

31 October 2022

QUARTERLY REPORT FOR THE PERIOD ENDING 30 SEPTEMBER 2022

HIGHLIGHTS

- **Mining Lease Application (MLA) process commenced at Makuutu Rare Earth Project for RL 1693**
 - **Environmental and Social Impact Assessment (ESIA) public hearings were held in Uganda with over 3,800 registered attendees demonstrating strong Governmental and local stakeholder support**
 - **Ugandan Minister for Energy and Mineral Development affirms support for Makuutu**
 - **Ionic Technologies, received a UK Government Grant of £1.72 million (A\$2.9 million) from the Advanced Propulsion Centre (APC) to accelerate development of a demonstration scale magnet recycling facility in Belfast, UK**
 - **IonicRE accepted to the United Nations Global Compact – the world’s largest sustainability initiative**
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Ionic Rare Earths Limited (ASX:IXR) (“IonicRE” or “the Company”), is pleased to provide its Quarterly Report for the period ending **30 September 2022**. This report includes development activities at its 51% owned Makuutu Rare Earths Project (“Makuutu” or “the Project”) in Uganda and the magnet recycling subsidiary in the UK, Ionic Technologies (“IonicTech”).

Makuutu Rare Earths Project

Makuutu is operated by Rwenzori Rare Metals Limited (“RRM”), a Ugandan company which is 51% owned by IonicRE, with the Company moving to 60% ownership on the completion of a Feasibility Study supporting the Mining Lease Application (MLA) expected to be submitted to the Ugandan government shortly.

Makuutu is one of the world’s largest ionic adsorption clay (IAC) hosted Rare Earth Element (REE) deposits comprises of six licenses (Table 1) covering approximately 300 km², located 120 km east of Kampala in Uganda. The deposit stretches 37km, situated near high quality infrastructure.

During the quarter, IonicRE announced the initiation of the MLA process in Uganda. The MLA will focus on the Makuutu Central Zone (MCZ), located within Retention Licence (RL) 1693, and will provide the basis for initial mining and processing at Makuutu.

RL 1693 contains an Indicated Resource of 259 million tonnes at 740 ppm TREO-CeO₂ (Table 2 and ASX: 3 May 2002). Advice received indicates that with an initial focus on this 44km² licence the Company will be able to accelerate development of Makuutu, with other tenements progressing towards MLA at the appropriate time.

The process of developing the Resettlement Action Plan (RAP) continued during the quarter, with an initial submission being prepared to support the MLA, and ongoing work to be progressed with additional studies to continue in parallel to the MLA assessment.

Pending the award of the MLA, expected in Q1 2023, the Company will be working with Ugandan authorities on a Mineral Development Agreement (MDA) which will establish the fiscal terms for the mine development in Uganda.

