

**ASX Announcement**

**23 October 2024**

**QUARTERLY ACTIVITY REPORT  
FOR THE PERIOD ENDED 30 SEPTEMBER 2024**

**Highlights:**

- Drilling at the flagship Llahuin Copper-Gold-Moly Project continues
- A pulp compositing campaign utilising pXRF assays to highlight significant zones of Molybdenum (Mo or Moly) in historic drilling where Mo was not previously assayed was conducted. Better intercepts included:
  - 150m at 375ppm Mo from 20m in drillhole RDLLA014 including 20m at 2,080ppm Mo from 80m
  - 20m at 756ppm Mo from 110m in drillhole DDLLA018
  - 70m at 256ppm Mo from 80m in drillhole RCLLA117
- Significant new results from grid rock chip sampling included;
  - **7.38g/t Au** and **8.13g/t Ag** in 24LHR000602
  - **0.59gt Au** and **1.44g/t Ag** in 24LHR000596
  - **0.22% Cu** in 24LHR000574
- 156 new rock chips collected, and 73 historical drillhole pulp samples were selected for assay by four acid digest and ICPMS for multi-element with low-level detection to refine 3D Modelling refining Curiosity and Cerro-Ferro Deeps drill targets
- Hyland Geological and Mining Consultants have been engaged to commence a Mineral Resource Estimate upgrade for H1 2025 incorporating all drilling and results since the last JORC Resource in 2013 and to include results from the current drilling program

Southern Hemisphere Mining Limited (“Southern Hemisphere” or “the Company”) (ASX: SUH, FWB: NK4) reports the quarterly activity for the period ended 30 September 2024.

