



Directors:

Chair
Tim Wall

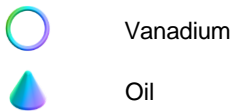
Managing Director
Gavin Loyden

Non-Executive Director
Daniel Harris

Non-Executive Director
Tony Pearson

Non-Executive Director
David Fitch

Julia Creek Project:



QEM Limited:

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ASX Announcement

31 Jan 2024

Quarterly update for the period ending 31 December 2023

Highlights:

- A Mineral Characterisation Study was completed by UQ's WH Bryan Mining Geology Research Centre. These results will allow for highly targeted beneficiation processes to be developed by UQ's Sustainable Minerals Institute.
- RGS Consultants Pty Ltd (RGS) commenced a soil quality, geochemical, and physical characterisation assessment of mine waste materials for the Company's flagship Julia Creek Vanadium and Oil Shale Project.
- UK-based GSA Environmental continued work on vanadium extraction and flowsheet development. Test results indicate an increase in vanadium recovery once calcite has been removed.
- ATC Williams completed the 12-month baseline water monitoring campaign in Julia Creek.
- QEM and Enel Green Power Australia Pty Ltd (EGPA) entered into exclusive negotiations for the sale of the Julia Creek Renewables Project (JCRP) proposed to be adjacent to the Julia Creek Vanadium and Oil Shale Project. Post-quarter, EGPA signed a binding agreement with QEM to purchase the JCRP (Ref: ASX Announcement 15 Jan 2024).

QEM Limited (ASX: QEM) ("**QEM**" or "**Company**") is pleased to provide an update on its activities for the quarter ending 31 December 2023 for its 100% owned Julia Creek Vanadium and Oil Shale Project (JCP) in Julia Creek, Northwest Queensland.

QEM Managing Director Gavin Loyden said, "We are delighted at the level of progress achieved during the December quarter, from mineral characterisation of ore from Julia Creek to eventual waste characterisation assessments. Importantly, our flowsheet is being continually refined and closer to completion.

"We were thrilled to announce the sale of our Julia Creek Renewables Project to Enel Green Power Australia, a company of vast global experience in developing large scale renewable energy projects."



Resource Exploration 2023

In October 2023, QEM conducted a 2D non-disturbing seismic survey across the tenement. The survey was made up of two 4.5km lines running East-West. The program took approximately ten days to complete and was led by Velseis Integrated Seismic Technologies and Measured Group. The purpose of the program was to determine the geological structure(s) and the continuity of the resource across the project area.

During the reporting quarter, core samples recovered from the 2023 drilling campaign were sent for assaying. These results, along with the geophysical data obtained during the campaign are currently being processed by Measured Group and will be incorporated into company's JORC report expected in Q1 2024.

