

24 January 2024

Quarterly Activities Report for the Period Ended 31 December 2023

Highlights:

Mabel Creek IOCG Project:

- Drilling of the Olympus Gravity Target was completed in November, ending at 519.6 metres. Only low levels of alteration were encountered.
- 2 large Exploration Licences granted (EL 6949 & EL 6950) totalling 1,314 km² on eastern side of Mabel Creek Project area. Historical exploration indicates good potential for IOCG mineralisation.

Comet Project

- In January, just after the reporting period an air core drill program (19 holes for 858 metres) was completed following up 2 gold and 1 gold-platinum-palladium regolith geochemical anomaly. Results are expected in approximately 6 weeks' time.
- PTR has engaged a leading mineral processing geoscientist to manage rare earth metallurgical trials. Lab bench testing research and development is underway on samples from the Meteor, Artemis and Comet East Prospect areas. Results to assist in designing an optimised leaching process for rare earths.

Woomera IOCG Project:

- Gravity surveying scheduled for February 2024 over the newly acquired 'The Pines' (EL 6918) Tenement, located in the World Class Central Olympic Copper-Gold Province.

Corporate:

- The Company held \$1.72m cash at the end of the period.

Company Summary

Petratherm Limited (ASX: PTR) (PTR or the Company) is pleased to present its Quarterly Activities Report for the period ended 31 December 2023 (**December Quarter**). The Company has built an enviable project portfolio in South Australia, focused on rare earths (REEs) and gold in the Northern Gawler Craton and copper-gold in the World-Class Olympic Domain.

During the period, PTR completed diamond drilling at the Olympus Gravity/EM target within the Mabel Creek Project. Low levels of alteration were present in the drill core and no significant mineralisation was recorded. Whilst this is a disappointing result, the extensive hematite alteration present at the nearby BigNE Prospect and the Cadi Copper – Rare Earth Prospect (Figure 2) provide strong evidence for the regions Iron-Oxide Copper-Gold (IOCG) prospectivity.

The Company expanded its ground position at Mabel Creek with 2 new exploration licences, totalling 1,314 km². These licences and the adjacent Dean bore licence (EL 6919) area granted in July 2023, will be the focus for new gravity surveys planned during the 2024 year to target for IOCG style mineralisation.

In October the Company engaged a leading independent mineral processing geoscientist to manage the Company's metallurgical testing work. Minimal prior research and development has been undertaken on rare earths hosted in clays in the Australian context, specifically rare earths hosted in clays from modern day dryland arid environments. These experiments aim to design an optimised rare earth leaching process and work is ongoing.

Just after the reporting period, in early January, the Company completed drill testing of two gold and one combined gold-platinum-palladium geochemical anomaly found during prior regional rare earth exploration. Results are expected in approximately 6 weeks' time.

The Company had exploration and evaluation costs of \$350,000 relating principally to the Mabel Creek Project gravity targeting and subsequent diamond drill program conducted during the period. Administration and corporate costs totalled \$194,000. The Company held \$1,724,000 cash at the end of the Period.

In accordance with ASX Listing Rules Guidance Note 23, the aggregate number of payments to related parties of the Company and its associates disclosed under section 6.1 of the Appendix 5B totalled \$33,000 and comprised of Director's fees.



Figure 1: PTR Project Locations in South Australia

Mabel Creek IOCG Project

The Mabel Creek Project is located on the northern extent of the Olympic Copper-Gold Trend, but the region also has geological similarities to the Mt Isa Inlier in Queensland and is considered by PTR to be highly prospective for Tier 1 Copper-Gold deposits. The Mabel Creek Project has a significant land holding of 3,322km², which is 100% owned by the Company.

Olympus Gravity Target

The Olympus Target is a strong gravity and partially overlapping conductive EM geophysical anomaly of significant dimensions, located along the Wirracanna Fault Structure (Figure 2). Drilling of the Target was completed to the targeted depth in November. The angled drill hole (23MCD001) comprised completing a rotary mud pre-collar through younger covering sediments to a down hole depth of 275.6 metres followed by diamond coring to end of hole at 519.6 metres. The drilled sequence was principally granite and garnet rich gneiss showing only low levels of alteration and no mineralisation is recorded¹.