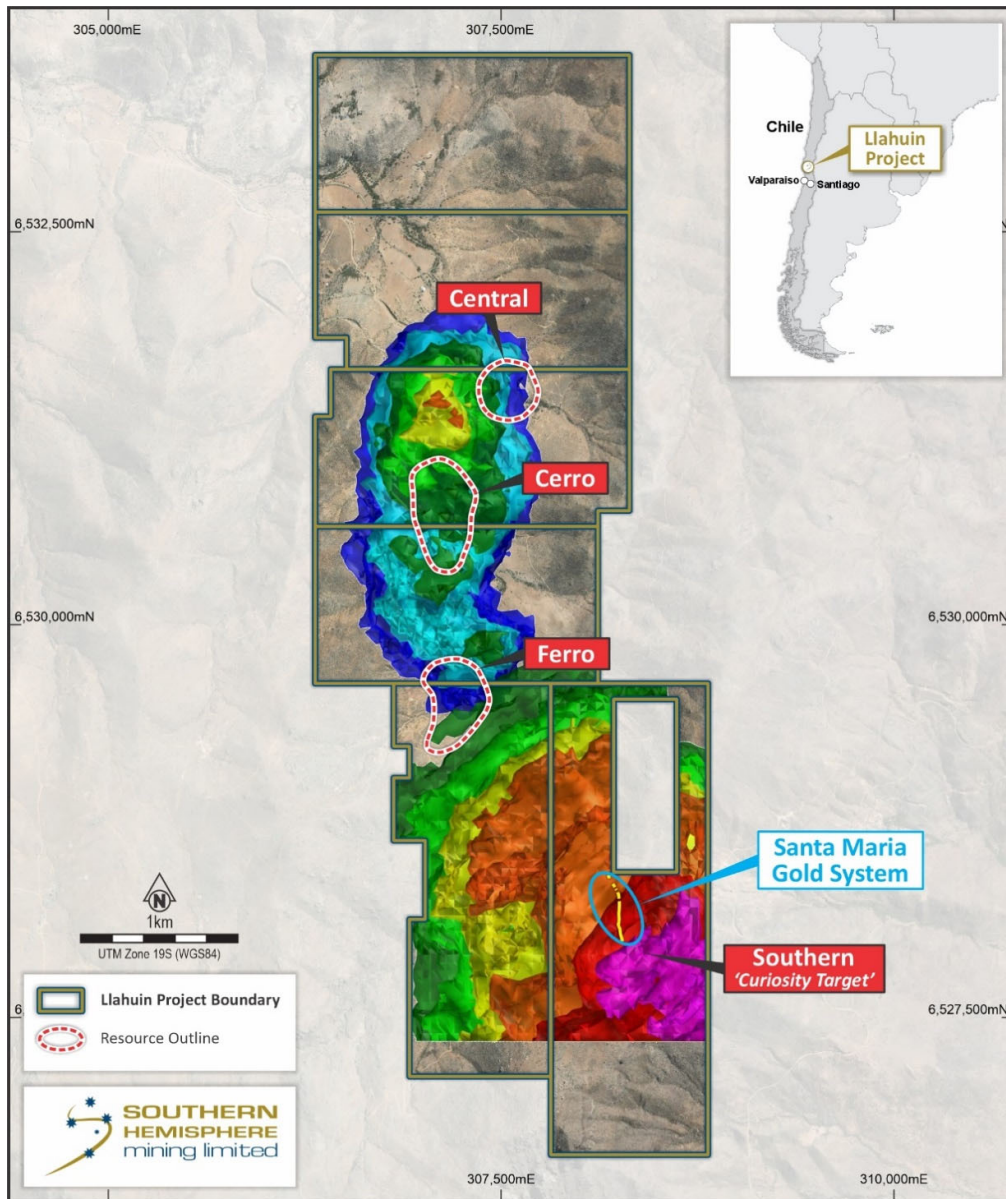


*Figure 1: Location map of Southern Hemisphere’s projects in South America.*

## EXPLORATION ACTIVITIES

### Llahuin Copper-Gold-Moly Porphyry Project 100%

During the quarter under review, the Company continued and reported significant work-fronts to advance the Llahuin Copper-Gold-Moly Porphyry Project (“Llahuin Project”) towards mining study stage. The reported work is part of the process to substantially increase the copper and gold endowment of the Llahuin Project from the current Independent Resource Estimate of 680,000t copper equivalent (measured indicated and inferred categories done in 2013), by incorporating all drilling and re-interpretation, re-logging, etc done since then, and include all results from the drilling in progress.



**Figure 2: 3D plan view showing geochemical footprint models thematically colour scaled from blue (moderate probability) through to reds and magentas (high probability).**

### **RC and Diamond drilling program**

The drilling program is designed to delineate the deeper core of the large Cerro-Ferro porphyry deposits (+2km strike) to increase tonnes at higher grades to add to the copper endowment towards establishing economic parameters for mining studies.

The RC drilling program will initially focus on the near surface Cu-Au mineralisation intersected in 23LHRC042 (48m at 0.48% CuEq from surface) drilled last year. This is a new zone south of Ferro which was part of the southern soil anomaly and had not been previously drilled. It therefore is a good opportunity to add near surface higher grade tonnes to the current resource.

### **Rock chip and drillhole pulp data**

The Company is working with Fathom Geophysics for 3D porphyry footprint modelling method on recently collected rock chip and drillhole pulp data at the Llahuin Project. This method uses eleven elements (As (arsenic), Bi (bismuth), Cu (copper), Li (lithium), Mo (molybdenum), Sb (antimony), Se (selenium), Sn (tin), Te (tellurium), Tl (thallium), and W (tungsten), to map idealised deposit model zonation and thresholds based on the Halley et al., (2015) geochemical model. Deliverables from this work are a set of wireframe shells representing probabilities of the presence of a porphyry system at a given point in 3D space.

A pulp compositing campaign carried out during the quarter highlighted significant zones of Moly in historic drilling that were not previously assayed. The Moly price is currently ~\$21/lb vs copper at ~\$4.20/lb so Moly is significant in the context of the copper equivalent grade, and these results and others in progress will be included in the upgraded JORC resource for H1 2025.

A total of 1,047 ten metre pulp composites covering 10,470m drilling were sent for multielement assay. All results received demonstrated a significant zone of Moly at the Central Porphyry in a ring like zone around the edge of the main porphyry.

