

ASX Release 31 October 2023

September 2023 Quarterly Report

Highlights

Cummins Range Rare Earths & Phosphate Project

- Enhanced Scoping Study on the Cummins Range Rare Earths & Phosphate Project outlined a fundable, low-CAPEX staged rare earths and phosphate critical minerals project.
- The Scoping Study outlined attractive and robust project economics across a range of pricing scenarios, with the ability to monetise the phosphate-rich overburden as a DSO fertiliser, before moving into the delivery of phosphate and rare earths concentrates for both EV magnet and LFP (lithium-ferro-phosphate) battery applications over an 18-year mine life, establishing a nationally significant long-life critical minerals project.
- Product strategy confirmed as a dual mineral concentrate
- Primary Phos-RE mineral concentrate product from Cummins Range showed strong potential to produce high-purity phosphoric acid suitable for LFP battery application.
- Rare earths beneficiation testwork delivered up to 20x TREO upgrade to concentrate, with favourable flotation characteristics.
- 2023 diamond and RC drilling campaign completed to support ongoing feasibility studies and resource development studies, with 4,449m of drilling completed safely and under budget.

RareXploration

- RareX Geology Team now focused on prospective ground surrounding Cummins Range as part of the Company's regional "RareXploration" initiative.
- Detailed magnetics and high-resolution gravity surveys commenced targeting the discovery of additional mineralised carbonatite pipes, to further expand RareX's critical metals inventory at Cummins Range.
- RareX agreed to sell its 35% interest in its former NSW copper-gold portfolio to its JV partner, Kincora Copper Limited, becoming Kincora's largest shareholder with an 18% interest.
- Cash and listed investments of \$6.997 million at Quarter-end.

RareX Limited (ASX: REE) (**RareX** or **the Company**), is pleased to provide its activities and cash flow reports for the quarter ended 30 September 2023.

Management Comment

Commenting on the Quarter, RareX's CEO, James Durrant, said: *"Notwithstanding a very challenging macro-economic and geopolitical environment, the September Quarter was a breakthrough period for RareX in terms of our development strategy, product suite and market positioning for the Cummins Range Project.*

"The delivery of an enhanced Scoping Study in late August was a major milestone for the Company, and marked the culmination of many months of hard work by the RareX team, supported by our consultants. The Scoping Study results exceeded our expectations and validated the evolved project development pathway we first presented for the project back in April 2023.

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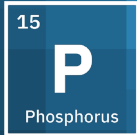
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"The results show a practical approach to allow the economic extraction of valuable rare earths and phosphate battery feedstock via a staged development that incorporates a strategy to monetise the phosphate-rich overburden material as a DSO fertiliser product. Sale of the phosphate dominant / low rare earth overburden would reduce stripping costs during the early stages of the project development, while de-risking the development of the longer-term full-scale critical minerals project focused on the delivery of rare earths and phosphate concentrates for EV magnets and LFP batteries.

"Building on this pivotal Scoping Study, we were able to progress multiple workstreams during the quarter that helped us to further refine our product marketing strategy, supported by positive results from metallurgical testwork programs. Our proposed product suite has high value-in-use potential and we're now working to find the right buyers across Australia and SE Asia, having recently appointed two off-take consultants.

"Importantly, our main product from Cummins Range is a unique dual-mineral concentrate that contains both LFP-suitable phosphate and EV magnet-suitable rare earths. The phosphate within apatite and the rare earths within monazite means we can maximise the extraction of both of these highly strategic elements. We believe this is a unique product offering, with the opportunity to supply 12ktpa of rare earth oxides and 169ktpa of battery-grade phosphate to an automotive manufacturer for at least 15 years, as outlined in the Scoping Study. With 25kg of P₂O₅ and 1kg of NdPr oxide required for each LFP-powered electric vehicle, Cummins Range has the potential to supply over 2.5 million EVs every year over its initial 15-year mine life.

"We also made significant progress on a number of other fronts during the quarter, with the safe and efficient completion of our 2023 diamond and RC drilling campaign, with the results to support ongoing feasibility work and resource definition studies, including geotechnical and mine design work. With drilling of the main Cummins Range deposit now completed, the RareX Exploration Team has been able to turn its attention further afield as part our new 'RareXploration' initiative. This is aimed at making new discoveries in the near-mine environment that could significantly enhance our value proposition. This work is already underway with the completion of a major magnetic and high-resolution gravity survey.

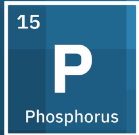
"On the corporate front, we restructured our copper-gold exploration JV with Kincora Copper in NSW through a transaction which saw us divest our 35% interest in the JV in exchange for shares in Kincora, which is now a dedicated NSW copper-gold explorer. We retain significant exposure to future upside here via our 18% stake in Kincora, making us their largest shareholder.

"In summary, the significant activities and achievements of the September Quarter have put RareX in a great position to unlock the enormous long-term value inherent in the Cummins Range asset. The low upfront capital makes this fundable and deliverable by RareX, and we've materially progressed the pre-requisites for regulatory approval, giving us the best chance of becoming an operator in the next couple of years. With all these positive attributes and the ability to deliver this project with our team, we are excited for the future of the Company. Our priorities for the next 6-9 months are to identify strategic off-take partners, progress feasibility studies, and complete submissions for mining approvals."