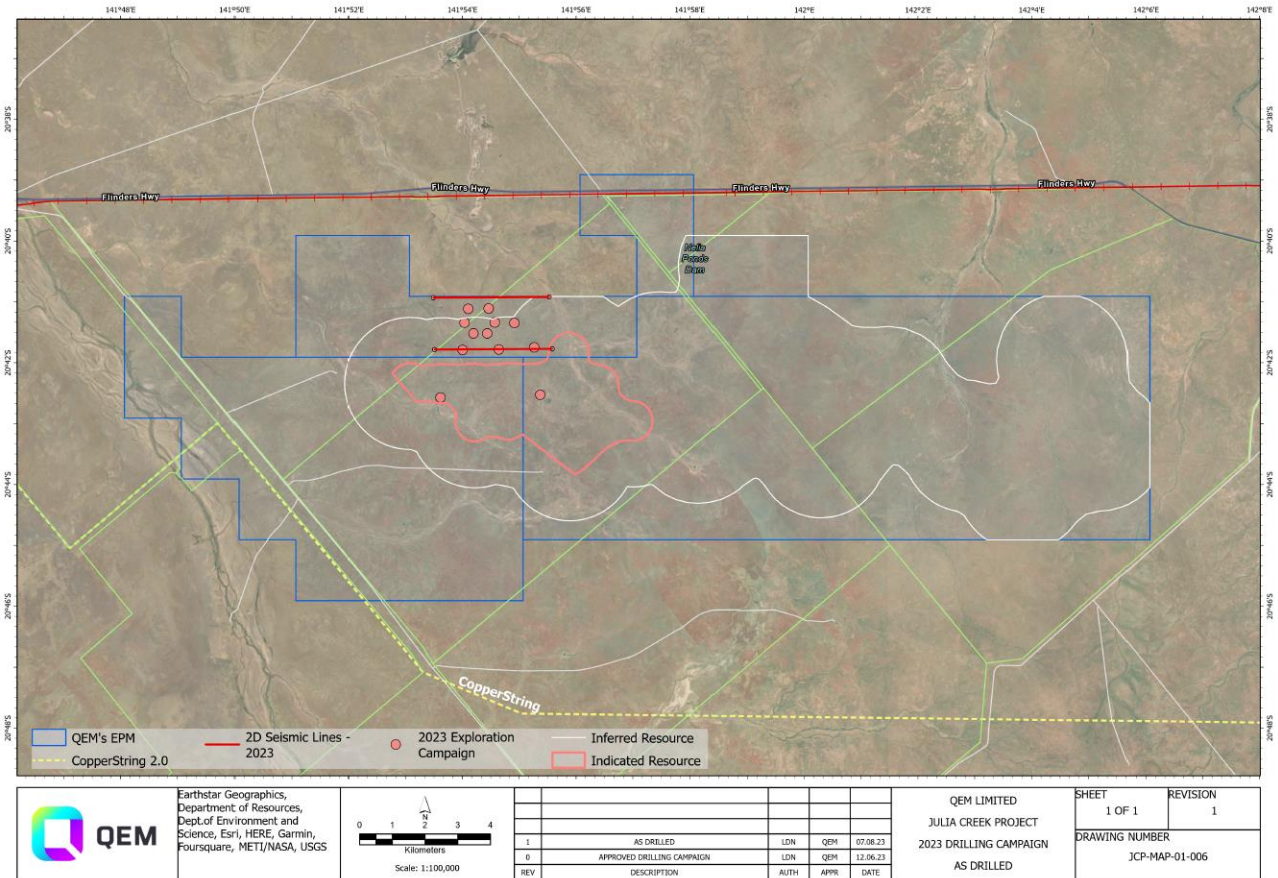


Image: Julia Creek 2023 Drilling & Seismic Campaign



Mine Development

Scoping Study Development

Cartledge Mining and Geotechnics conducted geomechanical testing to obtain the inputs required to develop a geotechnical model that will be the basis for recommended mine pit slope geometries. Final geotechnical report is expected during Q1 2024.

During the reporting period, QEM received the results of the Mineral Characterisation Study completed by UQ's WH Bryan Mining Geology Research Centre.

In summary, Mass balance and reconciliation of MLA data estimates that more than 90% of contained vanadium occurs in association with montmorillonite/smectite with less than 10% occurring in other measured phases. These results allow for highly targeted beneficiation processes to be developed by UQ's Sustainable Minerals Institute (SMI).

Waste characterisation

RGS Consultants Pty Ltd (RGS) was commissioned by QEM in 2023 to complete a soil quality, geochemical, and physical characterisation assessment of mine waste materials for the Julia Creek Project.

During the reporting quarter, RGS received the final batch of core samples from the 2023 drilling campaign. A total of 119 core samples have been collected and will be used for the geochemical and physical testing program.

In October, RGS supplied QEM with the geochemical and physical sampling and analysis plan (GAPSAP) which outlines the static and kinetic geochemical and physical testing that will be performed on the Batch 1 soil and overburden and Batch 2 oil shale samples. The purpose of the GAPSAP is to guide the selection, collection, and analysis of samples of soil, overburden, and oil shale materials collected from the QEM (2023) drilling program. The information derived from the sampling and analysis program will be used to determine the geochemical and physical properties of the mine materials and report these in a format that that is suitable for inclusion in relevant approvals documentation.