### **Los Pumas Battery Metals Manganese Project 100%**

The Los Pumas Project is an advanced manganese deposit for which Southern Hemisphere is seeking offtake/JV funding/sale for a long life mine to produce:

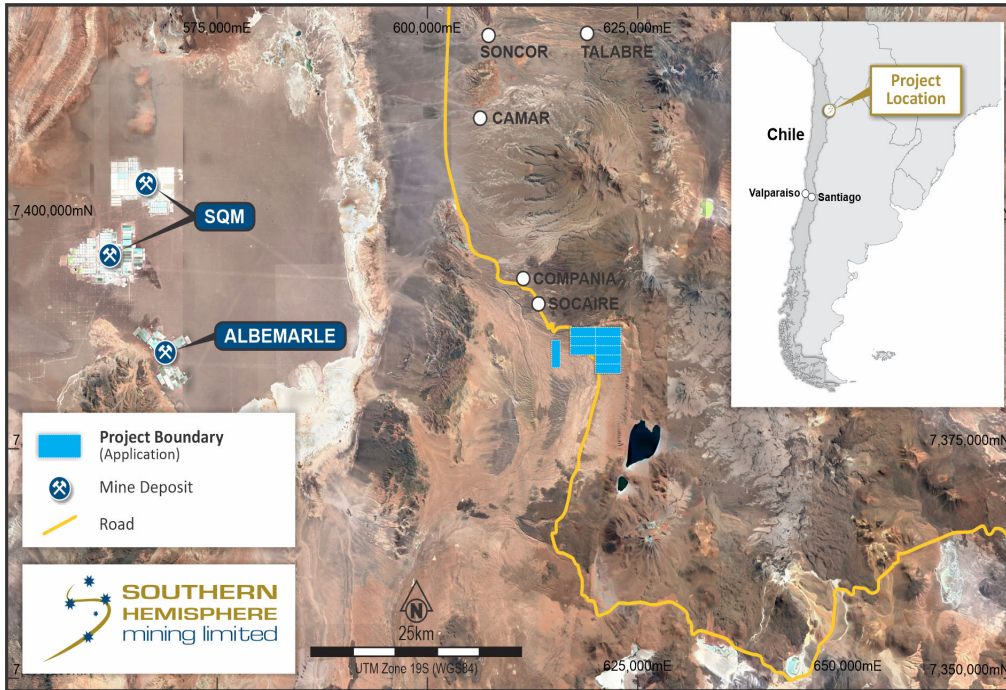
- Agriculture products for soil improvement;
- Electrolytic Manganese for steel making; and/or
- High-Purity Manganese Sulphate Monohydrate (“HPMSM”) to supply the Electric Vehicle (“EV”) and energy storage markets.

Southern Hemisphere is actively marketing this project, and welcome any inquires to [cosec@shmining.com.au](mailto:cosec@shmining.com.au)

### **Lago Lithium Brine Project 100%**

The Company’s main focus has been the expansion drilling at Llahuin, therefore no exploration activities took place during the quarter under review on the strategically obtained Lago Lithium Brine Project, located in the renowned lithium-rich Atacama region of Chile and covering an area of approximately 27km<sup>2</sup>. The Salar de Atacama is widely recognised for its exceptional lithium deposits operated by the world’s largest lithium brine producers, SQM and Albemarle.

Southern Hemisphere is actively marketing this project, and welcome any inquires to [cosec@shmining.com.au](mailto:cosec@shmining.com.au)



**Figure 3: Location of the nine new lithium brine concessions**

**CORPORATE ACTIVITIES**

The Directors have taken the opportunity to accumulate and increase their shareholdings, purchases during the quarter totalled approximately \$93k.

The Company’s VAT tax consultant in Chile has filed a VAT refund. Accumulated VAT returns are indicatively A\$3.5m and subject to review and approval of government taxation authorities.

Payments to related parties during the quarter totalled \$202,248 which included directors’ fees, consulting fees, equipment hire, office lease expenses and superannuation.

