



ASX Release January 31, 2023

December 2022 Quarterly Report

Highlights

- Outstanding results from 2022 growth drilling program confirm significance of Cummins Range deposit as an extensive mineral system with both rare earths and phosphate mineralisation.
- Mineralisation now confirmed over a strike extent of 600m with results received from the outermost holes.
- Drilling points to a significant step-up in scale from the 2022 Scoping Study, with an updated Mineral Resource Estimate (MRE) on track for later this quarter.
- Preliminary metallurgical testwork delivers a premium phosphate concentrate from Cummins Range with results highlighting the potential to produce a valuable co-product used in phosphate fertilisers:
 - Greater than 39% P₂O₅ phosphate mineral concentrates produced with excellent recovery.
 - Conventional phosphate flotation circuits tested, supporting a simple and proven beneficiation flowsheet for phosphate mineral recovery.
- Preliminary metallurgical testwork shows promising ore sorting performance with a high REE recovery to Ore Sort Product and good mass rejection:
 - Primary flotation testwork now underway both in Australia and with world experts, Baotou Mengrong Fine Material Co. Ltd.
- Binding MOU signed with Ord River District Co-Operative to progress commercial off-take and product development opportunities for phosphate products.
- Cash and investments of \$6.7m (including recently announced R&D claim).
- Drilling recommenced at Trundle Project in NSW (35% Free carried).
- 28% shareholding in Cosmos Exploration Limited (ASX: C1X), which has established an exceptional portfolio comprising lithium (James Bay region, Canada), gold (Lachlan Fold Belt, NSW) and nickel-copper-PGE (Narryer Terrane, WA).

Australian sustainable rare earths company, RareX Limited (ASX: REE) (RareX or the Company), is pleased to provide its quarterly activities and cash flow reports for the quarter ended 31 December 2022.

Management Comment

RareX Managing Director, Jeremy Robinson, said: *“The December Quarter saw the completion of our highly successful 2022 growth drilling program, which has laid the foundations for what we expect to be a transformational period for RareX. The drilling has confirmed a substantial increase in the Project’s scale as a bulk-tonnage rare earths-phosphate deposit.*

“With a major resource upgrade now on track for later this quarter, we expect this to underpin the Pre-Feasibility Study that will define the commercial parameters of a project potentially capable of producing a combined monazite-apatite (rare earths-phosphate concentrate), putting it in rarefied space as a resource development play on the ASX.”

For more information,
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Exploration

During the quarter and to date, the Company has continued to receive assay results from the 2022 growth drilling campaign. Results have confirmed the significant potential of the Cummins Range Project with the latest assays recording outstanding intercepts of 513.8m at 0.5% TREO and 5% P₂O₅ and 288m at 0.4% TREO and 4% P₂O₅ delineating a large-scale, bulk rare earths-phosphate deposit.

The results received to date, with key intercepts from the quarter noted below, demonstrate the potential for a step-change in the scale of the Project. Assay results for 48 holes are still awaited. However, results for drill holes on all sections completed have now been received confirming the continuity of rare earths-phosphate mineralisation over 600m of strike, 700m of width and up to 700m down-dip. This is a significant increase in size compared to the 2021 Mineral Resource:

- CDX0027 - 455.6m at 5% P₂O₅ and 0.5% TREO and multiple high-grade rare earths intersections cumulatively 100.4m at 1.9% TREO including 17m at 2.4% TREO
- CDX0022 - 326.4m at 4% P₂O₅ and 0.4% TREO with multiple high-grade rare earths intersections cumulatively 60.5m at 1.8% TREO including of 6.2m at 4.2% TREO
- CDX0023 – 373m at 4% P₂O₅ and 0.3% TREO with multiple high-grade rare earths intersections cumulatively 51.7m at 1.3% TREO
- CDX0024 – 264.3m at 4% P₂O₅ and 0.4% TREO with multiple high-grade rare earths intersections cumulatively 71m at 1.1% TREO
- CDX0033 scissor hole – 513.8m at 5% P₂O₅ and 0.5% TREO from 3m and 144m at 5% P₂O₅ and 0.7% TREO from 557m
- CDX0038 - 288m at 4% P₂O₅ and 0.4% TREO including 5m @ 5.4% TREO and 14m at 1.4% TREO

Following expected receipt of the final assays in March, the Company expects to be in a position to publish a significant Mineral Resource upgrade later this quarter.