CUMMINS RANGE RARE-EARTHS-PHOSPHATE PROJECT

Enhanced Scoping Study

During the Quarter, RareX completed an enhanced Scoping Study (**Scoping Study, the Study**) which delivered positive outcomes from a 3-Stage, project development strategy for the Cummins Range Project (**the Project, Cummins Range**), located in the Kimberley region of Western Australia.



The enhanced Scoping Study builds upon learnings and recommendations from the September 2022 Scoping Study¹, metallurgical testwork and the 2023 updated Mineral Resource Estimate² which positioned Cummins Range as Australia’s largest undeveloped rare earths project. The Study’s main contributors were Primero, Mining Plus, Ausenco, Shawmac and MBS Environmental. The Project outlined in the Scoping Study is based on the Mineral Resource Estimate (MRE) published to the ASX on 1 May 2023 and comprises three stages:

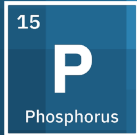
- **Stage 1 (pre-strip monetisation):** Low CAPEX (A\$45M), direct shipping ore (DSO), direct application (DA), high-bioavailability, organic rock phosphate fertiliser for agricultural purposes. A production rate of up to 300 ktpa of 23% P₂O₅ is forecast for a period of 3 years.
- **Stage 2 (beneficiation):** Installation of a mid-sized beneficiation plant of A\$304M to produce 550 ktpa phosphate-rare earth mineral concentrate from the weathered resource for the phosphoric acid and rare-earth concentrate market.
- **Stage 3:** A\$63M upgrade of the Stage 2 plant in year 13 to produce a concentrate from the un-weathered, fresh, rock below c.130 m RL. Stage 3 should see further improvement and optionality in post beneficiation upgrades due to mineralogy factors. A mine closure cost of A\$41M has been allocated at the end of Stage 3.



Figure 1: Breakdown of the staged approach and high-level capital, operating expense and unit cost metric. Outcomes are derived from the Mid-Case pricing assumptions (refer to section 5.5 for further discussion of the Low-Case, Mid-Case and High-Case pricing assumptions). The above timetable is indicative only and is subject to change. All currency in A\$.

¹ ASX Announcement 12 September 2022: Positive Scoping Study for Cummins Range Rare Earths Project

² ASX Announcement 1 May 2023: Cummins Range Resource Soars to 519Mt 0.32% TREO, 4.6% P₂O₅



The project concept outlined in the Scoping Study comprises a Stage 1 (monetised pre-strip) direct shipping ore (**DSO**) open pit mine and basic site infrastructure, including a crushing-screening plant and a road linking the mine site to the Tanami Road, 40km north of Billiluna.

This will be followed by Stage 2, which comprises the installation of a flotation beneficiation facility at site to produce a rare earth and phosphate mineral concentrate, and the expansion of non-process infrastructure (**NPI**). This staged development approach has the benefits of initiating early cashflows, building confidence with the regulators on environmental management, furthering community relationships and social performance, providing greater mineral resource definition, allowing bulk samples for metallurgy and piloting, and establishing a functioning supply chain; all of which substantially de-risk Stage 2 which transitions the project into a rare-earth critical mineral mine.

All project stage products are proposed to be trucked along mostly sealed roads to Wyndham Port, with the Tanami Road currently undergoing sealing. At Wyndham Port, which is powered by hydro electricity from the Ord River hydro power station, the Company proposes to install a simple covered stockpile storage area³ and to collaborate on using existing infrastructure and incumbent operators, including the current KMG iron ore loading jetty⁴ (or the Agrimin loading facility⁵ which is yet to be built), and transshipping operators familiar with the port⁶.

The DSO rock phosphate has high value-in-use in the fertiliser sector due to its organic and high bioavailability nature. An average grade of 23% P₂O₅ with up to 5 times the bioavailability of traditional rock phosphate denotes that more phosphorous is available to the plants for a given P₂O₅ head grade. Additionally, there is an opportunity for RareX to support the local communities by providing meaningful employment and also support the local agricultural sector by placing product to customers for use in the Ord River Irrigated Area (**ORIA**) and the broader cropping region largely supplied through OrdCo⁷.

Stage 1 has not been assessed as a standalone project. Pit optimisation has been completed on the staged approach. Stage 1 (stand-alone) pit optimisation will be completed at the next study stage. More importantly, Stage 1 is a very useful, low-cost, de-risking step - allowing RareX to fund and establish an operational footprint whilst Stage 2 is refined for optimal delivery.

The Stage 2 mineral concentrate is proposed to be pre-treated at an offshore phosphoric acid plant facility, likely in Asia, to leach the clean apatite (phosphate) mineral and liberate the monazite (rare earth) mineral, maximising value-in-use to both the acid producers and the downstream monazite rare earth refineries. Rare earths will then be refined by a third party used in the technology and clean energy sector where the product's dominant rare earth oxide, NdPr, is used in magnets in electric vehicles and wind turbines.

Phosphate product component price ranges have been estimated and benchmarked based on their grades, bioavailability and market intelligence and forecasts, including from independent consultants and market reports from Argus. Additionally, a discount has been applied for the mineral concentrate entering the phosphoric acid market. Current Argus reporting has 32% P₂O₅ Moroccan free-on-board (**FOB**) at US\$258 per tonne⁸, which is equivalent to A\$361 per tonne at a foreign exchange (**FX**) of 1.4.

³ Land tender process underway.

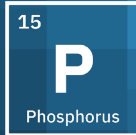
⁴ Term sheet under negotiation for KMG to provide stockpile reclaim and barge loading services to RareX.