¹ PTR Announcement - 29 November 2023 – Drilling Completed at Olympus Gravity Target

Whilst this is a disappointing result for the Company, the broader surrounding region has been shown to be highly fertile for IOCG style mineralisation and the forward program will focus on the large unexplored areas under licence to develop new targets for testing. A geophysical modelling review of the Olympus drilling program is near completion and these learnings will be implemented to aid future target definition work.

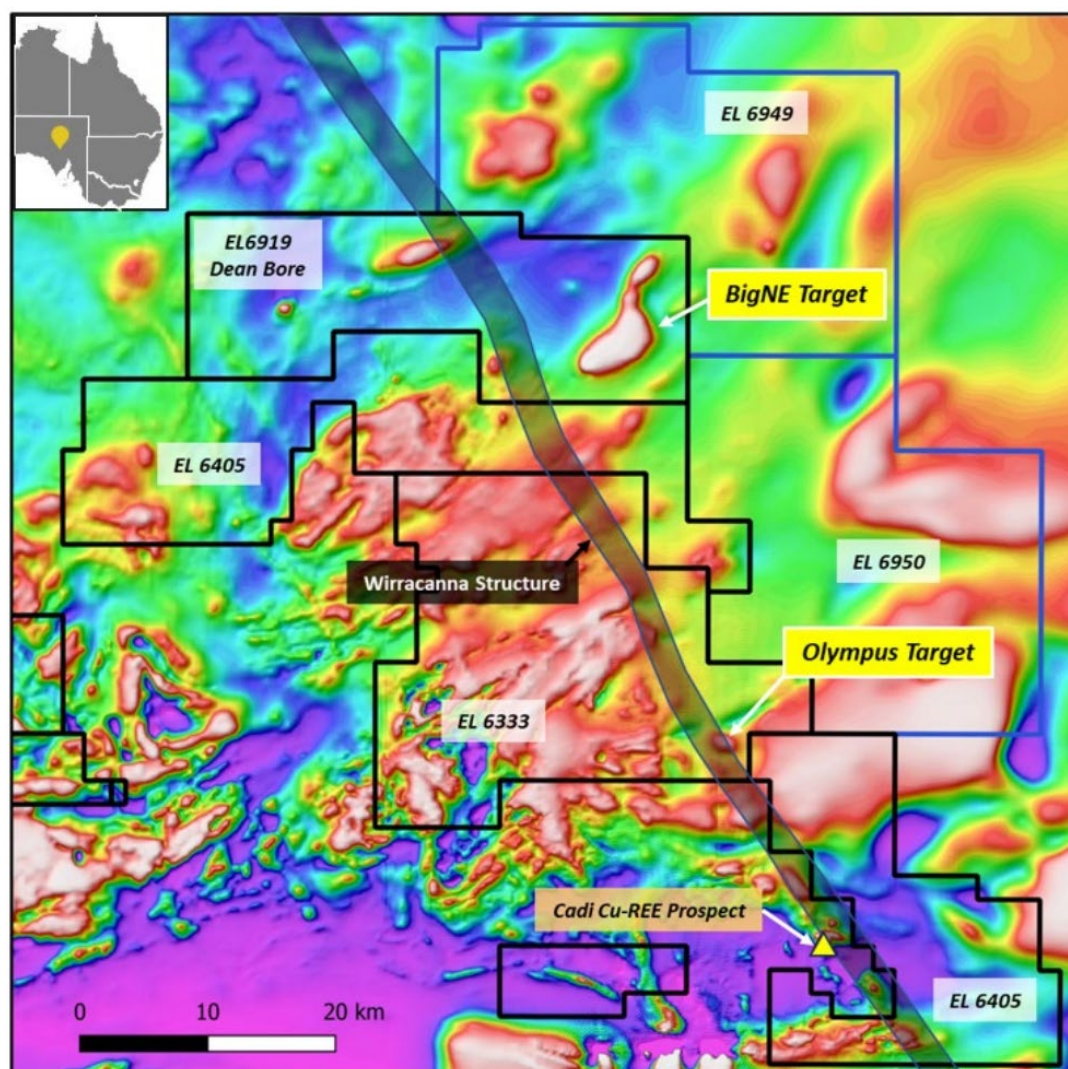


Figure 2: Magnetic Image of Eastern Mabel Creek Project Area – Olympus and BigNE Targets and new Tenement areas (EL 6919, EL 6949 & EL 6950)

