

**ASX ANNOUNCEMENT**

Heavy Rare Earths Limited (ASX:HRE)  
31 October 2022

**SEPTEMBER 2022 QUARTERLY ACTIVITIES REPORT  
AND APPENDIX 5B**

- Commenced trading on ASX late-August 2022
- Commenced re-assay of samples from maiden drill program at Cowalinya with results reported post the end of the quarter
- Commenced metallurgical program during the quarter building on previous encouraging acid leach sighter test work
- Commenced resource exploration and expansion drilling program at Cowalinya during the quarter
- Well funded to progress with company objectives and exploration activities

Heavy Rare Earths Limited (“HRE” or “the Company”) is pleased to announce its September 2022 quarterly activities report for the first quarter since listing on the Australian Securities Exchange (ASX).

HRE’s key exploration project is Cowalinya in the Norseman-Esperance region of Western Australia. This is a clay-hosted rare earth project with a JORC Inferred Resource of 28Mt @ 625 ppm TREO<sup>1</sup> and a desirable rare earth composition where 25% are the valuable magnet rare earths and 23% the strategic heavy rare earths.

**ASX Listing**

On 22 August 2022, the Company’s securities were admitted to the official list on the ASX and commenced trading on 24 August 2022. The Company raised \$6 million and issued 30 million shares at an offer price of \$0.20 per share to institutional and retail investors.

**Cowalinya Rare Earth Project, Western Australia*****Analytical (Re-Assay) Program***

During the quarter the Company announced that 729 two-metre composites from 102 of the 109 air core holes drilled at Cowalinya in 2021 had been delivered to LabWest Minerals Analysis (“LabWest”) in Perth for re-assay by Lithium Borate Fusion/ICP-MS.

The results of the re-assay of these two-metre composites were released subsequent to the end of the quarter.

<sup>1</sup> Table 5.1 of Appendix 7 (Cowalinya Resource Report) of the Independent Geologist’s Report contained in HRE’s IPO Prospectus.

## Metallurgical Program

In 2021 HRE completed leach tests on 40 mineralised saprolite drill samples from three holes (AC16, 28 and 41) at Cowalinya which involved the use of hydrochloric acid (HCl) at different concentrations (2-20% w/w) and at a range of temperatures (20-50°C). The resonance time for each test was 24 hours. This work demonstrated that for Cowalinya material substantial proportions of rare earths could be brought into solution, averaging approximately 91% of total rare earths (or 88% of the magnet rare earths praseodymium, neodymium, terbium and dysprosium) at 30°C and 5% w/w HCl.<sup>2</sup>

To build on these encouraging results, HRE has engaged Perth-based Strategic Metallurgy ("Strategic") to both validate these sighter tests and design and undertake a comprehensive metallurgical program, initially involving particle size analysis as the basis for gangue rejection. This will be followed by a series of batch tests to examine the influence on leaching performance of parameters such as resonance time, temperature, acid type and concentration, and slurry density. Observation as to reagent consumption, metal recovery and solution composition, including impurity deportment, will be considered to establish a suitable leach regime.

HRE has delivered 12 five-metre composites and 1 four-metre composite to Strategic from 10 drill holes across the Cowalinya deposit (Figure 1) as the basis for first-pass metallurgical work. Samples comprise mineralised upper or lower saprolite horizon for which head assays by Lithium Borate Fusion/ICP-MS are listed in Table 1.

Key outcomes of the metallurgical program will be communicated to the market as material results come to hand.

HOLE NO.	FROM (m)	TO (m)	INTERVAL (m)	LITHOLOGY	TOTAL RARE EARTHS (ppm TREO) <sup>3</sup>	MAGNET RARE EARTHS (% OF TREO) <sup>4</sup>	HEAVY RARE EARTHS (% OF TREO) <sup>5</sup>
AC4	24	29	5	Lower Saprolite	1045	29%	18%
AC16	12	17	5	Upper Saprolite	750	25%	19%
	24	29	5	Lower Saprolite	1383	30%	29%
AC28	14	19	5	Upper Saprolite	1280	32%	31%
	32	37	5	Lower Saprolite	927	29%	25%
AC36	20	25	5	Lower Saprolite	754	25%	21%
AC41	11	16	5	Upper Saprolite	938	32%	22%
	22	27	5	Lower Saprolite	752	26%	27%
AC47	17	22	5	Lower Saprolite	453	22%	14%
AC57	14	18	4	Upper Saprolite	744	18%	1%
AC69	13	18	5	Upper Saprolite	460	19%	4%
AC89	28	33	5	Lower Saprolite	1376	29%	22%
AC104	24	29	5	Lower Saprolite	1326	26%	29%