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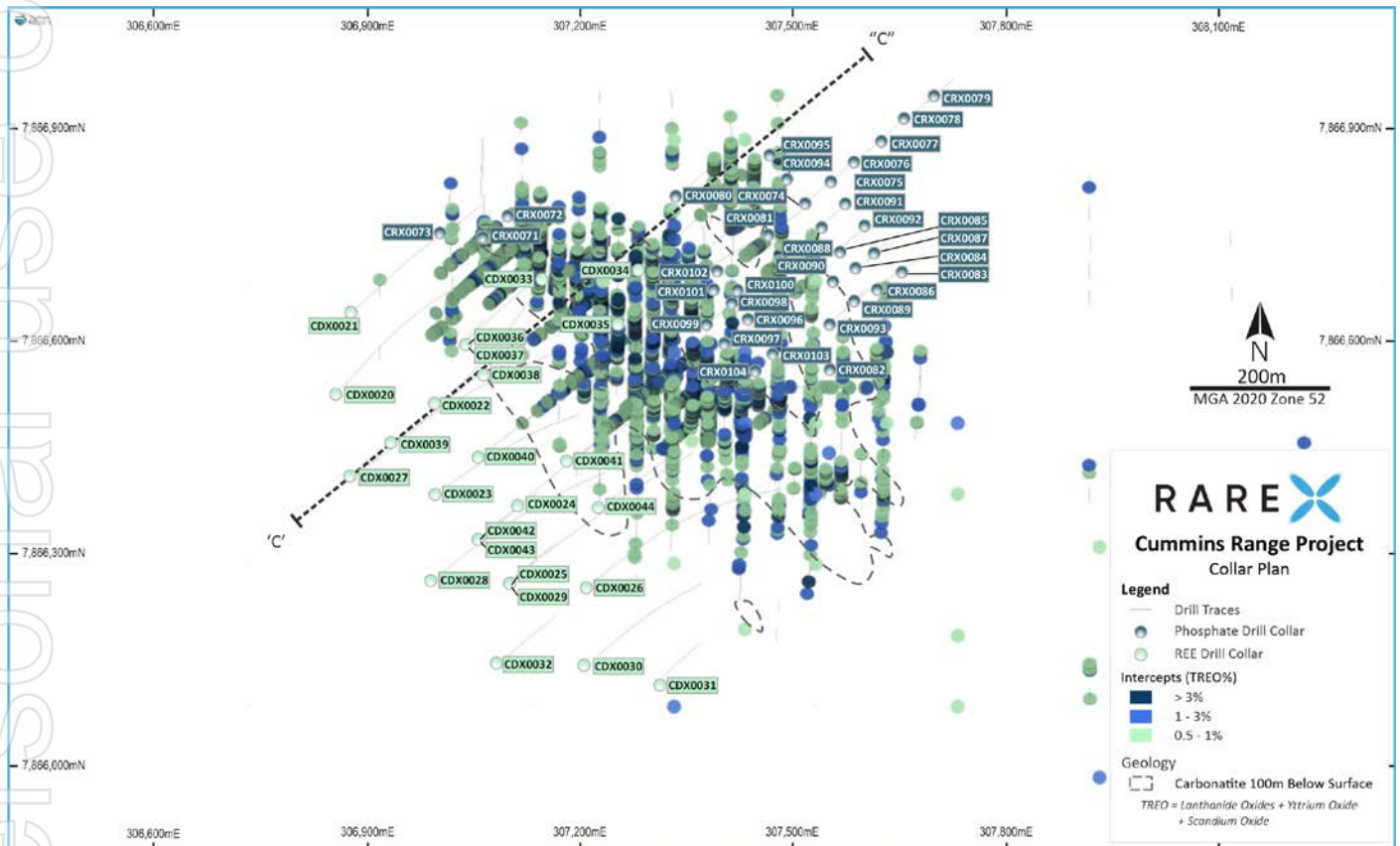


Figure 1. Cummins Range drill collar plan, showing drill traces, TREO% mineralisation and location of drill section.

For prospective investors



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Recent work has identified the opportunity to simplify the Project while also allowing for an increase in scale at the next study phase. This will be supported by the impending Mineral Resource update, scheduled for Q1 2023.