Additional Tenements Granted

In July, Dean Bore (EL 6919) was granted to PTR covering a 470km² area and in November two large exploration licence areas (EL 6949 & EL 6950) covering a further 1,314km² were granted over an identified prospective IOCG fertile zone along the eastern side of the tenement holdings (Figure 2)². PTR intends to undertake gravity surveying over these new areas during the 2024 calendar period to explore for IOCG style geophysical targets for later drill testing.

² PTR Announcement – 13 November 2023 – Drilling Underway at Olympus IOCG Target

Comet Rare Earth Project

The Comet Project is a significant ground position totalling 1,915km² in the Northern Gawler Craton of South Australia. It is historically noted for numerous gold occurrences, however in April 2022, the Company reported significant intercepts of Rare Earth Elements (REE) hosted in clays following a program of greenfield regional RAB drilling.

Exploration drilling has subsequently delineated two major REE occurrences, Meteor and Artemis and one early-stage Prospect, Comet East. The Meteor and Artemis REE prospects both occur at very shallow depths, include high-grade blankets of mineralisation showing good lateral extent and ore thickness. Less than 10% of the project area has been explored for REE's and a systematic program of advancement of current prospects, testing of new areas and metallurgical recovery test work is ongoing.

Artemis REE Prospect

Prospect REE mineralisation typically starts from a depth of 9 to 15 metres and the average intercept thickness is 15 metres across the prospect. The average TREO intercept grade is 962 ppm, which includes 223 ppm Magnet Rare Earth Oxide (MREO) (23% of TREO). The prospect area is approximately 3 kilometres by 1.5 kilometres and is open laterally in all directions.³

Meteor REE Prospect

REE mineralisation starts from a depth of 3 to 6 metres and the average intercept thickness is 11.5 metres across the prospect. The average TREO intercept grade is 936 ppm, which includes 242 ppm MREO (26% of TREO). The prospect area is approximately 2 kilometres by 1 kilometre and remains open in several directions. Due to the shallow nature of mineralisation, there is potential for low-cost favourable free dig mining methods.⁴