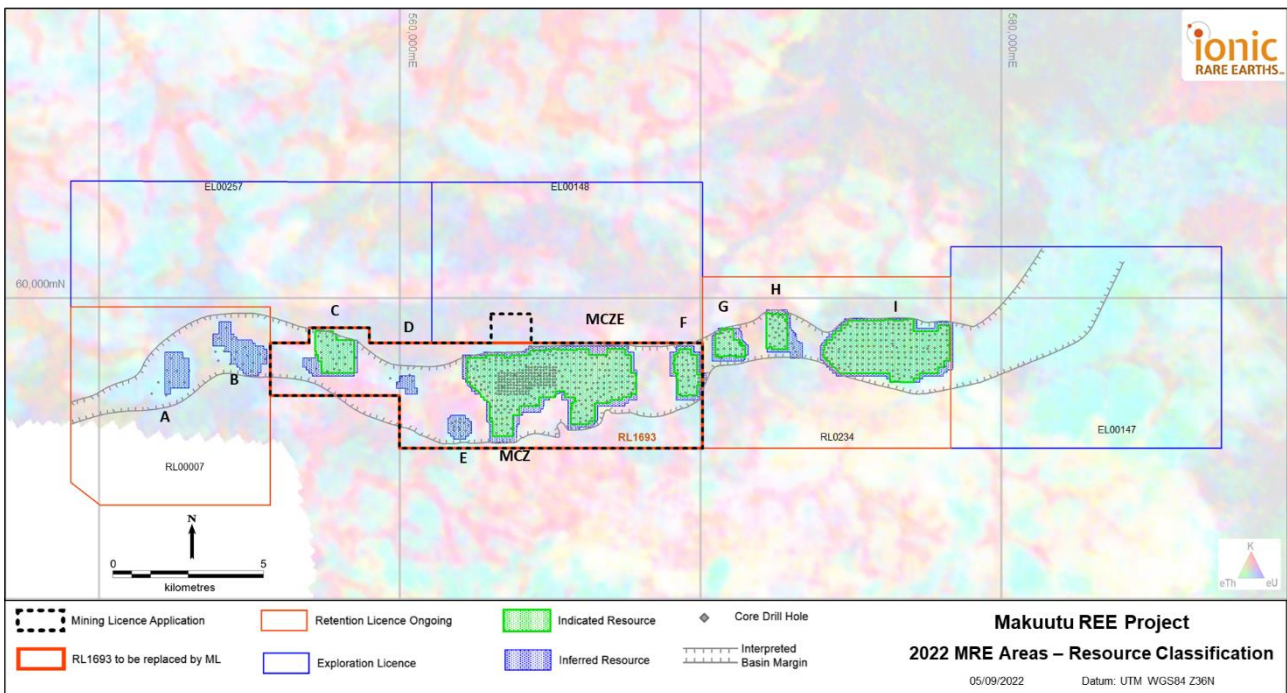


Figure 1: Makuutu Project resource map showing resources located within MCZ (RL 1693 shown with bold red border) and the MLA area shown with a black dashed border.

The next tenement due for renewal is RL 00007, otherwise known as the Makuutu Western Zone (MWZ), which is able to be renewed for a two-year period from 27 November 2022. The renewal will be initiated with the Phase 5 drill program to include additional resource drilling in these areas to convert the Inferred Resource to an Indicated Resource classification. Post renewal, RL 00007 will also be the next tenement expected to progress to a MLA, expected by 27 November 2024.

Table 1: Makutu Rare Earths Project Tenement Details

Licence ID	Licence Type	Application Date	Granted Date	Expiry / Renewal Date	Area (km ²)
RL00007	Retention	27/03/2019	27/11/2019	27/11/2022**	43.38
RL 1693	Retention	11/07/2017	02/11/2017	01/11/2022*	43.78
RL00234	Retention	26/06/2021	06/07/2021	05/07/2024	47.03
EL00257	Exploration	15/07/2021	21/10/2021	20/10/2024	55.51
EL00147	Exploration	19/10/2020	28/12/2020	27/12/2023	60.30
EL00148	Exploration	21/10/2020	28/12/2020	27/12/2023	48.15

* MLA process commenced 1 September 2022.

** Able to be renewed for a further two-year period

Environmental and Social Impact Assessment (ESIA)

The detailed ESIA report was submitted to NEMA (National Environmental Management Authority) in December 2021. After a review by government stakeholders and respective authority, a public disclosure process was initiated in May 2022 with stakeholders providing feedback on the ESIA to NEMA.

Two public hearings were completed in early August 2022 in Bugweri and Mayuge Districts with significant turnout from NEMA, Ministry of Energy and Mineral Development (MEMD), government representatives, district leadership, local communities and stakeholders providing strong support for the Project. The total registered attendees at the hearings over the two days amounted to 3,800 persons which indicates a keen interest in the Project by the Ugandan community. An additional 65,000 live twitter feeds were recorded across the two hearings reflecting the significant interest in Uganda on the development of Makutu.



Figure 2: RRM CEO Mr Warren Tregurtha addressing the public hearings (left), with representations also provided from Mr Barirega Akankwasah, Executive Director, NEMA (right).



Figure 3: Stakeholder engagement was very strong, with strong support from Hon. Peter Lokeris, Minister of State for Mineral Development (left) and local residents turning up in significant numbers (right).