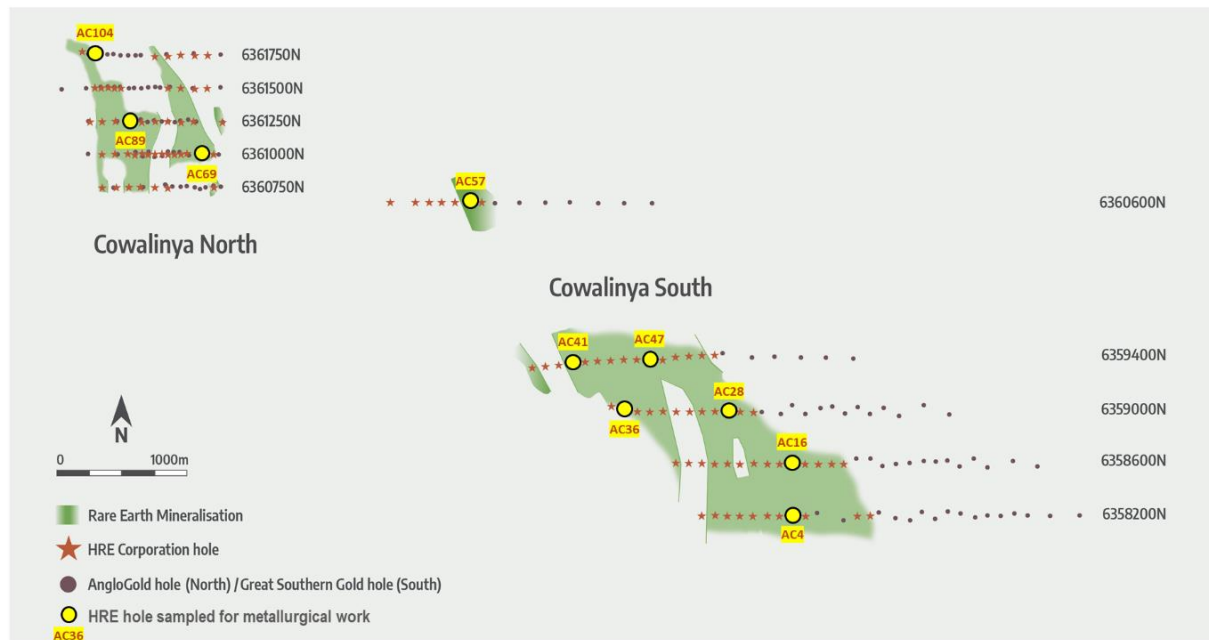
**Table 1: Head assays for metallurgical program composites**

<sup>2</sup> Page 99 of the Independent Geologist's Report contained in HRE's IPO Prospectus.

<sup>3</sup> Total Rare Earths comprise La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3.

<sup>4</sup> Magnet Rare Earths comprise Pr6O11 + Nd2O3 + Tb4O7 + Dy2O3.

<sup>5</sup> Heavy Rare Earths comprise Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3.