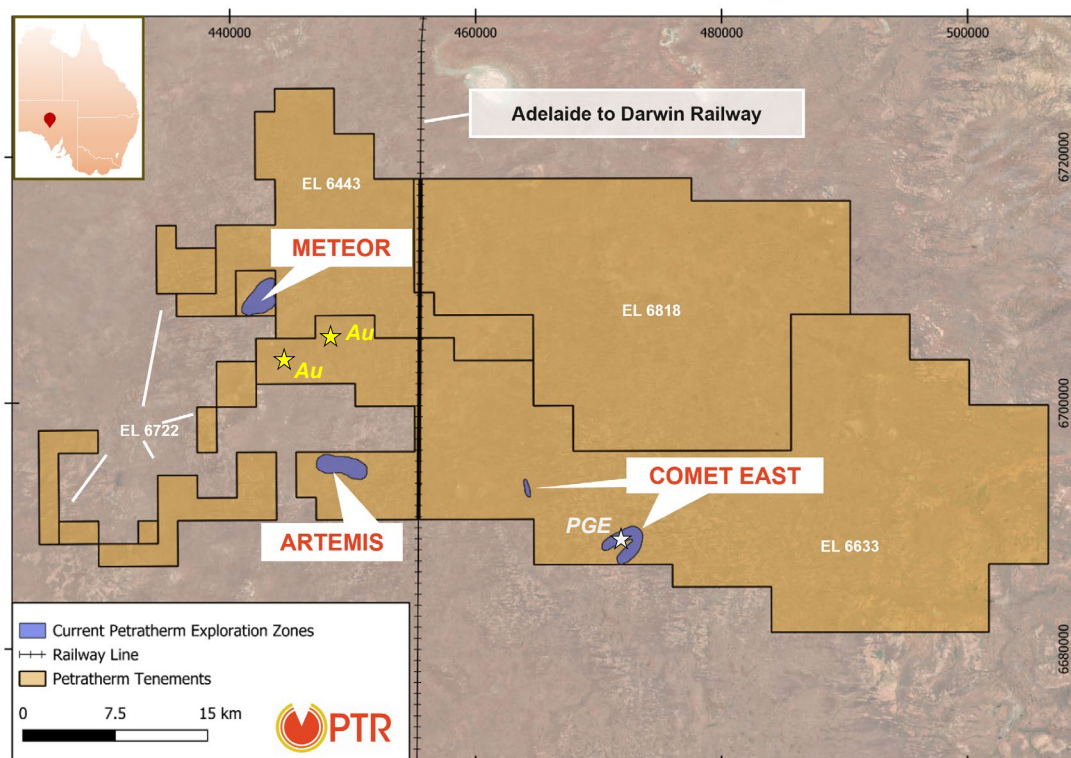


Figure 3: Comet Project Area, REE Prospects and Gold - Platinum Group Element (PGE) drilling sites

³ PTR Announcement – 24 February 2023 – Drilling Identifies Major New Rare Earth Prospect

⁴ PTR Announcement – 15 February 2023 – Meteor Prospect – Exceptional Rare Earth Drill Intersections

Metallurgical Studies

Previous results announced in September 2023⁵ from the Meteor Rare Earth Prospect found that low-cost sieve separation processing, produced a significant increase in Rare Earth Elements (REE) grades as the bulk of the rare earth mineralisation is hosted in fine clay fraction within the weathering profile. This work produced a REE ore concentrate with a grade of approximately 2000ppm Total Rare Earth Oxide (TREO) (including >500ppm Magnet Rare Earth Oxide (MREO)).

In October the Company engaged a leading independent mineral processing geoscientist to manage the Company's metallurgical testing work. Minimal prior research and development has been undertaken on rare earths hosted in clays in the Australian context, specifically rare earths hosted in clays from modern day dryland arid environments. PTR has undertaken several base line bench studies to determine the nature of the rare earth mineralisation with respect to the host clays. The bench testing work includes representative samples from the Meteor, Artemis, and Comet East Prospect areas. These experiments aim to inform design of an optimised rare earth leaching process and trial work is ongoing.



Photo 1 – REE Clay sample beaker testing.

⁵ PTR Announcement – 18 September 2023 – Beneficiation Process Increases Rare Earth Grades at Meteor

Comet Project – Gold & Platinum-Palladium drilling

In January, just after the reporting period the Company completed a short air-core drill program following up two areas of gold anomalism, and a third area showing anomalous gold-platinum-palladium within the regolith profile (Figure 3). In total, 19 holes were drilled over a 4-day period for a total of 858 metres of drilling. Samples have been dispatched for geochemical assaying with results expected in approximately 6 weeks' time.



Photo 2 – Petratherm's Project Geologist, Sam Rasch (left) and Exploration Manager Barry van der Stelt (right) during air core drilling operations at Comet (January 2024).

Woomera IOCG Project

The Woomera IOCG Project is a significant landholding of 668km² and is strategically located in the World Class Copper-Gold Olympic Province of South Australia (Figure 4). It is close to BHP's Oak Dam West copper-gold discovery and newly operating Carrapateena Copper-gold mine. Other notable copper occurrences include Coda Mineral's Emmie IOCG discovery, and the sediment hosted copper-cobalt-silver mineral resource at Emmie Bluff in the overlying cover strata. No ground exploration was undertaken during the period however a ground gravity surveying to target for IOCG style mineralisation is scheduled to occur over the recently acquired "The Pines" EL 6918 early in the 2024 calendar period⁶.