An interim report was provided for review in mid-November 2023 which contained details of the static geotechnical results and preliminary kinetic leach column test work. The next interim report is expected toward the end on the next reporting period (March 2024).

Processing

Vanadium extraction, flowsheet development – GSA Environmental

UK based GSAe Environmental continued the test program during the reporting period. The test results indicate a considerable increase in vanadium recovery once calcite has been removed. A post-calcite removal grind appears to improve vanadium recovery compared to grinding pre-calcite removal. However, it is worth noting that calcite removal efficiency is also increased by grinding prior to removal.



Flotation separation of vanadium host minerals – UQ’s Sustainable Minerals Institute

During the reporting quarter, UQ’s SMI presented progress on the potential approaches in flotation techniques for beneficiation of QEM’s feed material:

1. Calcite flotation / clay depression
2. Clay flotation / calcite depression
3. Clay-quartz flotation
4. Oil flotation / oil removal

During the following quarter, UQ’s SMI will continue the development of the test work/flowsheet beneficiation options including optimal dosage of reagents.

Environmental

Water Monitoring – ATC Williams

ATC Williams completed the 12-month baseline water monitoring campaign in Julia Creek. The water monitoring program continued throughout the quarter with two site visits, completing the 12-month baseline study.

ATC Williams and QEM conducted routine monthly monitoring of the Julia Creek monitoring network for the period between November 2022 and November 2023. The purpose of this work is to provide an assessment of baseline groundwater conditions to support preparation of an Environmental Impact Statement (EIS). In accordance with the Environmental Protection Act 1994, this EIS is required by QEM to obtain environmental authority to proceed with the Julia Creek Project.

The water monitoring baseline report is expected post reporting period and will provide an assessment of baseline annual trends in water levels and water quality identified through the monitoring program. ATC Williams will also include recommendations for improvements to QEM’s water monitoring network.

Images: QEM 2023 water monitoring campaign (October-December)





Julia Creek Renewable Energy Project

The Julia Creek Renewables Project (JCRP) is a planned solar/wind/BESS project for a minimum 1GW of renewable energy generation, that could be an input into the CopperString 2032 transmission line, which is being built by the Queensland Government through its entity Powerlink.

CopperString 2032 is a \$5 billion power transmission project that will connect vast renewable wind and solar resources with critical minerals mining and processing in the North West Minerals Province (“NWMP”) and will be delivered as part of the \$62 billion Queensland Energy and Jobs Plan. Early works have begun with construction slated to begin in early 2024.

During the reporting period, QEM and Enel Green Power Australia Pty Ltd (EGPA) - jointly owned by Enel Green Power (within the Enel Group) and INPEX Renewable Energy Australia Pty Ltd (part of INPEX CORPORATION) - entered into an exclusive dealing period after being selected from the short list of proponents announced in July 2023 (Ref: *ASX announcement 3 July 2023*).

Negotiations were conducted for the sale of the Julia Creek Renewables Project (JCRP or Renewables Project) proposed to be adjacent to the Company’s flagship Julia Creek Vanadium and Oil Shale Project (JCP) in north-west Queensland.

The Renewables Project has the potential to provide cheaper power for the JCP and to contribute to decarbonisation and the Queensland and Australian Government renewable energy and emission reduction targets.

The transaction was completed post-quarter. (Ref: *ASX announcement 15 January 2024*).

Queensland Government continues to support Critical Minerals development.

From 1 September 2023, the Queensland Government is reducing the rent for new and existing exploration permits for minerals (EPMs), such as those held by QEM, to \$0 for 5 years.

This is designed to encourage further exploration for critical minerals, such as vanadium, which are essential for making new products and technologies as the world transitions to a low-carbon future. QEM can now take advantage of these savings and applauds the initiative.

