

**ASX Announcement**

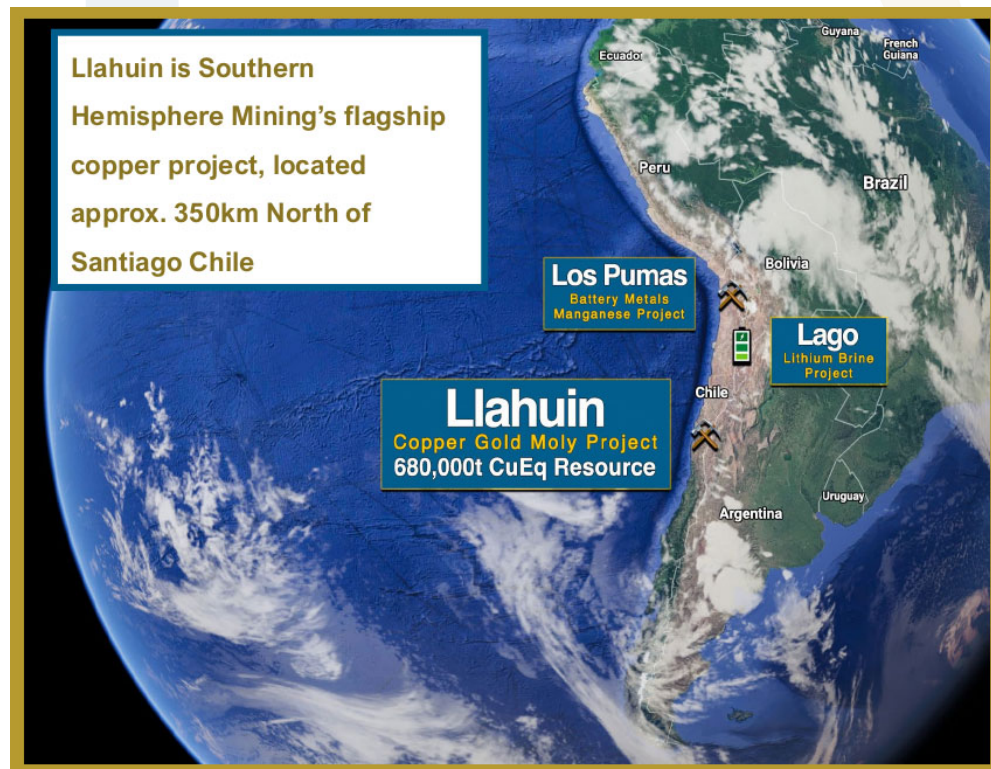
**29 July 2024**

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

**Highlights:**

- 3D soil geochemical footprint modelling has identified two potential large drill targets at the Llahuin Copper-Gold porphyry system
- A large copper gold target is emerging at the Curiosity target, Southern Porphyry located 550m below the Santa Maria epithermal vein system with a diameter of over 1km expanding to over 2km diameter at depth
- Two shallower targets at Cerro and Ferro are confirmed near surface by drilling, and further data acquisition and modelling progressing
- No drilling or modern exploration has been completed on the Southern Porphyry Curiosity target before
- 3D drone magnetic inversion completed which further supports the targets
- Southern Hemisphere completed a raise of A\$5M via a share placement to institutional investors
- Fully funded to commence a RC and diamond drilling campaign at Llahuin to substantially increase open pit resources towards the scale to commence mining studies.