The 2022 Scoping Study defined a 1.5Mtpa open cut mine at Cummins Range, feeding 500ktpa of Run-of-Mine (ROM) material to a beneficiation (bene) plant comprising simple flotation cells. This plant would produce two concentrate products: a rare earth concentrate and a phosphate concentrate. These concentrates are proposed to be trucked to Wyndham Port.

Recent metallurgical test work suggests that this can be simplified into a single, mixed flotation concentrate of rare earths and phosphate.

At Wyndham Port, a refinery powered by the Ord River hydro facility is envisaged which would process the rare earth concentrate into two further products: a mixed rare earth carbonate (MREC) and phosphoric acid.

With the delivery of a simplified, single interim product from the mine, the coastal infrastructure could be further simplified, allowing for the staged installation of refining capability, thereby deferring capital and reducing execution risk.

There is also an opportunity to produce end-product fertilisers by combining the phosphoric acid with the phosphate rock concentrate, but this has not yet been fully investigated. The Company is working with ORDCO² on opportunities to supply local farms and stations with phosphate products.

The Scoping Study outlined the proposed sale of three products at Wyndham Port: A Mixed Rare Earth Carbonate (c. 10ktpa), Phosphoric acid (c. 30ktpa) and Phosphate rock concentrate (c. 130ktpa). This product suite could be simplified as the project evolves and is refined; however, the fundamental products of a rare earth and phosphate combination will remain.

Mineralogy and Metallurgy

Mineralogy investigations show values are contained in monazite and apatite, which are crystalline minerals that are well suited to concentration via froth flotation. This is due to mineral morphology and modest liberation size. The Cummins Range apatite is very low in rare earth and radionuclide content, making metallurgical treatment easier.

In the fresh zone, the rare earths are mainly distributed in monazite and bastnasite and are hosted within classic carbonatite gangue minerals. The apatite minerals are dominant in the low rare earth material, with high phosphate minerals present in both regolith and fresh zones.

Investigations suggest that, once sufficient liberation is achieved, the apatite and monazite minerals can be floated as a combined concentrate and magnetically separated, leading to the potential for simple flotation at



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site with magnetic separation at the coast. This could lend itself to a phased infrastructure deployment option at Wyndham Port.

Metallurgical programmes have been ongoing during the year and account for the second largest budgetary allocation, behind drilling. The programmes have included testing in the regolith and fresh rock zones, with a recent priority focus on rare earth and phosphate optimised flotation across both the Rare Dyke and the Phos Dyke.

Recent test work has shown a potentially significant preference for gangue clay minerals into the sub-10-micron size fraction, opening up the possibility for pre-float de-sliming to reduce costs in the milling circuit and the flotation cells as well as improve phosphate and rare-earth concentrate quality.

Hydrometallurgical testwork at ANSTO has shown good alignment to the Scoping Study assumptions and shows a sulphuric acid bake following a phosphoric acid gangue leach to be the more appropriate extraction technology. Once the flotation programme has refined the concentrate grade and quality, there is the potential to further optimise the hydrometallurgy circuits and reduce reagent consumptions.

The 2022 metallurgical program is now complete with sample selection from four sub-lithologies, which will aim to confirm current metallurgy performance as well as allowing optimisation of the process flowsheets.

Auralia Metallurgy, Nagrom and ANSTO have been supporting RareX in the metallurgical testing. RareX is also sending ore samples to the highly experienced Chinese research institute; Baotou Meng Rong Fine Materials Co Ltd (BTMR). The BTMR is one of the world's leading flotation R&D laboratories for rare earth elements. By adopting this multi-dimensional approach, RareX hopes to rapidly work toward the establishment of the optimal flotation regime for the regolith and fresh ores.

Power and Land

The opportunity to utilise hydro-electric power at Wyndham is being developed towards formalisation. RareX has been working with Pac Hydro and Horizon Power to understand the current supply limitations, the low-hanging debottlenecking solutions, and the impacts of RareX infrastructure onto the feeder lines at Wyndham.

The Company intends to map a formalised pathway to a power purchase agreement in the near future. RareX is working with PWC as its legal adviser in this regard.

Off-take

Michael Prassas recently joined the team as Head of Corporate Development and has spent considerable time in Europe linking with his connections in the automotive sector, which is a key target market for both the magnet metals, NdPr, as well as the phosphate material for use in lithium-ion phosphate batteries such as those used in the new generation of electric vehicles due to improved safety and longevity.



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RareX also recently executed an MOU for fertilizer product off-take, distribution and R&D for the purpose of placing a portion of the Cummins Range products locally for the benefit of the Kununurra agricultural sector.