**Figure 1: Cowalinya drill holes sampled for metallurgical work**

### **Resource Exploration and Expansion Drilling Program**

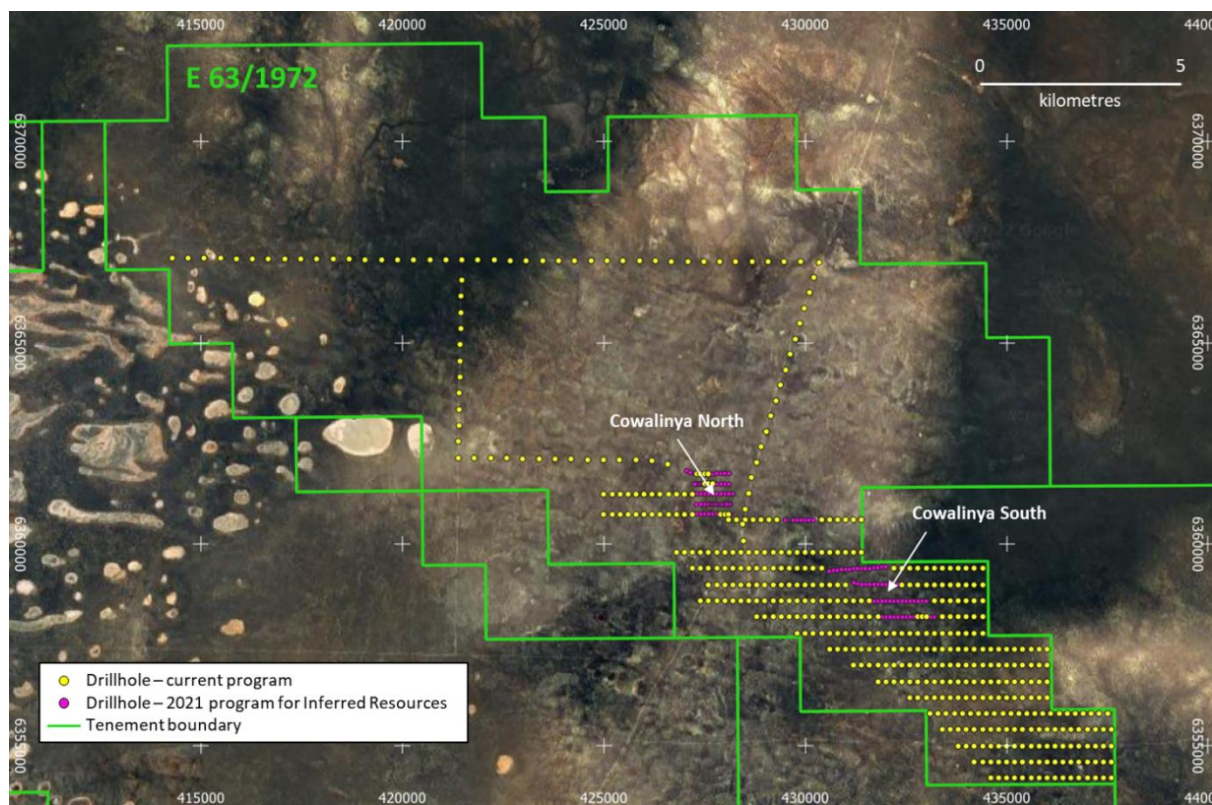
On 13 September 2022, the Company announced that it had commenced its resource exploration and expansion drilling program at Cowalinya. The main part of the program comprises up to 10,000 metres of air core drilling in 330 holes targeting extensions to known rare earth mineralization, particularly to the immediate west and south-east of the Cowalinya South resource (Figure 2) which contains 75% of the project's resource inventory. Holes are being drilled 200 metres apart on 400 metre-spaced lines. Subject to delineating the necessary continuity to rare earth mineralization in saprolite, this drilling density is designed to deliver Inferred Resources on an additional 11.5% of the area of the tenement.

A second phase of the program involves drilling of up to 4,500 metres along existing access tracks to explore the central and western parts of the tenement for rare earth mineralization (Figure 2). These holes will be drilled on 400 metre centres immediately after cultural heritage surveys are planned to be completed along these drill traverses in the latter part of October.

Drilling is being undertaken using a single air core rig by Perth-based Terrain Drilling (Figure 3). The program is expected to be completed during December 2022. Drilling samples from the program are being dispatched on a weekly basis from Esperance to LabWest for sample preparation and assay by Lithium Borate Fusion/ICP-MS. LabWest has indicated that assay turnaround from sample receipt is approximately 6 weeks.

As at the end of the quarter, the Company has completed 2,152 metres of drilling in 85 air core holes in the south east part of the Cowalinya project area.





**Figure 2: Cowalinya planned drilling program. Background Google Earth image.**



**Figure 3: Drilling of hole AC110 by Terrain Drilling at Cowalinya, immediately south of the Cowalinya South resource. Collar location is 432600E 6358000N.**

## Duke Rare Earth Project, Northern Territory

In late-2021 and early-2022, the Company applied for a 255 km<sup>2</sup> land package 50 kilometres north-west of Tennant Creek in the Northern Territory comprising two exploration tenements EL 33101 and EL 33194. The first of the tenements was granted to HRE by the Northern Territory Government on 2 September 2022. The second remains under application and, accordingly, exploration plans for the Duke project are early stage.

Previous exploration in the area of the tenement package has been undertaken for Tennant Creek-style ironstone hosted Cu-Au-Bi and Olympic Dam-type Cu-U-Au deposits. This is the first time the area will be subject to systematic exploration for rare earths. The exploration model being adopted by HRE is a Browns Range-style breccia-hosted hydrothermal mineralized system potentially related to a regional magmatic event. Exploration will target the unconformity between the Tomkinson (Tomkinson Creek Group) and the Warramunga (Ooradidgee Group) provinces which is present in the application area.

Subject to successful application of the exploration model, rare earths are expected to be hosted in xenotime, a yttrium phosphate mineral that is enriched in strategically important heavy rare earths such as terbium and dysprosium.