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



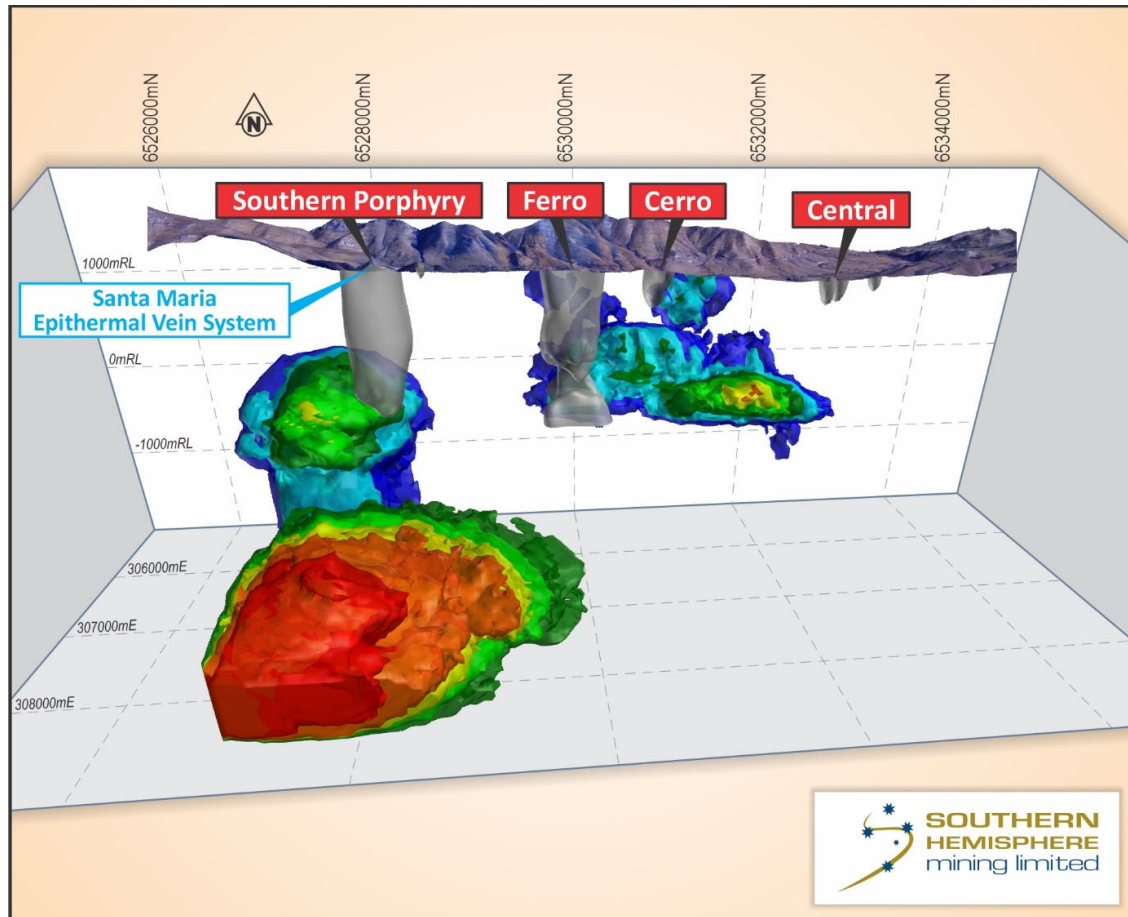
*Figure 1: Location map of Southern Hemisphere's projects in South America.*

