

# **Quarterly Activities Report**

# Period ending 31 March 2025

#### **Head Office:**

Suite 3, Level 1, 5 Gardner Close Milton Queensland 4064

**T:** 07 3847 2887

E: manager@superiorresources.com.au

# **Summary**

# **Steam Engine Gold Project**

- Activities during the Quarter were primarily focussed on expediting the Steam Engine Gold Project regulatory and mining study pathways to achieve early gold production within two years.
- A Feasibility Study based on a toll treatment operation continued to progress during the reporting period.
- Assay results from 31 RC holes for a total of 2,218m were reported during the Quarter, resulting in completion of the assaying program for all 2024 holes.
- Steam Engine Mineral Resource being revised and updated.
- New zones of gold mineralisation were identified at the northern ends of the Steam Engine and Eastern Ridge lodes.
- A maiden drilling program at Windmill East, 2.5kms south of the Eastern Ridge Lode, identified high grade gold lode mineralisation.
- Advanced 3D modelling of SAM geophysical data indicated that highly anomalous features resembling previously unknown gold lodes, including a potential extension of the main Steam Engine Lode, are real features and are likely to be at shallow depth. Planning and access preparation work for a drilling program commenced during the period.

#### **Bottletree Copper Prospect**

- The Company was awarded a \$300,000 Collaborative Exploration Initiative (CEI) critical minerals grant for the drilling of two deep holes targeting a modelled porphyry core during the 2024 field season. The government has extended the timeframes for completion of the CEI drilling.
- Drilling of the CEI holes is planned for commencement within the following two months, subject to weather conditions and funding.

# Cockie Creek Porphyry Cu-Au-Mo Prospect

 Modelling of a maiden JORC (2012) Mineral Resource Estimate is nearing completion and on track for release to the market during the second Quarter of 2025.

## Hall's Reward High Grade Cu-Au-Ag Prospect

- High grade Cu-Au-Ag project located within the Greenvale Project.
- Historical small-scale mining between 1933-1957 over a strike length of 50m and to a maximum depth of 45m produced 12,800t @ 5 g/t Au, 17% Cu and 23 g/t Ag.
- Drill program being planned to test for mineralisation around the old workings and also a second lode that extends up to 2kms strike length.

#### **Superior Resources Limited**

#### ASX:SPQ

#### **Board**

Carlos Fernicola – Chairman Peter Hwang – Managing Director Simon Pooley – Non-Exec Director Carlos Fernicola – Company Secretary

#### **Securities**

Ordinary Shares – 2,370,982,725 Top 20 holders: 33% issued capital

#### Summary

Superior Resources Limited is a Brisbane based ASX-listed mineral explorer with a portfolio of large copper exploration projects, including a developing portfolio of nickel-cobalt projects in northern Queensland. The projects also include large targets for Mount Isa style copper and lead-zinc-silver deposits and uranium deposits in northwestern Queensland exploration projects in northeast Queensland for VMS and porphyry copper-gold-silvermolybdenum deposits.

# **Share Registry**

Link Market Services Level 15, 324 Queens Street Brisbane, QLD, 4000

#### **Web Site**

www.superiorresources.com.au

# Contact

Peter Hwang (07) 3847 2887

Carlos Fernicola (07) 3831 4172

manager@superiorresources.com.au

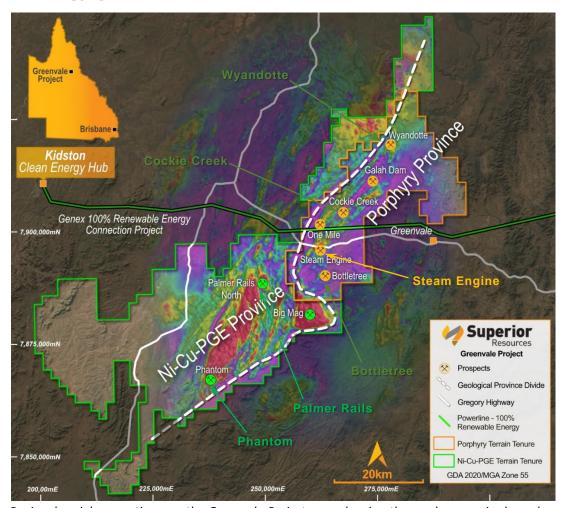


# **PROJECT LOCATIONS**



**Figure 1**. Location map showing the Company's current portfolio of projects.

# **GREENVALE PROJECT**



**Figure 2.** Regional aerial magnetics over the Greenvale Project area showing the newly recognised porphyry province (amber tenements) and the magmatic Ni-Cu-PGE sulphide province (tenements outlined in green). The approximate boundary between the two provinces is indicated by the white dashed line.