⁵ ASX Announcement 13 April 2013: Cummins Range Rare Earths-Phosphate Project - Development and Strategy Update.

⁶ Term sheet under negotiation with incumbent transshipping service provider.

⁷ ASX Announcement 7 November 2022: RareX signs MOU for Supply of Phosphate Products Locally.

⁸ Argus monthly phosphorous outlook, July 2023 Average.



Rare earth product component pricing considers a discounted Cummins Range total rare earth oxides (**TREO**) basket price (to take into consideration further processing requirements). The basket price is dominated by NdPr value. Adamas Intelligence⁹ forecasts that due to demand from the electric vehicle and wind power sectors, the value of NdPr oxide consumed will increase eleven-fold by 2035. Prices are forecast to rise from current levels of US\$70,000 per tonne to US\$100,000 per tonne by 2025, increasing steadily to over US\$200,000 per tonne by 2035.

Given the low up-front capital, the low-risk development approach, and the strategic nature of Cummins Range as a critical minerals rare earth project, a Kimberley-located operation, and a potential future employer of Aboriginal people from the disadvantaged communities of Halls Creek and Billiluna, funding is proposed through a combination of grant, debt, and equity.

The 50km road linking the Project to the Tanami Road has been costed in the project economics, but has the potential to be funded by way of a government sourced grant in a manner similar to the Seafarms road (A\$18M¹⁰), and the Northern Minerals road (A\$50M¹¹) - funded from state and federal budgets respectively. Northern Australia infrastructure Facility (**NAIF**) is anticipated to provide a substantial portion of project debt.

At present, the Company has no pending applications in respect of the above funding initiatives. In the event that the above funding initiatives are not successful, the Company has a reasonable basis for expecting that it can secure funding solely through a combination of debt and equity.

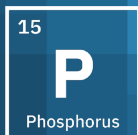
The Scoping Study has been developed from a Mineral Resource Estimate which covers approximately 40% of the Cummins Range carbonatite pipe. The remaining 60% of the carbonatite pipe has had less than 600m of drilling, all with phosphate and rare earths mineralisation (see announcement dated 1 May 2023)¹².

⁹ <https://www.miningreview.com/energy/pensana-looks-to-achieve-first-production-at-longonjo-in-2025/>.

¹⁰ <https://seafarms.com.au/wp-content/uploads/2021/08/2236045.pdf>.

¹¹ <https://investorinsight.com.au/browns-range-access-upgrade-to-follow-commitment-from-wa-govt-in-state-budget-northern-minerals/>.

¹² ASX Announcement 1 May 2023: Cummins Range Resource soars to 519Mt 0.32% TREO, 4.6% P₂O₅.



Phosphate
Enabled
Rare Earths

Key Project Metrics

The nominal case presented in the table below, with low initial capital and a simple development plan using 3rd party operators along the supply chain, before transitioning to Stage 2, and ultimately Stage 3, is the preferred approach to developing this Project, balancing economic returns with risk and funding potential.

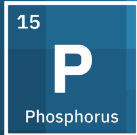
Key project metrics			
Physicals	Stage 1	Stage 2	Stage 3
Product type	DSO	Phos-RE Con	Phos-RE Con
Av. prod. rate (dry) (ktpa)	270	503	480
Average grade (%)	23% P ₂ O ₅	33% P ₂ O ₅ ; 2.3% TREO	32% P ₂ O ₅ ; 1.6% TREO
Duration (yr)	3	10	5
Costs			
CAPEX (A\$M)	45	304	63
OPEX (A\$M/a)	35	139	171
OPEX (A\$/t product)	122	259	328
Total SUSCAP (A\$M/a)	1	7	8
Closure (A\$M)	-	-	41
Products			
Average TREO production (ktpa)	-	12	7
Average P ₂ O ₅ production (ktpa)	63	169	156
Product price (A\$/t)	254	553	468
Financial outcomes			
Payback (pre-tax) (yr)	1.65	1.41	1.69
Average EBITDA LOM (A\$M/a)		81	
Total EBITDA (A\$M)		1,450	
Government tax (30%) (A\$M)		406	
Government royalty (A\$M)		205	
Native title contributions (A\$M)		84	
NPV8 (pre-tax / post-tax) (A\$M)		549 / 333	
IRR (pre-tax / post-tax) (%)		39% / 27%	

Notes:

- Government royalties: 7.5% DSO, 5% Con
- Native title (NT) contributions per currently negotiated outcomes - note the agreement has not been executed

The production target disclosed in the Study is underpinned by ore feed classifications of 73% Indicated Resources and 27% Inferred. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

The estimated Mineral Resources underpinning the production target have been prepared by a competent person or persons in accordance with the requirements in Appendix 5A (JORC Code) as presented to the ASX release on 1 May 2023 "Cummins Range Resource soars to 519 Mt 0.32% TREO, 4.6% P₂O₅". The Company confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.



The material assumptions underpinning these project metrics are:

- The Mineral Resource Estimate released to the ASX on 1 May 2023¹³.
- A Scoping Study compiled by RareX with supporting consultants including Primero, Mining Plus, Ausenco and MBS Environmental with a typical confidence level of +/-40%.
- Mining costs and basic schedule based on typical mining methods and assumed geotechnical parameters.
- Metallurgical performance based on laboratory test work released to the ASX on 12 September 2022¹⁴, 4 October 2022¹⁵, 11 October 2022¹⁶, 23 March 2023¹⁷, 8 June 2023¹⁸ and 11 July 2023¹⁹. The Company confirms that it is not aware of any new information or data that materially affects the announcement.
- Environmental factors determined from desktop studies and field surveys.
- Materially advanced mining heritage agreement with Jaru traditional owners.
- Market confidence derived from memorandum of understanding (**MOU**) with Ordco, (see ASX announcement dated 7 November 2022) and market knowledge and intelligence from Argus and independent consultants (as referenced throughout this study).