[Zero rent for exploration permits for minerals | Business Queensland](#)

Vanadium is defined as a Critical Mineral in Australia and is required to support the global energy transition, through the application of Vanadium Redox Flow Batteries (VRB). These batteries are large scale, long duration energy storage systems (BESS) that are quickly becoming the energy storage system of choice for large scale renewable energy projects, due to their unique attributes, including greater safety, long life cycle and recyclability.

On 1 December 2023, The Queensland State Government unveiled the establishment of the Critical Minerals Queensland office (CMQ) the new office is to be a cornerstone of the Queensland Critical Minerals Strategy and will actively contribute to the development, growth, and success of Queensland's critical minerals. It will be a dedicated office created to identify opportunities in the industry and foster discussions with proponents, investors, community members, and researchers and QEM welcomes the initiative.



Queensland Resources Minister, Scott Stewart said, “The Critical Minerals Queensland office will play a key role in delivering the Queensland Critical Minerals Strategy and it’s exciting to see the office becoming a reality”

[Critical mission for Queensland’s critical minerals - Ministerial Media Statements](#)

The Queensland Critical Minerals Strategy, released in June 2023 will oversee a \$245 million investment into growing Queensland’s Critical Mineral sector, which will advantage QEM’s JCP in numerous ways.

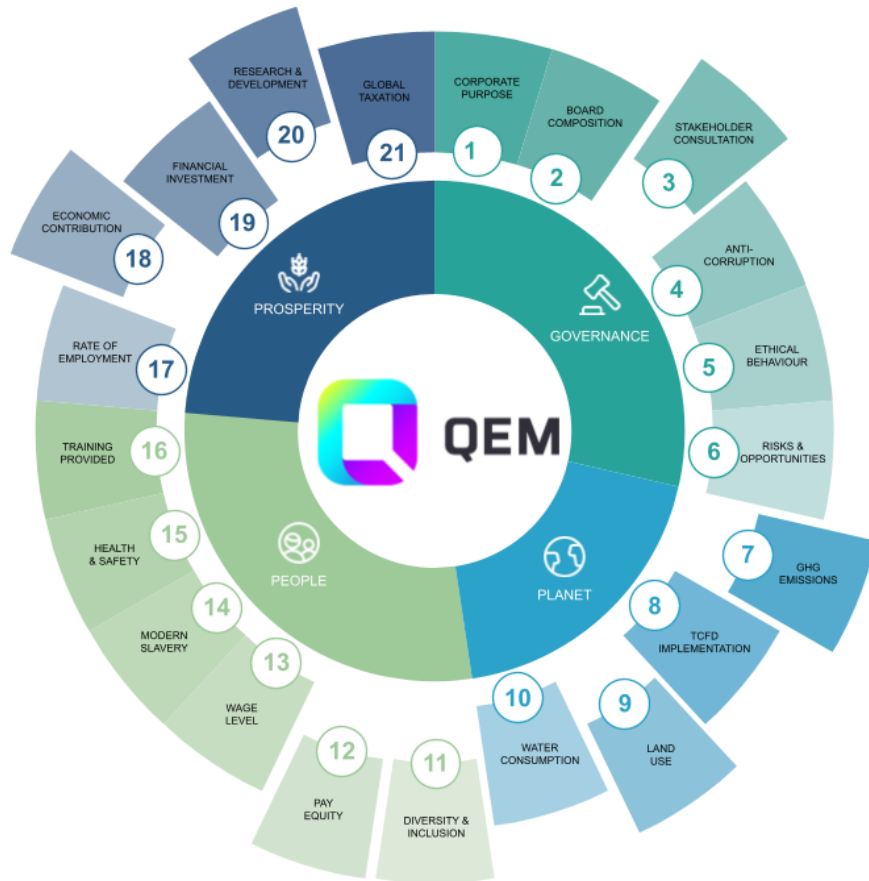
- ✓ Establishing critical mineral zones, initially at Julia Creek/Richmond and around Mount Isa, with \$75 million to support investment and renewed focus in advancing critical minerals projects.
- ✓ Establish Critical Minerals Queensland, a one-stop office to oversee the development of the sector and help drive and attract international investment.
- ✓ Invest \$5 million to target mining waste and tailings for critical minerals, and \$8 million towards scientific research including circular economy initiatives.
- ✓ Provide \$1 million to foster research and ESG excellence.
- ✓ Deliver the \$100 million Critical Minerals and Battery Technology Fund to support new investments in projects.
- ✓ Deliver the \$75m Queensland Resources Common-user Facility in Townsville, due for completion in 2025.