# **SUMMARY**

# STEAM ENGINE GOLD PROJECT

#### STRATEGY AND OBJECTIVES

The Company's activities are primarily focussed on expediting the Steam Engine Gold Project regulatory and mining study pathways to achieve early production within two years.

The pathway to production comprises Regulatory Approvals, Contracting and Commercial and Mining Study programs. Strategically, the production pathway is being run in parallel with Resource Expansion Programs.

#### **PATHWAY OUTPUTS**

Outputs and outcomes from the programs include the following:

- Completion of Feasibility Study;
- Declaration of a Maiden Ore Reserve;
- Toll Treatment Agreement;
- Mining and Haulage Contracts;
- Resource Expansion Drilling programs;
- Several Mineral Resource Estimate revisions;
- Native Title Statutory Procedure compliance;
- Landholder Agreement;
- Environmental Approvals;
- Mining Lease Grant.

# **ACTIVITY UPDATE**

# **DRILLING:**

- The 2024 Resource Expansion Drilling Program was completed late November 2024.
- A total of 69 reverse-circulation (RC) holes for 5,282m were completed over two phases of drilling.
- The program was designed to extend the Mineral Resource envelope northwards along strike at the Steam Engine Lode and northwards and to the south at the Eastern Ridge Lode.
- Maiden drilling at the new Windmill East Prospect intersected strongly mineralised lode zones that have the potential to add further ounces to the total Mineral Resource.

#### **REPORTING OF DRILL RESULTS:**

- Assay results from 31 RC holes for a total of 2,218m were reported during the Quarter and completed the assaying program for all 2024 holes.

#### MINERAL RESOURCE UPDATE

- The Steam Engine Mineral Resource Estimate (MRE) is currently being updated and will incorporate the results from the 2024 RC program.
- A new MRE is expected to be reported to the market during Q2 2025.

#### **GEOPHYSICAL MODELLING – SAM SURVEY DATA:**

- A sub-audio magnetics (SAM) geophysical survey that was conducted over the Steam Engine and



Eastern Ridge lodes highlighted strikingly anomalous chargeability features along strike from the southern ends of the Steam Engine and Eastern Ridge lodes. These SAM features have not been drill-tested and are very similar to SAM responses over the highest grade and thickest parts of the two lodes.

- In addition, the same type of SAM feature was also identified at other nearby locations and also in the area between the two lodes.
- Interpretation of the 3D inversion modelling of the SAM data by independent consultants has concluded that the SAM anomalies are real and likely to be sourced from shallow depths. This conclusion is highly significant as it is consistent with expected observations from the geological model for a previously unknown large and intensely mineralised gold lode.

Planning is underway for priority drilling of the SAM targets, in particular, the highest priority target at the southern end of the Steam Engine Lode.

#### **FEASIBILITY STUDY:**

- Feasibility Study work units were progressed, including ore beneficiation testing program, waste rock geochemical assessments and environmental studies.

# ORE HAULAGE, TOLL TREATMENT, CONTRACT MINING:

- Initial stage discussions with several parties.

#### **REGULATORY APPROVALS and LEGAL:**

- Preparations underway for native title negotiations and other statutory compliance processes.
- These approvals processes under various State legislation are significant components of the pathway to production, both in terms of costs and time requirements.
- Fortunately, Superior has the necessary expert legal and commercial competencies entirely in-house, thereby avoiding the very significant costs of external legal advisory and representation.

# **BOTTLETREE Cu-Au-Mo PORPHYRY**

#### COLLABORATIVE EXPLORATION INITIATIVE GRANT

- On 8 April 2024, the Company was awarded a \$300,000 Collaborative Exploration Initiative (**CEI**) grant for the drilling of two deep diamond core holes to test a high priority porphyry core target. The two planned holes total 1,700 metres of drilling. The funding arrangements are on a reimbursement basis.
- The CEI Grants Department extended the timeframes for the completion of the CEI funded program from 18 November 2024 to 30 June 2025.
- Further geological and geophysical interpretation work together with CEI drill program planning were conducted during the Quarter.
- Subject to weather conditions and any funding constraints, the Company plans to drill the CEI holes within the next two months. The Company is considering engaging a prominent drilling company that is willing to conduct the drilling for script payment.



# HALL'S REWARD HIGH GRADE Cu-Au-Ag

- New (to the market) high grade copper-gold-silver project located within the Greenvale Project.
- Historical small-scale mining between 1933-1957 over a strike length of 50m x 45m maximum depth produced 12,800t @ 5 g/t Au, 17% Cu and 23 g/t Ag (White, D. A. et. Al., 1958, Geology of the Hall's Reward Copper Mine Area, Northern Queensland, BMR Record 1958/60). The highly mineralised lode remains open to the south and at depth.
- Modern exploration identified a previously unknown parallel lode with a potential 2km strike length.
- Preparatory work to drill test for extensions to the main lode and investigate the second lode is underway.