Subsequent to the end of the quarter, the approval of the ESIA was received on 26 October 2022, with the Approval Certificate awarded at a ceremony organised by the Ugandan Government and NEMA, in recognition of the flagship nature of the Project and its significance to the country's development outlook as enshrined in Uganda's National Development Plan NDP-III (ASX: 27 October 2022).

Geological Mapping of EL 00147 and EL00257

During the quarter, RRM completed geological mapping of two of its exploration licenses, EL00147 in Kapyanga sub-county of the Bugiri district, and EL00257 in both Bulamagi and Nakigo sub-counties of the Iganga district. The overall objective of the activity was to establish areas which have potential to contain clays with ionic adsorbed REE. Once identified, such areas could be the focus of future exploration programs.



Figure 4: Field mapping activity completed at exploration targets identified on EL00147 and EL00257.

During the field exploration activity, community engagement and sensitisation was conducted to ensure correct information is disseminated across the affected communities with regards to the overall activity planned and potential timeframes for the development of Makuutu.

Environmental Impact Statements (EIS) for both EL00147 and EL00257 have been finalised and submitted to NEMA and the DGSM for approval to commence the Phase 5 drilling programs. The EIS documents are expected to be approved in Q4 2022.

Key Stakeholder Engagement

Throughout the quarter, RRM has hosted key delegations from the Ugandan Parliament and Ministry in an ongoing show of support for Makuutu.

The Minister for Energy and Mineral Development, Rt. Hon. Ruth Nankabirwa Ssentamu with her delegation invited stakeholders including Project Area Members of Parliament, the District and sub-county leadership of Bugweri, Mayuge, Bugiri and Iganga Districts, media fraternity, Non-Government Organisations, the Busoga Kingdom and Chiefdoms and communities. The engagements were initiated with the objective of demonstrating the position of the MEMD in support of the Project.

The support provided by MEMD through the visit affirmed the legal and procedural compliance of RRM in all its Project activities and emphasised the importance of the Makuutu Rare Earth Project, with a focus on the social benefits to the Busoga region and the government. In conclusion, Hon. Nankabirwa confirmed that the Project will be implemented following national laws, regulations and best practices to progressively develop the Busoga region through employment opportunities, enhancement of services (roads, power, health and education facilities), thus increasing household incomes of the communities, and promoting socio-economic development.

Ionic Technologies International Limited

Ionic Technologies International Limited (“IonicTech”) is the rebranded, 100% owned subsidiary (formerly Seren Technologies Ltd) based in Belfast UK, which the Company acquired earlier in 2022. IonicTech has developed heavy rare earth separation and refining technology and applied this to recycling rare earths within permanent magnets (NdFeB), via hydrometallurgical processing techniques; leaching to extract REE content, separation of individual magnet REEs into high purity streams, and refining to 99.9% purity grade REOs – Nd₂O₃, Pr₆O₁₁, Dy₂O₃ and Tb₄O₇.

The new brand consolidates upon IonicRE’s strategy to become a fully integrated circular economy participant for magnet and heavy rare earths. Increasing supply of these critical raw materials by providing an alternative option to the current Chinese dominated magnet rare earth recycling landscape with localised, modular permanent magnet recycling developments, represents a strong opportunity for IonicRE to develop an early mover advantage on the back of their advance technology.

IonicTech is now accelerating the scale up of the technology, completing a new pilot plant at its new facility at the Titanic Quarter in Belfast, UK. Early in September (ASX: 8 September 2022), the Company was awarded a grant of £1.72 million (approximately A\$2.9 million) from the UK

Government's Innovate UK Automotive Transformation Fund Scale up Readiness Validation (SuRV) program, to develop a demonstration scale magnet recycling plant, a significant step towards securing the UK supply of critical rare earth metals for EV manufacture.

IonicRE sees the commercialisation of the technology offering from IonicTech into modular magnet recycling initiatives and partnerships, with global governments looking to develop domestic magnet REO supply chains to empower localised manufacturing, including EV and renewable energy transitions. Such partnerships will also provide more secure and traceable supply chains for critical raw material.