[Queensland Resources Common User Facility - Queensland Treasury](#)

ESG and Community Relations

This quarter marks the eighth consecutive quarter that QEM is monitoring and disclosing the Company’s ESG progress and initiatives via Socialsuite’s ESG Go platform.

QEM’s ESG reporting is based on the 21-core metrics set by the World Economic Forum (WEF), as part of WEF’s standardised and globally recognised Stakeholder Capitalism Metrics ESG framework. ESG highlights for this quarter follow, including the graphic summary overpage of the Company’s ESG current focus. These core areas will be continually updated with the input of stakeholder feedback.



PLANET - GHG Emissions

QEM is committed to combining our activities in emission reduction with the use of certified offsets. Our total emissions for FY23 of 116.15t are being offset monthly (invoiced since Sept 2023) and will be reassessed at the end of FY24 through Carbonhalo which provides verified carbon credits that focus on emissions reductions projects across the globe. These offsets are distributed between Australian ACCU's and International VERRA / UNFCC Offsets, with projects including renewable energy, technology-based emissions reduction, regeneration of natural habitat and capturing of waste.

QEM is also committed to educating and engaging our employees, clients and stakeholders about the importance of sustainability and carbon reduction and encouraging them to support and participate in our efforts.

PROSPERITY – Economic Contribution and Community Investment & Relations

Investment in our community will always be a high priority for QEM. Recent sponsored events during the quarter in Julia Creek were:

- ‘The Big Weekend’ at Julia Creek September 30 to October 2, cost \$2,500
- Beach Races November 18, cost \$5,000



A member of the QEM team is in Julia Creek approximately one week per month for the water monitoring program and various operational matters. A weekly email is distributed to landholders and community to update them on company progress, and a new community newsletter was distributed via the McKinlay Shire email Newsletter in early November.



Image: Town v Country football at The Big Weekend, Julia Creek



Images: The last horse racing meet of the 2023 season, known as the 'Beach Races', was a huge success with over 400 attendees dressed in QEM Hawaiian shirts.



Corporate

QEM held its Annual General Meeting of Shareholders on 9 November 2023. All resolutions were passed by way of a poll. Please refer to the QEM's announcement dated 9 November 2023 for a summary of the AGM which includes details of the total number of proxies received and the total number of votes cast in respect of each resolution.

An updated investor presentation was released to the market 14 September. A copy can be located here:

[QEM Investor Presentation – September 2023.](#)

Related Party Payments

Pursuant to item 6 in the Company's Appendix 5B – Quarterly Cashflow Report for the Quarter ended 31 December 2023, the Company made payments of \$155k to related parties for director service fees in line with their appointment and service agreements with the Company.

Other ASX requirements

ASX Listing Rule 5.3.1: Exploration and Evaluation Expenditure during the Quarter was \$841k.

Full details of activities during the Quarter are set out above.

ASX Listing Rule 5.3.2, there were no mining production and development activities during the Quarter.

Tenement Schedule

Project	Country	Tenement	Status	% Held	Change During Quarter
Julia Creek	Australia	EPM25662	Granted	100%	-
Julia Creek	Australia	EPM25681	Granted	100%	-
Julia Creek	Australia	EPM26429	Granted	100%	-
Julia Creek	Australia	EPM27057	Granted	100%	-

ENDS

This announcement was authorised for release on the ASX by the Board of QEM Limited.