## EXPLORATION ACTIVITIES

### Llahuin Copper-Gold Porphyry Project 100%

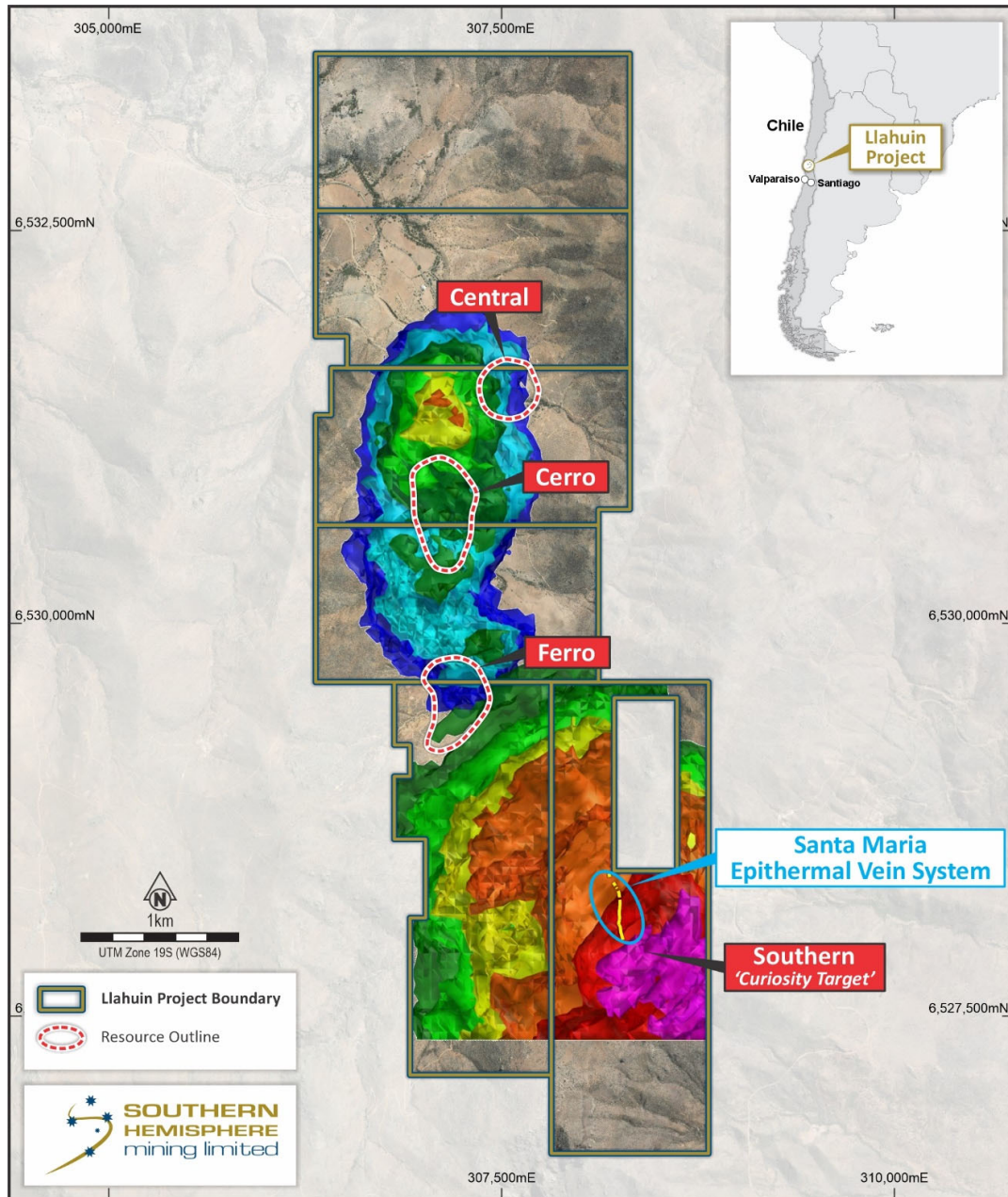
The Company reported encouraging results of recent 3D Soil Geochemical Footprint Modelling and 3D Drone Magnetic Inversion Modelling.

This work is part of the process to substantially increase the copper and gold endowment of the Llahuin Copper-Gold Project from the current Independent Resources Estimate of 680,000t Copper Equivalent (measured indicated and inferred categories done in 2013).



*Figure 2: 3D view showing geochemical footprint models thematically colour scaled from blue (moderate probability) through to reds and magentas (high probability). Drone magnetic inversion models are in silvery grey.*

The Company engaged Fathom Geophysics to apply its proprietary 3D porphyry footprint modelling method at Llahuin. Receivables 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.



**Figure 3: Plan view, showing the geochemical footprint models, drone magnetic inversions, and existing deposits and prospects.**

Surface soil and surface rock chip samples were used to create two 3D model outcomes over Llahuin. The results of which are encouraging. Additional data is being collected to refine the models to the point of being drill ready.

A 3D inversion model on the Drone Magnetic dataset was completed to complement the footprint modelling. The magnetic and geochemistry models complement each other, with early phase highly magnetic bodies located adjacent to and above geochemical footprint models.