Excluded material assumptions are:

- No site visit by mining consultant

Note: No Ore Reserves were estimated as part of the Scoping Study.

Rare Earths Beneficiation Testwork

Recent beneficiation testwork has returned promising results for the beneficiation of rare earths (RE) from the Cummins Range Project.

RareX has initiated a beneficiation program at Baotou Mengrong Fine Materials (BTMR) in China to test RE beneficiation from both whole ore and the leach residue from the phosphoric acid production. BTMR is a highly experienced Chinese research institute and is a preeminent testing laboratory for rare earths beneficiation, particularly flotation.

This testwork is being undertaken on samples, which is expected to be typical of run-of-mine material from the Cummins Range deposit, in order to provide the required volume of material needed to test alternative float regimes. The composite tested in this program was prepared using ore intervals from both the Rare Dyke and Phos Dyke of the Cummins Range deposit, which were crushed and homogenised by Auralia Metallurgy before splitting the 50kg sample for BTMR tests.

¹³ ASX Announcement 1 May 2023: Cummins Range Resource soars to 519Mt 0.32% TREO, 4.6% P₂O₅

¹⁴ ASX Announcement 12 September 2022: Positive Scoping Study for Cummins Range Rare Earths Project

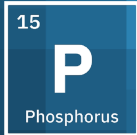
¹⁵ ASX Announcement 4 October 2022: Met Testwork Delivers Premium Phosphate Concentrate

¹⁶ ASX Announcement 11 October 2022: Positive Ore Sorting Testwork Results for Cummins Range

¹⁷ ASX Announcement 23 March 2023: Phosphate Testwork Confirms Potential to Produce Fertiliser

¹⁸ ASX Announcement 8 June 2023: Bioavailability Tests Confirm Potential of Cummins Range

¹⁹ ASX Announcement 11 July 2023: Phosphoric Acid Leach Test Supports RareX Stage-3 Operations



A range of tests have been performed on this sample to determine the flotation configuration and reagent selection for the beneficiation of RE minerals. A summary of several of the recent flotation results is shown in Table 1.

Table 1: RE Flotation Results Summary

Test No.	Calculated Head, %	Final Con		
		TREO Grade, %	TREO Recovery, %	Mass Yield, %
Test 23	1.14	22.04	32.81	1.69
Test 25	1.06	21.57	44.73	2.19
Test 43	1.01	22.50	48.74	2.20

Note: Test results were validated at the Analysis Centre of Baotou Institute of Rare Earth which is an accredited laboratory in China and the results showed good alignments for the final concentrate confirming accuracy of the results.

In the best result, a RE concentrate of 22.5% TREO grade was achieved from a feed grade of 1% at a remarkable recovery of 48.74%. To be able to achieve an upgrade of over 20x into concentrate from the ROM feed is considered to be very encouraging. These results are far better than results obtained in earlier testwork and the upgrade factor is also in line with other developing rare earth deposits of similar head grades.

Although the tests were not performed on the leach residue, the results provide further confidence in the viability of the proposed RE beneficiation process for the leach residue. Further tests will be undertaken with BTMR once the leach residue, currently being prepared at Perth laboratories, is ready to be dispatched.

According to previous testwork results², it is believed that the leach residue (i.e., post apatite leach) will be enriched with monazite and therefore will contain residual apatite. REE metallurgists consider that it's possible that this could provide further upside to the RE beneficiation process. Given the positive BTMR results, it is believed that the leach residue (which is expected to grade 6% TREO), could be upgraded materially to grades suitable for a typical RE refinery.

Phosphate Bulk Flotation Testwork

Following the positive 2022 sighter testwork results²⁰, a bulk flotation program was carried out to assess if similar, or better, flotation performance can be achieved at larger scale with the same simple flotation circuit. The bulk flotation using larger float cells is a good intermittent step to simulate pilot testing and to assess if similar flotation kinetics can be achieved.

The test was performed on the same regolith composite that were tested in the sighter program and was undertaken at Auralia Metallurgy in Perth. A summary of the flotation testwork results with comparison to the sighter float results are shown in Table 2.

²⁰ ASX announcement 04 October 2022: Met Testwork Delivers Premium Phosphate Concentrate

Table 2: Flotation Results Summary

Product	Bulk Float				Sighter Float ¹			
	P ₂ O ₅		TREO		P ₂ O ₅		TREO	
	Grade %	Recovery %	Grade %	Recovery %	Grade %	Recovery %	Grade %	Recovery %
Rougher Concentrate	22.6	96.3	0.51	81.7	23.8	94.3	0.55	79.1
Cleaner Concentrate FINAL	34.4	91.1	0.72	70.7	34.1	85.7	0.70	63.9
Head Grade	12.9	100	0.33	100	12.9	100	0.33	100

As shown, excellent results were achieved from the bulk flotation test producing a phosphate concentrate of 34.4% aligning to the sighter float performance. The bulk float P₂O₅ recovery of 91.1% was also encouraging and was better than the sighter program.