For further information, please contact:

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ABOUT QEM

QEM Limited (ASX: QEM) is a publicly listed company which is focused on the exploration and development of its flagship Julia Creek Project, covering 250km² in the Julia Creek area of Northwestern Queensland.

The Julia Creek vanadium and oil shale project is a unique world class resource with the potential to utilise sustainable energy solutions in the production of energy fuels and vanadium pentoxide.

QEM strives to become a leading producer of liquid fuels and in response to a global vanadium deficit, also aims to become a global supplier of high-quality vanadium pentoxide, to both the nascent energy storage sector and the global steel industry.

This globally significant JORC (2012) Mineral Resource of 2,850 Mt @ 0.31% V₂O₅ is one of the single largest ASX listed vanadium resources and represents a significant opportunity for development. The resource is comprised of 360Mt @ 0.29% V₂O₅ in the Indicated category and 2,490Mt @ 0.31% V₂O₅ in the Inferred category, with the added benefit of a contingent (SPE-PRMS 2018) in-situ oil resource of 79MMBBls of Oil equivalent in the 2C category, and 696MMBBls in the 3C category, contained within the same ore body.

The tenements form part of the vast Toolebuc Formation, which is recognised as one of the largest deposits of vanadium and oil shale in the world and located less than 6km east of the township of Julia Creek. Near to all major infrastructure and services, the project is intersected by the main infrastructure corridor of the Flinders Highway and Great Northern Railway, connecting Mt Isa to Townsville.

*The information in this announcement that relates to the mineral resource and contingent resource estimates for the Company's Julia Creek Project was first reported by the Company in its IPO prospectus dated 20 August 2018 and supplementary prospectus dated 12 September 2018 (together, the "Prospectus") and the subsequent resource upgrade announcements ("Resource Upgrade") dated 14 October 2019 and 7 April 2022. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus and Resource Upgrade, and in the case of estimates of Mineral Resources and Contingent Resources, that all material assumptions and technical parameters underpinning the estimates in the Prospectus and Resource Upgrade continue to apply and have not materially changed.

Forward Looking Statements

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Appendix 5B

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

Name of entity

QEM Limited

ABN

13 167 966 770

Quarter ended ("current quarter")

31 December 2023

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	(841)	(1,650)
(b) development		
(c) production		
(d) staff costs		
(e) administration and corporate costs	(240)	(775)
1.3 Dividends received (see note 3)		
1.4 Interest received	3	9
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Government grants and tax incentives	-	-
1.8 Payments for Green Hydrogen Project		
1.9 Net cash from / (used in) operating activities	(1,078)	(2,416)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities		
(b) tenements		
(c) property, plant and equipment	(15)	(33)
(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 (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 (provide details if material)		
2.6	Net cash from / (used in) investing activities	(15)	(33)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	765
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	-	(5)
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 – share application funds (not issued)		
3.10	Net cash from / (used in) financing activities	-	760

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	1,374	1,970
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,078)	(2,416)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(15)	(33)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	760

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	281	281

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	281	1,374
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)	281	1,374

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	155
6.2	Aggregate amount of payments to related parties and their associates included in item 2	
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

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

7. 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	2,000	-
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 Total financing facilities	2,000	-
7.5 Unused financing facilities available at quarter end		2,000
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.		
The Company had at quarter end, an unsecured loan facility with David Fitch. Per ASX announcement 25 September 2023, the total facility of \$2m is undrawn at quarter end and accrues interest at 10% p.a. The term of the facility is 12 months.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(1,078)
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)	(1,078)
8.4 Cash and cash equivalents at quarter end (item 4.6)	281
8.5 Unused finance facilities available at quarter end (item 7.5)	2,000
8.6 Total available funding (item 8.4 + item 8.5)	2,281
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	2.1
<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 January 2024**

Authorised by: **By the Board**

(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.