This strategy is particularly pertinent given the price shocks currently reverberating through the phosphate fertilizer industry as a result of the conflict in the Ukraine and the remoteness of Kununurra, which relies solely on imported material, either from overseas or from the East coast of Australia. RareX is looking forward to developing a product road map with ORDCO.

Approvals

RareX expects that it will be required to submit full referrals under State and Commonwealth Acts for the Cummins Range Project and will be conducting baseline surveys accordingly. Because the Project has two infrastructure locations, this is likely to be addressed under separate referrals.

Dry season flora and fauna surveys at site are complete and will be augmented with the wet season surveys early next year. Pre-field trip heritage work has commenced and soil and landform surveys and waste rock characterisation will be initiated in the near future. Recent baseline hydrogeological studies will be augmented with a broader programme in 2023. The Company is working with the Jaru Native Title Holders to further integrate local members into the survey, monitoring and management teams. The Company is planning to make formal submissions at the completion of the PFS. RareX is working with MBS Environmental as its lead consultant for the environmental approvals.

Stakeholder engagement

RareX has been undertaking the groundwork required for its social impact assessment which includes a more focused Community Impact Assessment which will be included as part of the negotiations currently underway with the Jaru Native Title Holders for the Mining Heritage Agreement. RareX recently implemented a dedicated stakeholder database and management system. WSP Golders are the lead consultant in stakeholder engagement.

Native Title

The Mining Licence negotiations have commenced following the signing of the negotiation protocol with the Jaru Native Title Holders and the nomination of the Traditional Owners' Negotiation Committee (TONC). The first of the heritage agreement negotiations commenced on 22 November in Halls Creek. RareX is working with Allens as its legal representative.

GOVERNMENT SUPPORT

RareX also notes the recent announcement of the Critical Minerals Development Plan (CMDP), which is designed to provide support for companies and projects moving through the feasibility pathway. RareX is preparing for an application when the plan is expected to open in the New Year.



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The Company has lodged its Research and Development “R&D” claim for the FY22 year and is pleased to report a \$1.92 million refund which will be received this quarter as part of the 2021-22 tax return process. The activities were primarily focused on testing the hypothesis relating to the development of an innovative process for the extraction of rare earth elements.

NSW COPPER-GOLD PROJECT

The Trundle Gold-Copper Project Joint Venture, located in the Macquarie Arc of the Lachlan Fold Belt in NSW, Australia, is a 65%/35% joint venture between RareX and Kincora Copper Ltd (Kincora) (TSXV: KCC) and includes the Trundle and Fairholme Projects.

Kincora have reported that drilling has commenced at the Trundle Project to follow up shallow mineralisation that is interpreted to have been drilled short and on the margin of an associated and untested porphyry complex. The program will test five adjacent systems and separate large-scale porphyry targets across an existing 3.2km mineralised strike, which remains open, at the Trundle Project.

WELD NORTH

No work was undertaken on the Weld North tenements during the quarter.

HONG KONG PROJECT

No work was undertaken on the Hong Kong Project during the quarter.

MOROCCAN COBALT PROJECTS

No work was undertaken on the Moroccan projects during the quarter. The Company is in the process of finalising the divestment of these assets.

This announcement has been authorised for release by the Board of RareX Limited.

Competent Person’s Statement

Prior exploration results were reported in accordance with Listing Rule 5.7 and the Company confirms there have been no material changes since the information was first reported on 4 October 2022, 5 October 2022, 29 November 2022 and 23 January 2023.



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Appendix 1: RareX Limited Interests in Mining Tenements

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 December 2022. There were no acquisitions or disposals during the quarter.

Australian Tenement Schedule				
State	Project	Lease No	RareX Interest	Note
WA	Cummins Range	E80/5092	100%	
WA	Cummins Range Extension	E80/5372	100%	
WA	Weld North	E38/3455	100%	
WA	Weld North	E38/3530	100%	
WA	Weld North	E38/3531	100%	
WA	Mt Mansbridge	E80/5430	100%	
WA	Hong Kong	E47/3566	100%	
NSW	Condobolin	EL 7748	35%	Kincora JV
NSW	Cundumbul	EL 6661	35%	Kincora JV
NSW	Fairholme	EL 6552	35%	Kincora JV
NSW	Fairholme	EL 6915	35%	Kincora JV
NSW	Trundle	EL 8222	35%	Kincora JV
NSW	Jemalong	EL 8502	35%	Kincora JV