**Approved by the Board of Directors**

**CONTACTS:**

For further information on this announcement or the Company generally, please visit our website at [www.shmining.com.au](http://www.shmining.com.au) or contact the Company.

[Cosec@shmining.com.au](mailto:Cosec@shmining.com.au)

Ph 08 6144 0590

**References:**

**LLAHUIN COPPER-GOLD PROJECT**

- ASX Release – Llahuin Copper-Gold Project, Chile – Update – 18 July 2024.
- ASX Release – Llahuin Copper-Gold-Moly Project, Chile – Update – 27 August 2024.
- ASX Release – Drilling to Commence at Llahuin Copper-Gold Project, Chile – 19 September 2024.

**LOS PUMAS BATTERY METALS MANGANESE PROJECT**

- ASX Release – Company Presentation – Los Pumas Manganese Project, Chile – 20 May 2024.
- ASX Release – Intension to Demerge Battery Minerals Asset – 5 July 2023.

**LAGO LITHIUM BRINE PROJECT**

- ASX Release – Application for the Lago Lithium Brine Concessions in Chile – 10 July 2023.

Southern Hemisphere confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements.

## BACKGROUND INFORMATION ON SOUTHERN HEMISPHERE MINING LIMITED:

Southern Hemisphere Mining Limited is an experienced minerals explorer in Chile, South America. Chile is the world's leading copper-producing country and one of the most prospective regions of the world for major new copper discoveries. The Company's projects include the Llahuin Porphyry Copper-Gold-Moly Project and the Los Pumas Battery Metals Manganese Project, both of which were discovered by the Company.

**Llahuin Copper/Gold/Moly Project: Total Measured and Indicated Resources - JORC (2004) Compliant. As announced to the market on 18 August 2013.**

Resource (at 0.28% Cu Equiv cut-off)	Tonnes Millions	Cu %	Au g/t	Mo %	Cu Equiv*
Measured	112	0.31	0.12	0.008	0.42
Indicated	37	0.23	0.14	0.007	0.37
<b>Measured plus Indicated</b>	<b>149</b>	<b>0.29</b>	<b>0.12</b>	<b>0.008</b>	<b>0.41</b>
Inferred	20	0.20	0.19	0.005	0.36
<b>Total M+I+I</b>	<b>169</b>	<b>0.28</b>	<b>0.128</b>	<b>0.008</b>	<b>0.40</b>

**Note: \*Copper Equivalent ("Cu Equiv"):** The copper equivalent calculations represent the total metal value for each metal, multiplied by the conversion factor, summed and expressed in equivalent copper percentage. These results are exploration results only and no allowance is made for recovery losses that may occur should mining eventually result. It is the Company's opinion that elements considered have a reasonable potential to be recovered as evidenced in similar multi-commodity natured mines. Copper equivalent conversion factors and long-term price assumptions used are stated below:

### Notes on copper recovery from historical testwork

- "Recoveries of copper vary between 75% Cu and 91% Cu with the weighted average of the results being 84% Cu, which is a typically acceptable commercial level";
  - "Recoveries of gold vary between 41% Au and 57% Au, which is in line with expectations given the relatively low gold grades within the deposit"; and
  - "Flotation concentrates produced during testing contained the resource weighted average copper grade of 28% Cu and 4.9g/t Au. They also contained low levels of deleterious materials in the concentrate. Given that these tests were designed to set parameters and were not optimized, the results indicated good flotation process characteristics".
- Copper Equivalent Formula= Cu % + Au (g/t) x 0.72662 + Mo % x 4.412 Price Assumptions- Cu (\$3.20/lb), Au (\$1,700/oz), Mo (\$12.50/lb)

**Los Pumas Manganese Project: Total Measured and Indicated Resources - JORC (2012) Compliant. As announced to the market on 3 May 2023.**

Resource (at 2.5% Mn cut-off)	Tonnes	Mn %	Al%	Fe2O3%	K%	P%	SiO2%	SG%
Indicated	23,324,038	6.21	5.71	2.78	2.98	0.05	57.07	2.15
Inferred	6,940,715	6.34	5.85	3.05	2.83	0.05	54.61	2.14
<b>Indicated plus Inferred</b>	<b>30,264,753</b>	<b>6.24</b>	<b>5.74</b>	<b>2.84</b>	<b>2.95</b>	<b>0.05</b>	<b>56.50</b>	<b>2.15</b>

Total JORC Resources for the Los Pumas Manganese Project at a 2.5% Mn cut-off.