The flotation tests were not focused on concentrating rare earths and the TREO head grade is relatively low for this composite, however, the recovery trend of the rare earth showed high similarities, albeit slightly lower recoveries, to the phosphate (as shown in Figure 2) for this composite. This is in line with expectations and further supports the Scoping Study²¹ assumptions for the product recoveries and the production of a combined concentrate of apatite and monazite.

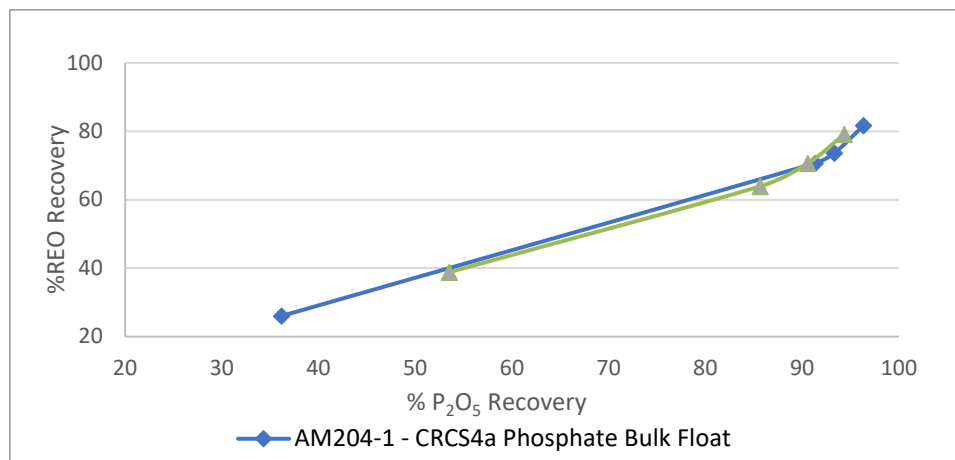
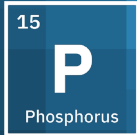


Figure 2: TREO recovery vs. P₂O₅ recovery

The bulk float results have further demonstrated the potential of producing a premium phosphate-rare earth mineral concentrate from the Cummins Range deposit using a simple, proven beneficiation technique. Following these positive flotation results, the next phase of the phosphate mineral beneficiation testwork will focus on demonstrating similar, if not better, flotation performance of the Rare Dyke material, grind size optimisation, further gangue suppression, flotation conditions and circuit configuration optimisation to ensure the technical and economic feasibility of the beneficiation flowsheet.

²¹ ASX announcement 22 Aug 2023: Enhanced Scoping Study for Cummins Range



Phosphoric acid testwork

Test work undertaken on primary Phos-RE mineral concentrate product from Cummins Range during the Quarter indicated strong potential to produce high-purity phosphoric acid suitable for lithium-ferro-phosphate (LFP) battery application.

Following the positive dilute phosphoric acid leaching testwork results²² that showed high apatite dissolution and low impurity dissolutions, RareX has conducted further assessments on the suitability of processing the high-purity leach liquor from Cummins Range into high-purity phosphoric acid and potential methods to further upgrade the leach residue into more valuable RE concentrate.

Based on the assessments and market feedback, the dilute leach liquor from Cummins Range is considered “pure” given its low gangue element concentrations when compared with leach liquor generated from sedimentary rocks. This is due to the following characteristics of the Cummins Range deposit:

- ✓ Igneous deposit which is naturally lower in deleterious elements and heavy metals when compared with sedimentary deposits.
- ✓ Mineral concentrate produced is rich in premium-quality apatite, which is highly available and low in deleterious elements.
- ✓ Minimal RE is contained within the apatite, allowing easy separation of monazite and apatite and minimal RE loss to solution using dilute phosphoric acid leach.

Phosphoric acid is mostly produced via the wet process, which uses concentrated sulphuric acid to react with finely-ground rock phosphate to maximise apatite dissolution. The rock phosphate feedstock must contain low impurities in order for the process to be technically and economically viable for processing into merchant-grade (MGA) or technical-grade phosphoric acid. Typically, a significant amount of further purification is required on this production method.

Unlike the conventional wet process, RareX is proposing a simple dilute phosphoric acid leach and flotation process for the Cummins Range Phos-RE concentrate (as shown in the schematic). This process is expected to require significantly less purification to reach LFP grade, whilst also liberating the rare earths for further upgrading into a high-grade RE concentrate.

RareX envisages that the proposed product treatment process would be undertaken at an offtaker/s existing plant and aims to maximise the phosphate and rare earths values through the following steps:

1. **Apatite Leach** - Taking a bleed of the dilute phosphoric acid that is already being produced in the wet acid plant to treat the Cummins Range Phos-RE concentrate. As demonstrated by the recent positive testwork^{2, 23, 24}, the apatite within the Cummins Range concentrate is pure and highly available.
2. **Acid Production, Concentration and Purification** - The leach liquor can be fed into the existing phosphoric acid generation, concentration and purification circuits to process to LFP requirements with likely fewer purification steps and less reagent demand.
3. **RE Beneficiation** - The rare earths will remain in the leach residue at elevated grade² during the gangue leach process. This residue can be enriched with a simple flotation process to produce a monazite

²² ASX announcement 11 July 2023: Phosphoric Acid Leach Test Supports RareX Stage-3 Operations

²³ ASX announcement 08 June 2023: Bioavailability Tests Confirm Potential of Cummins Range

²⁴ ASX announcement 23 March 2023: Phosphate Testwork Confirms Potential to Produce Fertiliser

refinery feedstock. This could be undertaken in the same facility, or at a collaborator’s facility where monazite beneficiation is already occurring.