### Additional Information

The table below compares the Company's actual expenditure against the 2-year Use of Funds table contained in the Company's IPO Prospectus dated 5 July 2022:

Use of funds as contained in the Prospectus	2-Year Use of Funds as contained in the Prospectus	Actual amount spent to date
Drilling – exploration & resource upgrade	\$2,340,000	\$272,000
Assaying	\$440,000	-
Metallurgical process development	\$325,000	-
Project Studies	\$400,000	-
Duke project exploration (NT)	\$100,000	-
Payment for Cowalinya vendors – exercise of option	\$300,000	\$300,000
Costs of the Offers	\$640,000	\$649,000
Administration & working capital	\$1,455,000	\$329,000
<b>Total</b>	<b>\$6,000,000</b>	<b>\$1,550,000</b>

### Appendix 5B related party payments

Amounts included in section 6.1 of the Appendix 5B relate to Director's fees paid for the September 2022 quarter. Amounts included in section 6.2 relate to geological consulting services provided by Mr Richard Brescianini prior to the Company's listing on the ASX.



## Interests in Mining Tenements

Below is a summary of the mining tenements held by the Company at the end of the quarter:

Mining Tenement	Location	Beneficial Percentage held	Interest acquired/farm-in or disposed/farm-out during the quarter
E 63/1972 - Cowalinya Project	WA, Australia	100%	100%
EL 33101 – Duke Project	NT, Australia	100%	100%
EL 33194 – Duke Project	NT, Australia	100%	0% (application)

-- Ends --

This announcement has been approved by the Board of HRE.

### **For more information, please contact:**

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### **About Heavy Rare Earths Limited**

Heavy Rare Earths Limited (ASX:HRE) is an Australian rare earth exploration and development company. HRE's key exploration project is Cowalinya, near Norseman in Western Australia. This is a clay-hosted rare earth project with a JORC Inferred Resource of 28Mt @ 625 ppm TREO and a desirable rare earth composition where 25% are the valuable magnet rare earths and 23% the strategic heavy rare earths.

### **Competent Persons Statement**

The Exploration Results contained in this announcement were compiled by Mr. Richard Brescianini. Mr. Brescianini is a member of the Australian Institute of Geoscientists (AIG). He is a director and full-time employee of Heavy Rare Earths Limited. Mr. Brescianini has more than 35 years' experience in mineral exploration and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 JORC Code.

The Mineral Resources contained in this announcement have been extracted from the Independent Geologist's Report included in the Company's Initial Public Offering (IPO) Prospectus, a copy of which was lodged with the Australian Securities and Investments Commission (ASIC) on 5 July 2022. The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources as contained in the Company's IPO Prospectus. All material assumptions and technical parameters underpinning the Mineral Resources in the Company's IPO Prospectus continue to apply and have not materially changed.

**Heavy Rare Earths Limited (ASX:HRE)**

ACN 648 991 039

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## Appendix 5B

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

Name of entity

HEAVY RARE EARTHS LIMITED

ABN

35 648 991 039

Quarter ended ("current quarter")

30 September 2022

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1.</b>	<b>Cash flows from operating activities</b>		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	-	-
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(27)	(27)
	(e) administration and corporate costs	(302)	(302)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	3	3
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
<b>1.9</b>	<b>Net cash from / (used in) operating activities</b>	<b>(326)</b>	<b>(326)</b>
<b>2.</b>	<b>Cash flows from investing activities</b>		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	(300)	(300)
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	(272)	(272)
	(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	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	<b>Net cash from / (used in) investing activities</b>	<b>(572)</b>	<b>(572)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	6,000	6,000
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	(649)	(649)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	<b>Net cash from / (used in) financing activities</b>	<b>5,351</b>	<b>5,351</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	141	141
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(326)	(326)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(572)	(572)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	5,351	5,351



## 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	<b>Cash and cash equivalents at end of period</b>	<b>4,594</b>	<b>4,594</b>

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	4,594	141
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>4,594</b>	<b>141</b>

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	27
6.2	Aggregate amount of payments to related parties and their associates included in item 2	89
<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>		

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

7.	<b>Financing facilities</b> <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>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b>		-
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.	<b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1	Net cash from / (used in) operating activities (item 1.9)	(326)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(572)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(898)
8.4	Cash and cash equivalents at quarter end (item 4.6)	4,594
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	4,594
8.7	<b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	5.11
	<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	
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	
	<i>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.</i>	

**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: The Board of Directors

**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.