,412	2,412
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(273)	(273)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(201)	(201)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(2)	(2)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	1,936	1,936

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	436	912
5.2	Call deposits	1,500	1,500
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,936	2,412

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	137
6.2	Aggregate amount of payments to related parties and their associates included in item 2	16
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

Includes Directors' salaries and fees (inclusive of GST).

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
N/A		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(273)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(188)
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(461)
8.4 Cash and cash equivalents at quarter end (item 4.6)	1,936
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	1,936
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	4.2
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: N/A	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: N/A	

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: N/A

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 October 2022

Authorised by: By the Board of Heavy Minerals Limited
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.