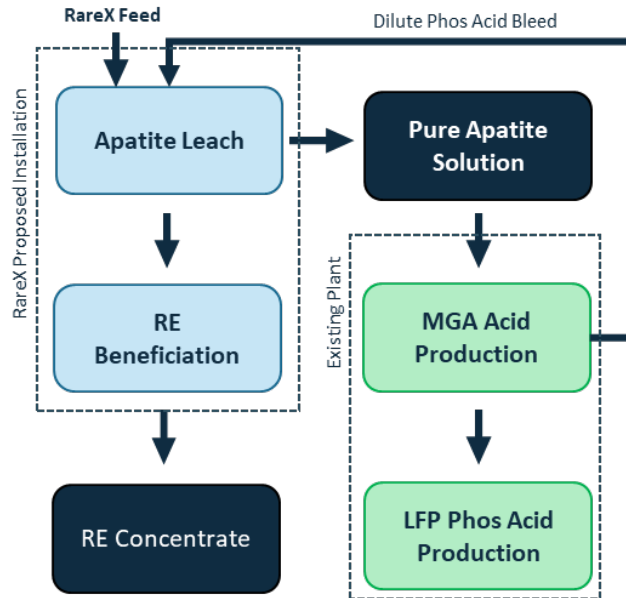


Figure 3: Proposed simple dilute phosphoric acid leach and flotation process for the Cummins Range Phos-RE concentrate

RareX is working closely with laboratories to generate mineral concentrate samples and product derivatives (leach liquor and RE residue) to allow RareX to advance offtake discussions and refine process design criteria. Product and derivative samples are expected to be available within two months.

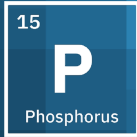
Phosphoric Acid Gangue Leach Test

Testwork undertaken on a phosphate concentrate sample from Cummins Range during the Quarter showed promising results for processing the combined monazite-apatite phosphate concentrate.

The test was undertaken at Nagrom, Perth where a rougher flotation concentrate was leached with 20% w/w phosphoric acid at atmospheric conditions to assess the extractability of apatite and confirm RE deportment to leach solution and residue. Future tests will use flotation cleaner concentrate (a further beneficiation step) which should improve the results even further. The leach results are outlined in Table 3.

Table 3: Deleterious Elements Results Summary

Analyte	% Dissolution	% Mass Loss
P_2O_5	43.2%	39.8%
REE	10.4%	
Ca	65.3%	
Fe	3.2%	
Al	3.1%	
Si	5.7%	



As indicated, the results showed 43% of P₂O₅ dissolution into solution. Based on previous mineralogical analysis on float concentrate streams, this dissolution rate aligns to the percentage of phosphate deporting to apatite suggesting that most, if not all, of the apatite was dissolved into solution. This is well aligned to previous leach testwork undertaken at Nagrom and ANSTO, highlighting the potential of using the concentrate for production of phosphoric acid, particularly with low gangue (i.e., iron (Fe), aluminium (Al) and silicon (Si)) dissolutions.

The results also showed high TREE (total rare earth element) recovery of 90% to the residue, suggesting that very little monazite was solubilised allowing the majority of the RE to be maintained in the leach residue. This, together with the apatite removal, offered good upgrades of TREE and made the leach residue better suited for further processing to extract the rare earths values.

2023 Drilling Campaign Completed

During the Quarter, RareX completed its 2023 drilling campaign at Cummins Range with no incidents and the program completed under budget.

The drill program comprised 50 holes for a total of 4,449m and was designed to gain samples for metallurgical testwork and mining studies, confirm the continuity of high-grade phosphate mineralisation within the regolith Resource for Stage-1, and extend near-surface mineralisation to the east.

Metallurgical drilling was completed by Kal Drilling with PQ drill equipment and was targeted to provide representative samples of different Cummins Range ore types for study work, as well as to confirm grade and continuity of historically drilled mineralisation.

Stark Drilling collared 12 RC infill holes on the Phos Dyke to confirm grade continuity and increase high-grade P₂O₅ tonnages. Drilling was also undertaken on the edges of the Resource, where common carbonatite dykes and veins steered drilling towards the east.

At Cummins Range, the pervasive apatite mineralisation is accompanied by common rare earths minerals with monazite seen in several locations. The presence of apatite and monazite is considered encouraging for the potential delineation of additional zones of rare earths and phosphate mineralisation. An updated mineral resource estimate is pending.

RareXploration

Regional Magnetics and Gravity Surveys

The geophysics program commenced during the Quarter and covered 90km² across tenements E80/5092 and E80/5372 and was designed to help identify additional rare earths and phosphate bearing carbonatites to add to the Cummins Range critical metals inventory. Carbonatites often occur as swarms with multiple intrusions into the host stratigraphy and historical anomalies are known, proximate to the current deposit. To date, the entire 519Mt Cummins Range Mineral Resource is contained within a single carbonatite pipe, with the delineation of additional carbonatites offering the opportunity to significantly expand the existing Resource base.

The magnetics survey was completed on a 50m line spacing, providing significantly improved coverage over the numerous magnetic targets identified via the previous 400m spaced magnetic survey over the tenements (see Figure 4).