⁶ PTR Announcement – 27 July 2023 – Woomera Project Ground Position Expands

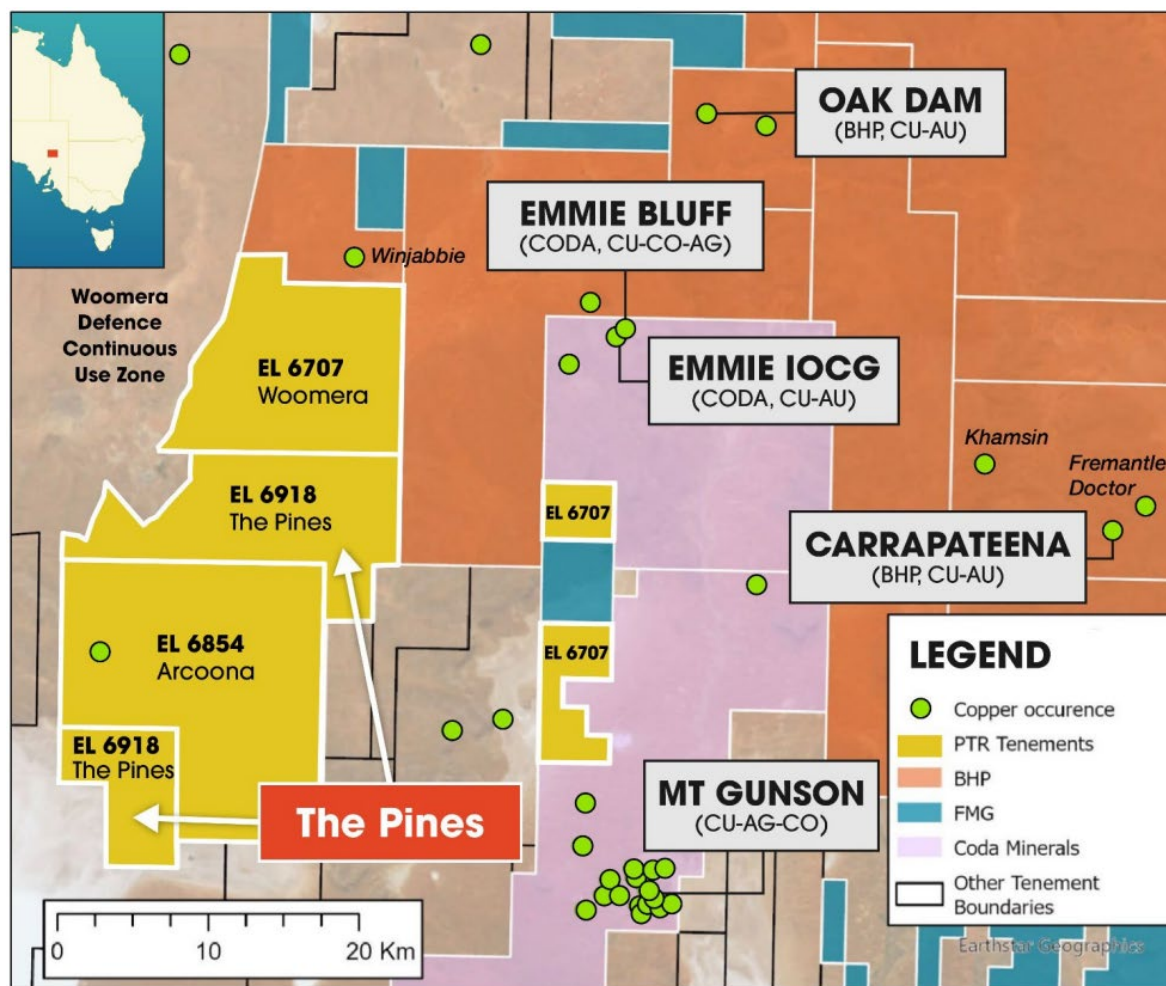


Figure 4 – PTR's Woomera Project and Copper-Gold Mines/Prospects

December 2023 Quarter – ASX Announcements

This Quarterly Activities Report contains information extracted from ASX market announcements reported in accordance with the 2012 edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (2012 JORC Code). Further details (including 2012 JORC Code reporting tables where applicable) of exploration results referred to in this Quarterly Activities Report can be found in the following announcements lodged on the Company’s ASX platform:

Date of Release	Title of Release
29-Nov-23	Drilling Completed at Olympus Gravity Target
13-Nov-23	Drilling Underway at Olympus IOCG Target
03-Oct-23	Drilling of High-Priority Olympus IOCG Target

These announcements are available for viewing on the Company’s website petratherm.com.au/ under the investor tab. PTR confirms that is not aware of any new information or data that materially affects the information included in any original ASX Announcement.