In relation to the above resources, the Company confirms that it is not aware of any new information or data that materially affects the information in the announcements, and all material assumptions and technical parameters in the announcements underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

### COMPETENT PERSON / QUALIFIED PERSON STATEMENT:

The information in this report that relates to copper and gold exploration results for the Company's Projects is based on information compiled by Mr Adam Anderson, who is a Member of The Australasian Institute of Mining and Metallurgy and The Australian Institute of Geoscientists. Mr Anderson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking 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 Anderson is a consultant for the Company and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Tenement List

Project	Tenement	Interest Acquired during the Qtr	Interest Disposed of during the Qtr	Interest Held at the end of the Qtr
Llahuin	AMAPOLA 1 1 AL 20	-	-	100%
Llahuin	AMAPOLA 2 1 AL 20	-	-	100%
Llahuin	AMAPOLA 3 1 AL 20	-	-	100%
Llahuin	AMAPOLA 4 1 AL 20 - RED 1/18	-	-	100%
Llahuin	AMAPOLA I 1 AL 300 RED 1/228	-	-	100%
Llahuin	AMAPOLA II 1 AL 300 RED 1/256	-	-	100%
Llahuin	AMAPOLA 5	-	-	100%
Llahuin*	AMAPOLA 6 1 AL 4	-	-	100%
Los Pumas	AWAHOU 1 AL 20	-	-	100%
Los Pumas	EMANUEL 1 AL 20	-	-	100%
Los Pumas	PUTRE I AL 20	-	-	100%
Los Pumas	PUTRE II AL 20	-	-	100%
Los Pumas	LLUTA I 1 AL 60 RED 1/54	-	-	100%
Los Pumas	LLUTA II 1 AL 300 RED 1/285	-	-	100%
Los Pumas	PUTRE 6, 1 AL 20 RED 1/11	-	-	100%
Los Pumas*	PUTRE 5	-	-	100%
Lago*	SOCAIRE 1	-	-	100%
Lago*	SOCAIRE 2	-	-	100%
Lago*	SOCAIRE 3	-	-	100%
Lago*	SOCAIRE 4	-	-	100%
Lago*	SOCAIRE 5	-	-	100%
Lago*	SOCAIRE 6	-	-	100%
Lago*	SOCAIRE 7	-	-	100%
Lago*	SOCAIRE 8	-	-	100%
Lago*	SOCAIRE 9	-	-	100%
Colina	COLINA2 1 AL 30	-	-	100%

\* Applications in progress

## Appendix 5B

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

Name of entity

SOUTHERN HEMISPHERE MINING LIMITED

ABN

17 140 494 784

Quarter ended ("current quarter")

30 SEPTEMBER 2024

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(134)	(134)
(b) development	-	-
(c) production	-	-
(d) staff costs	(269)	(269)
(e) administration and corporate costs	(230)	(230)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	1	1
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)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(632)</b>	<b>(632)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(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	10	10
	(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)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>10</b>	<b>10</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
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)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>-</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	4,663	4,663
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(632)	(632)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	10	10
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-



## 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	(2)	(2)
4.6	<b>Cash and cash equivalents at end of period</b>	<b>4,039</b>	<b>4,039</b>

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	539	4,648
5.2	Call deposits	3,500	15
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>4,039</b>	<b>4,663</b>

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	202
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

*Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments..*

7.	Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b>		-
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.		

<b>8. Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(632)
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)	(632)
8.4 Cash and cash equivalents at quarter end (item 4.6)	4,039
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	4,039
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	6.39
<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?	
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?	
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?	
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: 23 October 2024

Authorised by: By the Board  
(Name of body or officer authorising release – see note 4)

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

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**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.