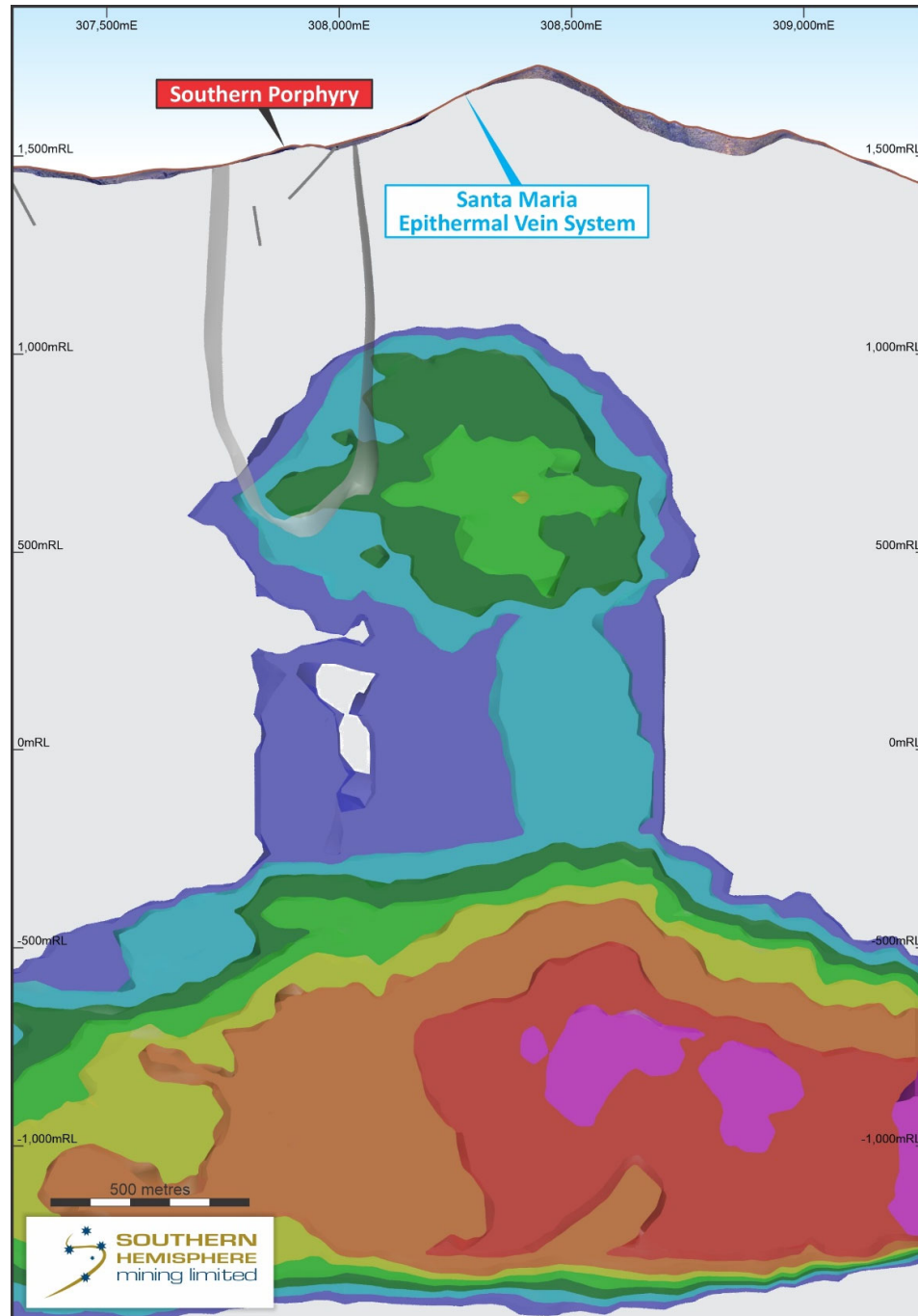
This work resulted in two new potential drill targets (footprint targets) and a better understanding of the geometry of the porphyry system at Llahuin.



### Southern Porphyry Curiosity Copper-Gold Target

The target top is 550m vertical below the Santa Maria epithermal vein system. It has a pipe like geometry with a diameter of approximately 1km. This extends to approximately 2km depth, where the probability values increase, and the model becomes significantly larger in aerial extent.

The location and geometry are supported by the drone magnetic inversion model, with a strongly magnetic core located above and to the side of the geochemistry model.