-ENDS-

This announcement has been authorised for release on the ASX by the Company’s Board of Directors.

For further information:

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Media and Broker Contact

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Competent Persons Statement:

The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Peter Reid, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Reid is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Reid is an employee of Petratherm Ltd. Mr Reid has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Granted Tenement Licences

Tenement No.	Project	Tenement Name	Area (km2)	Registered holder	Company Interest
EL6332	Mabel Creek	Mt Willoughby	838	Petratherm Limited	100%
EL6333	Mabel Creek	Mt Barry	641	Petratherm Limited	100%
EL6404	Mabel Creek	Kanku	456	Petratherm Limited	100%
EL6405	Mabel Creek	Mt Euee	917	Petratherm Limited	100%
EL6443	Comet	Comet	256	Petratherm Limited	100%
EL6633	Comet	Gina	934	Petratherm Limited	100%
EL6707	Woomera	Woomera	209	Petratherm Limited	100%
EL6722	Comet	West Comet	110	Petratherm Limited	100%
EL6815	Muckanippie	Muckanippie	80	Petratherm Limited	100%
EL6816	Comet	Commonwealth Hill	30	Petratherm Limited	100%
EL6818	Comet	Perfection Well	585	Petratherm Limited	100%
EL6854	Woomera	Arcoona	264	Petratherm Limited	100%
EL6855	Muckanippie	Mulgathing	178	Petratherm Limited	100%
EL6918	Woomera	The Pines	195	Petratherm Limited	100%
EL6919	Mabel Creek	Dean Bore	470	Petratherm Limited	100%
EL6949	Mabel Creek	Baby Creek	670	Petratherm Limited	100%
EL6950	Mabel Creek	Cadaree Hill	644	Petratherm Limited	100%

Appendix 5B

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

Name of entity

PETRATHERM LIMITED

ABN

17 106 806 884

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		(6)
	(b) development		
	(c) production		
	(d) staff costs		
	(e) administration and corporate costs	(194)	(483)
1.3	Dividends received (see note 3)		
1.4	Interest received	4	48
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	(190)	(441)
2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment		
	(d) exploration & evaluation	(350)	(842)
	(e) investments	-	-
	(f) other non-current assets	(30)	(30)

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		
	Government grants & incentives		73
	Research and Development tax offset		425
	(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	(380)	(374)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities		
3.5	Proceeds from borrowings		
3.6	Repayment of borrowings		
3.7	Transaction costs related to loans and borrowings		
3.8	Dividends paid		
3.9	Other (provide details if material)		
3.10	Net cash from / (used in) financing activities		

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,294	2,539
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(190)	(441)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(380)	(374)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 Months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)		
4.5	Effect of movement in exchange rates on cash held		
4.6	Cash and cash equivalents at end of period	1,724	1,724

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	424	994
5.2	Call deposits	1,300	1,300
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)	1,724	2,294

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	33
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>		

7.	Financing facilities <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>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities		
7.2	Credit standby arrangements		
7.3	Other (please specify)		
7.4	Total financing facilities		
7.5	Unused financing facilities available at quarter end		
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(190)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(350)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(540)
8.4	Cash and cash equivalents at quarter end (item 4.6)	1,724
8.5	Unused finance facilities available at quarter end (item 7.5)	
8.6	Total available funding (item 8.4 + item 8.5)	1,724
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	3
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>		
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
	Answer:	
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:	

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:

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: 24 January 2024



Authorised by:
Katelyn Adams, Company Secretary

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.

**Changes in Interests in Mining Tenements
For Quarter Ended 31 December 2023**

		Tenement Reference	Nature of Interest	Interest at beginning of Quarter	Interest at end of Quarter
10.1	Interests in mining tenements relinquished, reduced or lapsed		No changes	N/A	N/A
10.2	Interests in mining tenements acquired or increased	EL6949 EL6950	Exploration licence granted	0%	100%

ASX Additional Information

List of mining tenements as at 31 December 2023

Granted Tenement Licences:

Tenement No.	Project Area	Area (km2)	Registered holder	Company Interest
EL6332	Mt Willoughby	838	Petratherm Limited	100%
EL6333	Mt Barry	641	Petratherm Limited	100%
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Tenement Licence Applications: N/A