Moroccan Tenement Schedule			
Licence Name	Licence No	RareX interest	Note
Tizi Belhaj	234 08 79	20%	Divesting this asset
Bou Amzil	233 88 04	20%	Divesting this asset
Imdere	233 94 05	20%	Divesting this asset
Bou Amzil Extension	PR 384 22 26	-	Divesting this asset



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Appendix 2: Disclosures in relation to Quarterly Cashflow Report

In line with its obligations under ASX Listing Rule 5.3.5, RareX Limited notes that the only payments to related parties of the Company, as advised in the Appendix 5B for the period ended 31 December 2022, pertain to payments to the managing director for salary and superannuation and non-executive director fees.

During the quarter ended 31 December 2022, the Company spent approximately \$2.5m on project and exploration activities. The exploration expenditure relates primarily to RC and diamond drilling activities at the Cummins Range, assaying of core and metallurgical test work.

About RareX Limited – ASX: REE

RareX Limited (ASX: REE) is a Perth-based rare earths company committed to becoming a near-term producer of neodymium and praseodymium (NdPr). RareX's focus is on developing rare earths deposits in Australia, including the flag-ship Cummins Range Rare Earths – Phosphate Project.

NdPr is a core enabler of decarbonisation of our society and enables low carbon technologies, especially in the electric mobility sector, robotics solutions and renewable energy, e.g. the wind energy sector. NdPr is the key raw material for manufacturing rare earth powered permanent magnet NdFeB electric motors, the heart of the next industrial revolution the Electrification of our Society.

RareX's focus is on developing rare earths deposits in Australia, including the Cummins Range Rare Earths Phosphate Project in the East Kimberley region of Western Australia. RareX is committed to developing a sustainable, ethical, transparent and secure low carbon rare earth supply chain solution for the global electric mobility market and NdFeB permanent motor downstream ecosystem.

For further information on the Company and its projects visit www.rarex.com.au

Appendix 5B

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

Name of entity

RareX Limited

ABN

65 105 578 756

Quarter ended ("current quarter")

31 December 2022

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(2,508)	(4,813)
(b) development	-	-
(c) production	-	-
(d) staff costs	(500)	(964)
(e) administration and corporate costs	(360)	(688)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	2	4
1.5 Interest and other costs of finance paid	(5)	(10)
1.6 Income and other taxes paid	(8)	(8)
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	-	-
1.9 Net cash from / (used in) operating activities	(3,379)	(6,479)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	(10)
(d) exploration & evaluation	-	-
(e) investments	-	-
(f) other non-current assets	-	-

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 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 (Refund of security deposit)	-	-
2.6	Net cash from / (used in) investing activities	-	(10)
3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	40
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	-	(4)
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 (Reduction in finance lease liability)	(20)	(40)
3.10	Net cash from / (used in) financing activities	(20)	(4)
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	5,139	8,233
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(3,379)	(6,479)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	(10)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(20)	(4)

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 (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	1,740	1,740

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	1,740	5,139
5.2	Call deposits	-	-
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)	1,740	5,139

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	160
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.

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

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<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>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other– Instalment arrangement	-	-
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.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(3,379)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(3,379)
8.4 Cash and cash equivalents at quarter end (item 4.6)	1,740
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	1,740
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	0.5
<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: The Company will have a significantly lower level of net operating and exploration & evaluation cash flows for the next quarter due to the completion of its major drilling campaign, however, will continue to review ongoing activities and has the ability to adjust expenditure according to available funding, if necessary.	

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: The Company will continue to monitor its available cash levels and can reduce its operating and exploration expenditure going forward, if needed. If required, the Company may seek to raise capital for its ongoing activities, noting that it has a portion of its LR7.1 capacity available and all of its LR7.1A capacity available, if required. The Directors also have a strong track record of being able to raise funds if required.

Additionally, approximately \$1.95m of R&D tax credits is expected to be received in quarter 3 and the Company has significant listed equities in Kincora Copper, Canada Rare Earths and Cosmos valued at approximately \$3.0m at the end of the quarter available for sale.

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: Yes, the Company expects to continue its operations and exploration activities. These ongoing activities will be reviewed and adjusted according to available funding.

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 January 2023

Authorised by: The Board of RareX Limited

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.