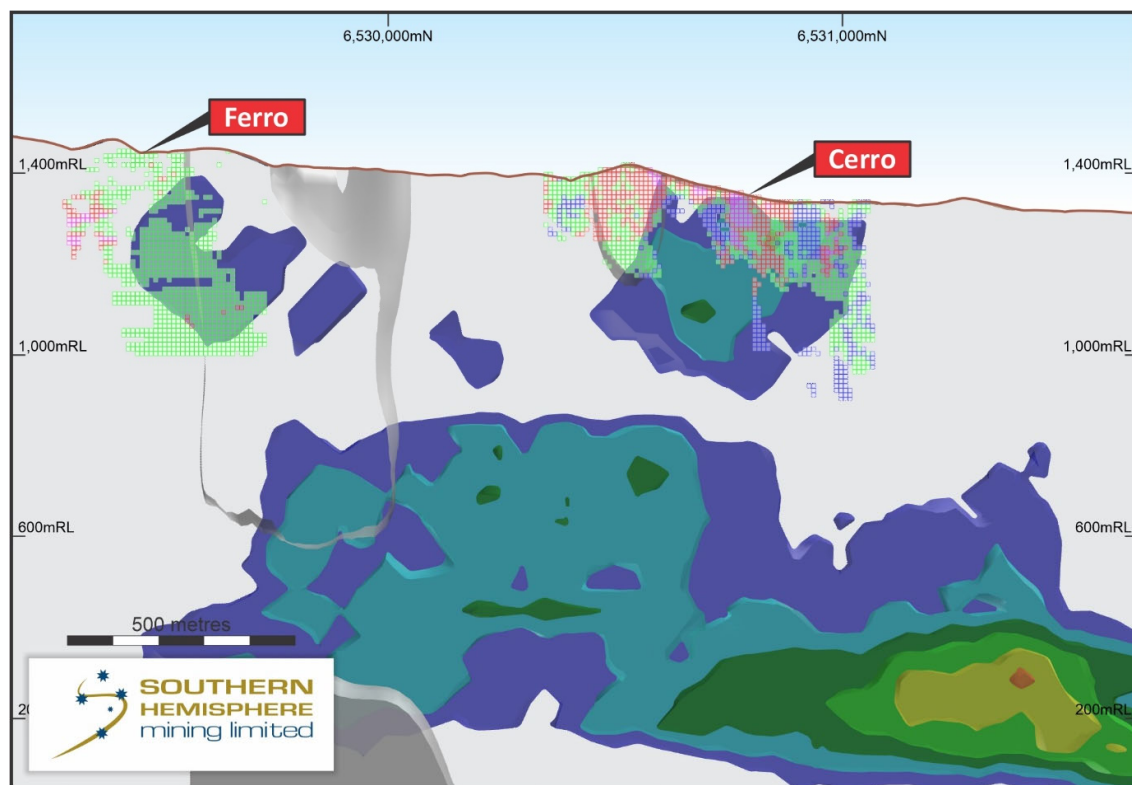
*Figure 4: Cross section of Southern Porphyry, showing thematically coloured footprint models, drone magnetic inversion models in silvery grey, and existing drilling in grey.*

## Cerro- Ferro Target

This target begins near surface, consistent with the resource drill patterns at Ferro and Cerro extending outside and below the current Mineral Resources to a depth of approximately 500m. Then, at depth a significantly larger target develops (Cerro-Ferro Deeps), extending to approximately 1,250m depth.

The Cerro-Ferro Deeps footprint target is approximately 2,200m long (north-south), by 900m wide (east-west), by 650m thick.