IonicRE joins United Nations Global Compact

During the quarter, the Company joined the United Nations Global Compact, the world's largest corporate sustainability initiative. IonicRE is committed to align corporate strategy and operations with the Ten Principles of the Global Compact, consisting of Sustainable Development Goals (SDGs) and fall under the pillars of human rights, labour standards, environmental protection and anti-corruption.

In a broader commitment to ESG reporting, IonicRE will incorporate the SDGs with other global standards to provide science-based reports on sustainable impact going forward.

IonicRE is driven by the realisation that all companies play a crucial part in enforcing human rights, using innovation to solve complex challenges whilst building a more sustainable world.

In a move to consolidate Environmental, Social and Governance transparency, and to act on the United Nations "Agenda 2030", IonicRE will now begin to report on progress of the United Nations Sustainable Development Goals (SDGs).

The Communication of Progress (CoP) is a voluntary action plan used by UN Global Compact participants to address an organisations impact on the prosperity of all people and our planet. This is one of the many programs of reporting and assurance that IonicRE is undertaking with respect to climate and environmental responsibility, social license to operate, business innovation and ethical governance practices.

IonicRE Refinery Scoping Study

During the quarter, IonicRE continued to progress studies on a standalone rare earth refinery.

Metallurgical test work and engineering progresses, along with process flowsheet design with a revised target of late Q4 for a completed Scoping Study on the heavy rare earth refinery.

Next Steps

Over Q4 2022, the Company aims to complete activities to finalise the MLA submission at Makuutu.

Optimisation of the Makuutu Project will continue with several opportunities identified, along with planning activities for the construction of a demonstration plant. The demonstration, or Proof of Concept (POC), plant at Makuutu will be an important de-risking stage of the Project prior to final investment decision (FID). The POC plant is expected to be operational in H1 2023.

Within IonicTech, the development of the new facility in Belfast continues to progress with wet labs and analytical capability expected to be operational in Q4 2022, pilot plant validation progressing, and demonstration plant equipment procurement ramping up.

Mineral Concessions Held

IonicRE is pleased to provide the following information, pursuant to ASX Listing Rule 5.3.3, for the quarter ended 30 September 2022, and to the date of this announcement.

1. No mineral exploration tenements were acquired or disposed of during the period;
2. Mineral exploration tenements held are set out below:

Common concession name	Location	Nature of Interest	Interest at beginning of Quarter	Interest at end of Quarter
RL 1693	Uganda	Owned	51%	51%*
RL00007	Uganda	Owned	51%	51%*
RL00234	Uganda	Owned	51%	51%*
EL00147	Uganda	Owned	51%	51%*
EL00148	Uganda	Owned	51%	51%*
EL00257	Uganda	Owned	51%	51%*

* IonicRE may earn up to a 60% interest

3. No farm-in or farm-out agreements were entered into during the period.

Corporate

During the quarter the Company commenced discussions with other shareholders of Rwenzori Rare Metals Limited, the holder of the Makuutu mineral concessions, for IonicRE to increase its stake in that Company.

During the quarter, the company expended approximately \$2,442,000 on the exploration and study activities reported above.

Payments to related parties of the entity and their associates totaled \$239,000 and consisted of \$32,500 Director fees, \$7,800 in superannuation related to Director fees and \$198,700 Executive Service fees.

The Company will be having its Annual General Meeting (AGM) in the December quarter, to be held at The Park Business Centre, 45 Ventnor Avenue, West Perth WA 6005, on Friday 11 November 2022 commencing at 10:00am (WST).

End Notes

The information contained in this announcement related to the Company's past exploration results is extracted from, or was set out in, the following ASX announcements which are referred to in this Quarterly Activities Report:

- Announcement dated 25 August 2022; Makuutu Rare Earth Project Update
- Announcement dated 8 September 2022; UK Government Grant of 1.7 million GBP

- Announcement dated 12 September 2022; Mining Licence Application Process Commenced at Makuutu
- Announcement dated 30 September 2022; Ionic Technologies the New Name in Magnet Recycling
- Announcement dated 3 October 2022; IonicRE Joins United Nations Global Compact

***** ENDS *****

Authorised for release by the Board of IonicRE.