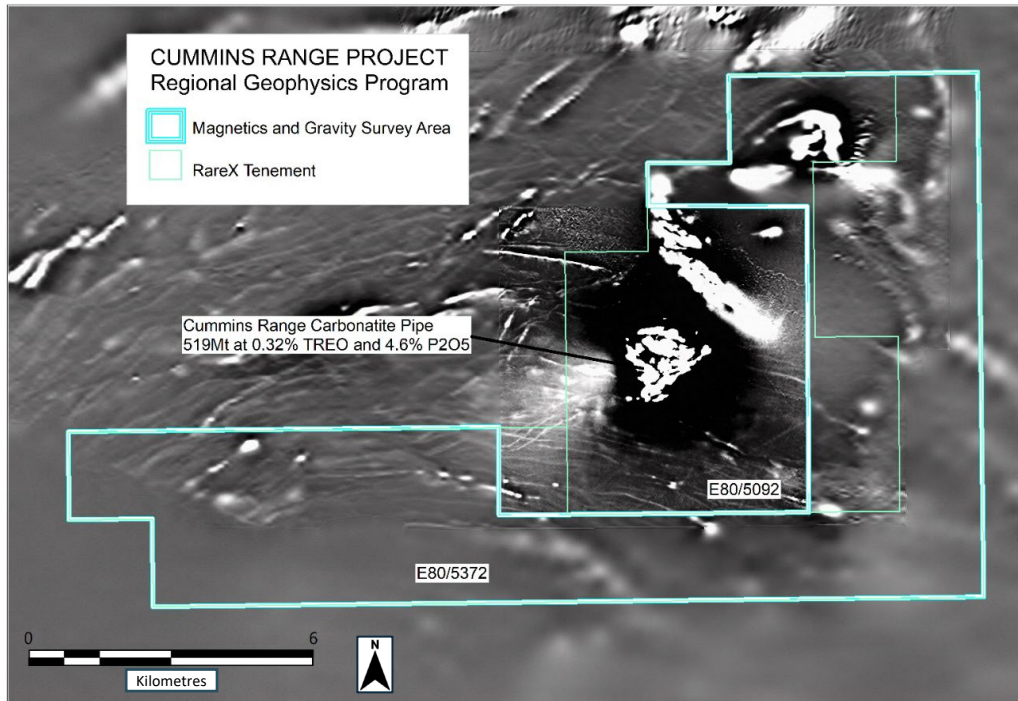


Figure 4: RareX tenements on magnetics at Cummins Range showing outline of proposed magnetics and gravity survey

The ground gravity survey was conducted on 400m spaced lines, with 200m infill over specific areas. Existing gravity data over most of the Cummins Range tenements is on 2.5km spacing, providing little to no gravity information.

The combination of detailed magnetics and gravity will enable the exploration team to establish a geological model of the broader Cummins Range area and define key targets for future geochemical surveys. The results from this survey are pending.

WELD NORTH

A litho-geochemical soil survey has been completed over the Weld North Project. Soil samples were taken on a 1km grid. Assay results have not been received as yet. Results will be used to create a geochemical assessment of lithologies and identify potential anomalies.

MT MANSBRIDGE

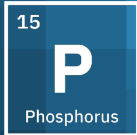
No material field work was undertaken on Mt Mansbridge during the quarter.

RED DRAGON

No material field work was undertaken on Red Dragon during the quarter. This is a tenement prospective for rare earths and was acquired through application with grant occurring on 18 July 2023.

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.



CORPORATE

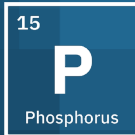
Sale of NSW Copper-Gold Interests

RareX Limited (ASX: REE – **RareX** or **the Company**) has sold its 35% asset level interests in the Trundle, Fairholme, Jemalong, Cundumbul and Condobolin exploration licences in NSW to its Joint Venture partner, Kincora Copper Limited (**Kincora**), for consideration comprising 40 million Kincora Chess Depository Interests (**CDIs**) and a 1% Net Smelter Return Royalty (**NSR**). Shareholder approval for the transaction on 27 September 2023 and the transaction is now pending completion.

Concurrent with the transaction, Kincora undertook an oversubscribed \$2m placement with RareX becoming Kincora's largest shareholder post the placement and transaction with a holding of approximately 45 million shares (18%) in Kincora, comprising 40 million shares issued under this transaction and 5 million already owned by RareX.

As part of the transaction, RareX Chairman, Jeremy Robinson, will join the board of Kincora.

Consolidating project ownership and removing the existing carried interests increases the strategic value of the NSW project portfolio for all Kincora shareholders. The portfolio already attracts interest from mid-tier and industry majors.



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

Competent Person's Statements

The mineral resource estimate referred to in this announcement was reported by the Company in accordance with Listing Rule 5.8 on 1 May 2023. The Company confirms it is not aware of any new information or data that materially affects the information included in the previous announcement and that all material assumptions and technical parameters underpinning the estimates in the previous announcement continue to apply and have not materially changed.

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 11 July 2023, 22 August 2023, 29 August 2023, and 18 October 2023.

About RareX Limited – ASX: REE

RareX Limited (ASX: REE), a Perth based project development and exploration Company, was founded on the fundamental belief of the electronics revolution and the electric vehicle mega-trend. Our focus is rare earths and associated battery and electronic metals.

Cummins Range, in the East Kimberley region of Western Australia, is our flagship project which aims to produce a sustainable, ethical, transparent and secure low carbon rare earth and phosphate supply chain solution for its products which satisfy the two global mega-trends of population growth and electrification.