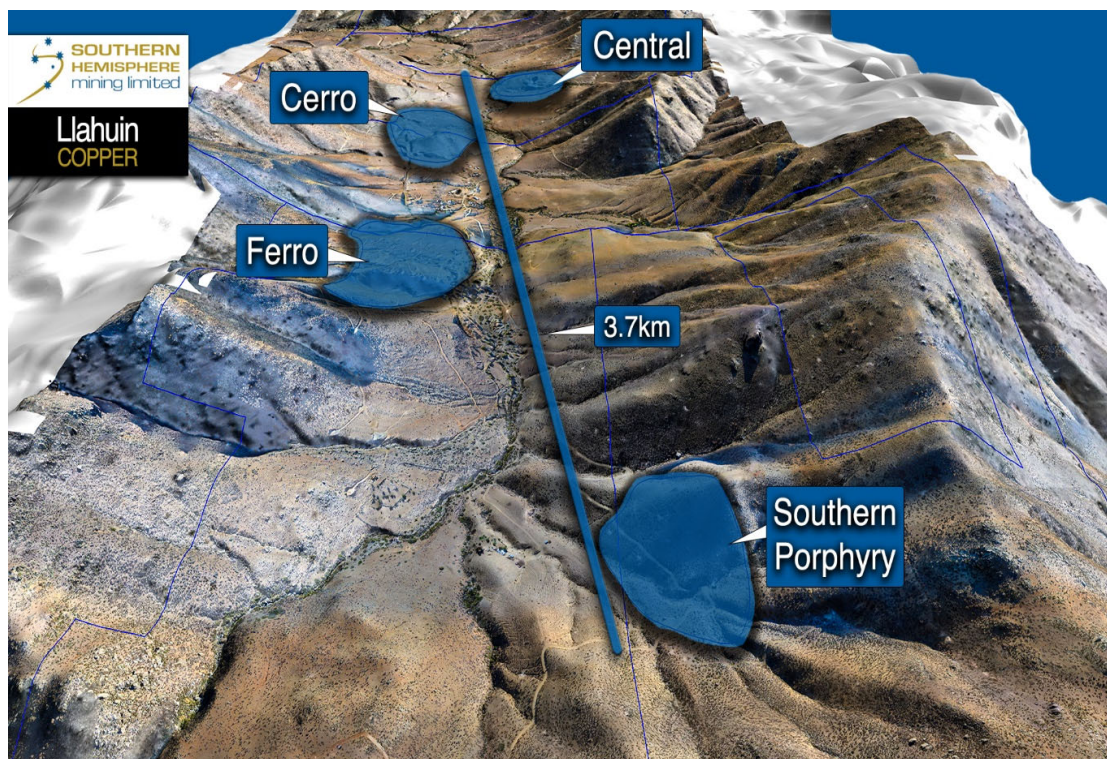
This target area and the general validity of the geochemical footprint modelling are supported by existing drilling and the location of the Mineral Resources at Ferro and Cerro. Further support is provided by the drone magnetic inversion model, with highly magnetic cores located adjacent to the geochemistry models.



**Figure 5: Long section of Ferro and Cerro, showing the thematically coloured footprint models, drone magnetic and current Mineral Resources.**

## Ongoing Programs

Surface sampling programs continued during the quarter, to improve the spatial coverage and analytical information of the datasets. The aim is to improve the resolution of the rock-chip based footprint models to better compare and contrast with the soil-based models, close off and better resolve the Southern Porphyry target, and generally tighten the resolution of the models in preparation for drill testing.



*Figure 6: 3D view looking northeast from Southern Porphyry (SP) to Central Porphyry, showing the scale of the Llahuin mineralising system.*

The Company has invited tenders from four Chilean drilling companies. The program will initially be RC up to 250m depth, targeting resource expansion, and possible pre-collars for deep targets. Subsequent deeper diamond drilling will, where possible, use historical holes in the right location optimising existing sunk costs and substantially reduce drilling costs of deeper holes.

Sedgman has been engaged to conduct metallurgical test work on several key representative samples from within the current Mineral Resource and advance on prior work completed in 2013.

Hyland Geological and Mining Consultants are engaged to complete a Mineral Resource Estimate update for the Llahuin Copper-Gold Project. This will be the first work of its kind at Llahuin since 2013. A significant amount of new data by re-assaying existing drilling and new drilling has been completed since the 2013 Mineral Resource Estimate to advance the project towards mining studies.



### 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.

(Refer ASX Announcement, dated 10 July 2023 – Application for the Lago Lithium Brine Concessions in Chile).