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 Managing Director
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Table 2: Makuutu Resource above 200ppm TREO-CeO₂ Cut-off Grade (ASX : 3 May 2022)

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc ₂ O ₃ (ppm)
Indicated Resource	404	670	450	500	170	230	30
Inferred Resource	127	540	360	400	140	180	30
Total Resource	532	640	430	480	160	220	30

Rounding has been applied to 1Mt and 10ppm which may influence averaging calculation.

All REO are tabulated in announcement 3 May 2022 with formulas defining composition of (Light Rare Earth Oxides ("LREO"), HREO and Critical Rare Earth Oxides ("CREO")).

Table 3: Mineral Resources by Area (ASX: 3 May 2022)

Classification	Indicated Resource			Inferred Resource			Total Resource			
	Area	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO ₂ (ppm)
A				13	580	390	13	580	390	
B				26	410	290	26	410	290	
C		31	580	400	3	490	350	35	570	400
D				6	560	400	6	560	400	
E				18	430	280	18	430	280	
Central Zone		151	780	540	12	670	460	163	770	530
Central Zone East		59	750	490	12	650	430	72	730	480
F		18	630	420	7	590	400	25	620	410
G		9	750	500	5	710	450	14	730	480
H		6	800	550	7	680	480	13	740	510
I		129	540	350	19	530	350	148	540	350
Total Resource		404	670	450	127	540	360	532	640	430

Rounding has been applied to 1Mt and 10ppm which may influence averaging calculations.

Highlighted rows providing Indicted Resource Estimate for MLA over RL 1693.

Competent Person Statements

Information in this report that relates to previously reported Exploration Targets and Exploration Results has been cross-referenced in this report to the date that it was originally reported to ASX. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcements.

The information in this report that relates to Mineral Resources for the Makuutu Rare Earths deposit was first released to the ASX on 3 May 2022 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

The information in this report that relates to Scoping Study results and production targets was first released to the ASX on 29 April 2021 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

Forward Looking Statements

This announcement has been prepared by Ionic Rare Earths Limited and may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Ionic Rare Earths Limited. Actual values, results or events may be materially different to those expressed or implied in this document. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this document speak only at the date of issue of this document. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Ionic Rare Earths Limited does not undertake any obligation to update or revise any information or any of the forward-looking statements in this document or any changes in events, conditions or circumstances on which any such forward looking statement is based.

Appendix 5B

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

Name of entity

IONIC RARE EARTHS LIMITED

ABN

84 083 646 477

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	(279)	(279)
(e) administration and corporate costs	(830)	(830)
1.3 Dividends received (see note 3)		
1.4 Interest received	61	61
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Government grants and tax incentives	221	221
1.8 Other – IonicTech Operating	(378)	(378)
1.9 Net cash from / (used in) operating activities	(1,205)	(1,205)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	(106)	(106)
(d) exploration & evaluation capitalised	(2,442)	(2,442)
(e) investments	-	-
(f) other non-current assets	(48)	(48)

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	Net cash from / (used in) investing activities	(2,596)	(2,596)
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	-	-
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 – reclassify loan to Associate	-	-
3.10	Net cash from / (used in) financing activities	-	-
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	26,760	26,760
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,205)	(1,205)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(2,596)	(2,596)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	(10)	(10)
4.6	Cash and cash equivalents at end of period	22,949	22,949

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

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	22,916	26,724
5.2 Call deposits	33	33
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)	22,949	26,757

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	239
6.2 Aggregate amount of payments to related parties and their associates included in item 2	-

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.

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.		

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

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(1,205)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(2,442)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(3,647)
8.4	Cash and cash equivalents at quarter end (item 4.6)	22,949
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	22,949
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	6.3
	<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: Brett Dickson – Company Secretary
(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.