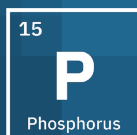
RareX maintains exploration upside programs in the immediate vicinity of the Cummins Range Project and also more broadly to identify targets and progress projects complementary to the founding beliefs and expertise of the core team.

Rare earths and in particular, NdPr, are core enablers of decarbonisation and electrification of our society. NdPr supports high strength magnets which enables low carbon technologies, especially in the electric mobility sector, robotics solutions and renewable energy, particularly the wind energy sector.

Phosphate is the feedstock for the emerging dominant battery technology; lithium-ferro-phosphate (LFP). The global LFP battery market is projected to grow from \$10 billion in 2021 to \$50 billion by 2028 as more EVs adopt the safer and longer life technology and grid stabilization batteries expand to balance intermittent renewable generation.

RareX maintains material investments in Kincora Copper (ASX:KCC), Cosmos Exploration (ASX:C1X) and Canada Rare Earth Corporation (LL.V).

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



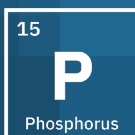
Appendix A: RareX Limited Interests in Mining Tenements

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended and as at 30 September 2023. There were no acquisitions or disposals during the quarter with the exception of Red Dragon which was acquired through application and granted on 18 July 2023 (E39/2213).

Australian Tenement Schedule				
State	Project	Tenement No	RareX Interest	Note
WA	Cummins Range	E80/5092	100%	Rare Earths and Phosphate
WA	Cummins Range Extension	E80/5372	100%	Rare Earths and Phosphate
WA	Weld North	E38/3455	100%	Ionic Clay Rare Earths
WA	Weld North	E38/3530	100%	Ionic Clay Rare Earths
WA	Weld North	E38/3531	100%	Ionic Clay Rare Earths
WA	Mt Mansbridge	E80/5430	100%	Heavy Rare Earths
WA	Red Dragon	E39/2213	100%	Rare Earths
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

The Company continues to review its existing asset portfolio with a view to ensuring that projects complementary to RareX's exploration and development strategy are retained or acquired and those that are no longer considered a strategic fit are divested in a way that can add shareholder value, through either joint venture, sale or spin-out.



Appendix B: 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 30 September 2023, pertain to payments to the directors as fees, salary and superannuation and to Primero Group in connection with study work. During the quarter, the Company spent approximately \$2,003k on project and exploration activities. The exploration expenditure relates primarily to diamond and RC drilling, sample preparation and assaying costs, consulting fees for study work, geophysical survey costs and metallurgical test work.

Appendix C: RareX Limited Investments

In addition to its cash reserves, RareX maintains the following investments in listed companies as at 30 September 2023:

Company	Ticker	# shares	Price (native currency)	FX	Value (A\$)	Pricing date
Cosmos Exploration Limited	ASX: C1X	10,000,000	A\$0.37	1	3,700,000.00	29/09/2023
Kincora Copper Limited	TSXV: KCC	4,983,333	CAD\$0.03	1.15	171,924.99	29/09/2023
35% free carry interest in exploration licences: Condobolin, Cundumbul, Fairholme Jemalong and Trundle*						
Canadian Rare Earth Company	TSXV: LL	24,579,658	CAD\$0.03	1.15	847,998.20	29/09/2023
Value of share investments (C1X, KCC, CREC)					A\$4,719,923.19	29/09/2023

* RareX Limited has agreed to sell its 35% asset level interests in the Trundle, Fairholme, Jemalong, Cundumbul and Condobolin exploration licences in NSW to its Joint Venture partner, Kincora Copper Limited, for consideration comprising 40 million Kincora Chess Depository Interests (**CDIs**) and a 1% Net Smelter Return Royalty. Following completion of the transaction, which remains subject to various conditions precedent, RareX will maintain a holding of approximately 45 million shares (18%) in Kincora.

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")

30 September 2023

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	(2,003)	(2,003)
(b) development	-	-
(c) production	-	-
(d) staff costs	(244)	(244)
(e) administration and corporate costs	(250)	(250)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	10	10
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)	-	-
1.9 Net cash from / (used in) operating activities	(2,487)	(2,487)

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	-	-
(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	Net cash from / (used in) investing activities	(12)	(12)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	486	486
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	(7)	(7)
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)		
	- Lease payments	(14)	(14)
3.10	Net cash from / (used in) financing activities	465	465

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	4,311	4,311
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,487)	(2,487)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(12)	(12)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	465	465

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	2,277	2,277

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	277	4,311
5.2	Call deposits	2,000	-
5.3	Bank overdrafts	-	-
5.4	Other (Guarantees)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	2,277	4,311

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	63
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.

Payment of Director fees and salaries of \$63k.

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.</i>		
<i>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 (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.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(2,487)
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)	(2,487)
8.4 Cash and cash equivalents at quarter end (item 4.6)	2,277
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	2,277
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	0.92
<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 has completed its drilling and external study programmes which accounted for much of the high expenditure of the last quarter. The Company will continue to closely monitor its available cash and manage operating and exploration expenditure.	
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 has its LR7.1 capacity available and its LR7.1A capacity available if required. The Company has liquid investments in listed companies, Kincora Copper, Cosmos Exploration and CREC. The Company has a strong track record of being able to raise funds if required.	

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: Yes. The Company expects to continue its operations and exploration activities and will review and adjust according to its 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: 28 October 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.