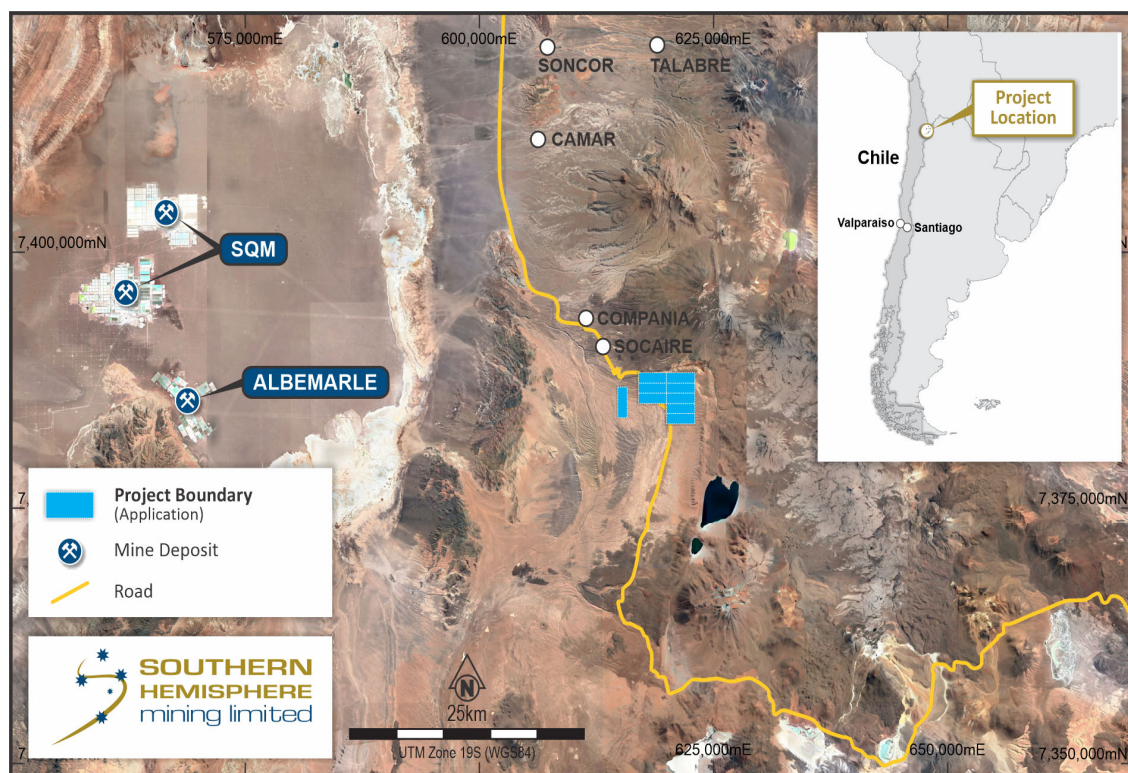


Figure 7: Location of the nine new lithium brine concessions

## **CORPORATE ACTIVITIES**

During the quarter, the Company raised A\$5M before costs, via a share placement of ordinary shares to institutional investors at an issue price of \$0.035 per share.

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 \$22,339 which included directors' fees, reimbursements and interest on loans provided.

### **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 – New 3D Geochemical Footprint Exploration Targets Identified – 29 April 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.

##### **CORPORATE**

ASX Release – Institutional Placement – 7 June 2024.

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*	SOCALRE 1	-	-	100%
Lago*	SOCALRE 2	-	-	100%
Lago*	SOCALRE 3	-	-	100%
Lago*	SOCALRE 4	-	-	100%
Lago*	SOCALRE 5	-	-	100%
Lago*	SOCALRE 6	-	-	100%
Lago*	SOCALRE 7	-	-	100%
Lago*	SOCALRE 8	-	-	100%
Lago*	SOCALRE 9	-	-	100%
Colina	COLINA2 1 AL 30	-	-	100%
Colina	COLINA A14	-	100%	-
Colina	COLINA A15	-	100%	-
Colina	COLINA A16	-	100%	-
Colina	COLINA B01	-	100%	-
Colina	COLINA B02	-	100%	-
Colina	COLINA B03	-	100%	-
Colina	COLINA B04	-	100%	-
Colina	COLINA B05	-	100%	-
Colina	COLINA B06	-	100%	-
Colina	COLINA B07	-	100%	-
Colina	COLINA B10	-	100%	-
Colina	COLINA B13	-	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 JUNE 2024

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
<b>1.</b>	<b>Cash flows from operating activities</b>		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(446)	(2,455)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(29)	(186)
	(e) administration and corporate costs	(38)	(485)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	-
1.5	Interest and other costs of finance paid	(6)	(6)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
<b>1.9</b>	<b>Net cash from / (used in) operating activities</b>	<b>(519)</b>	<b>(3,132)</b>
<b>2.</b>	<b>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	-	-



Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 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)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>-</b>	<b>-</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	5,000	7,185
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	2
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(232)	(366)
3.5	Proceeds from borrowings	60	410
3.6	Repayment of borrowings	(60)	(60)
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>4,768</b>	<b>7,171</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	406	612
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(519)	(3,132)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	4,768	7,171

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	8	12
4.6	<b>Cash and cash equivalents at end of period</b>	<b>4,663</b>	<b>4,663</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	4,648	391
5.2	Call deposits	15	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>4,663</b>	<b>406</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	22
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.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(519)
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)	(519)
8.4	Cash and cash equivalents at quarter end (item 4.6)	4,663
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	4,663
8.7	<b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	8.98
<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: 29 July 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.