# COCKIE CREEK Cu-Au-Mo PORPHYRY

#### MAIDEN MINERAL RESOURCE ESTIMATE

- The first drilling program for more than 30 years was conducted during H2 of 2023 with delivery of assays completed during Q1 of 2024. Better than expected grades and thicknesses of porphyry Cu-Au-Mo mineralisation were consistently returned from a total of seven diamond core holes for 2,716.5m of core. Results include:
  - o 117m @ 0.52% Cu, 0.11g/t Au and 109ppm Mo from 20m (CCDD002)<sup>1</sup>
    - incl. 71m @ 0.69% Cu, 0.13g/t Au and 158ppm Mo from 27m
    - incl. 36m @ 0.77% Cu, 0.14g/t Au and 146ppm Mo from 56m
    - incl. 10m @ 1.08% Cu, 0.20g/t Au and 44ppm Mo from 56m
  - 248m @ 0.28% Cu, 0.06g/t Au and 44ppm Mo from 56m to 303.7m (EOH) (CCDD003)<sup>2</sup>
    - incl. 177m @ 0.35% Cu, 0.07g/t Au and 52ppm Mo from 57m
    - incl. 130m @ 0.41% Cu, 0.08g/t Au and 49ppm Mo from 57m
    - incl. 33m @ 0.68% Cu, 0.11g/t Au and 56ppm Mo from 130m
    - incl. 14m @ 0.91% Cu, 0.12g/t Au and 79ppm Mo from 140m
  - 320m @ 0.21% Cu, 0.05 g/t Au and 31 ppm Mo from 176m (CCDD007)<sup>3</sup>
    - incl. **271m @ 0.24 % Cu, 0.05 g/t Au** and **36 ppm Mo** from 225m
    - incl. 171m @ 0.32% Cu, 0.07g/t Au and 40 ppm Mo from 225m
    - incl. 69m @ 0.52% Cu, 0.10g/t Au and 69ppm Mo from 225m
    - incl. **23m @ 0.70% Cu, 0.12g/t Au** and **68ppm Mo** from 265m
    - incl. 13m @ 0.89% Cu, 0.13g/t Au and 79 ppm Mo from 265m
- Preparation of a maiden JORC (2012) Mineral Resource Estimate was conducted mainly during the reporting period, but also during prior periods. Reporting of the Mineral Resource Estimate is nearing completion and expected to be released to the market during the second Quarter of 2025.

<sup>&</sup>lt;sup>1</sup> Refer to ASX announcement dated 16 October 2023.

<sup>&</sup>lt;sup>2</sup> Refer to ASX announcement dated 6 November 2023.

<sup>&</sup>lt;sup>3</sup> Refer to ASX announcement dated 29 January 2024.



# **ACTIVITIES REPORT**

# STEAM ENGINE GOLD PROJECT

#### **BACKGROUND**

The Steam Engine Gold Project is a unique gold deposit located between several actively explored Tier 1-potential porphyry Cu-Au-Mo system deposits and a proven but barely explored magmatic Ni-Cu-PGE sulphide province within the Company's 100%-owned Greenvale Project in northeast Queensland (Figs. 1 to 3).

On 4 June 2024 the Company announced the forward strategy for progressing the Project towards expedited development and revenue generation. Steam Engine presents the Company with an opportunity to generate revenue in the short to medium term and provides considerable upside potential to grow the Resource base into a substantial deposit. At current gold prices, the modelled revenue returns are substantial.

#### PROJECT SUMMARY

- Gold lode system with good continuity developed on several parallel mineralised structures with high grade gold shoots and bonanza grade zones, e.g.<sup>4</sup>:
  - o 5m @ 38 g/t Au from 49m (SRC077)
    - incl 1m @ 184 g/t Au from 51m
  - o **7m @ 20.6 g/t Au** from 54m (SRC076)
    - incl **1m @ 135 g/t Au** from 55m
  - o 8m @ 6.3 g/t Au from 19m (SRC136)
    - incl **1m @ 38.8 g/t Au** from 23m
  - o 5m @ 24.9 g/t Au from 27m (SRC161)
    - incl 1m @ 115.2 g/t Au from 29m.
- Mineral Resource Estimate<sup>5</sup> (MRE) currently stands at:
  - 4.18 Mt @ 1.5 g/t Au for 196,000oz Au (Stand-Alone Processing scenario); and
  - o **2.72 Mt @ 2.0 g/t Au for 171,000oz Au** (Toll Treatment scenario).
- Scoping Study based on extracting and producing approximately 55,000oz Au (Toll Treatment scenario) and 89,000oz Au (Stand-Alone Processing) indicates robust cases for both scenarios with pre-tax overall cash flows of approximately \$46M (Toll Treatment) and \$71M (Stand-Alone Processing), based on a gold price of A\$3,250<sup>6</sup>.

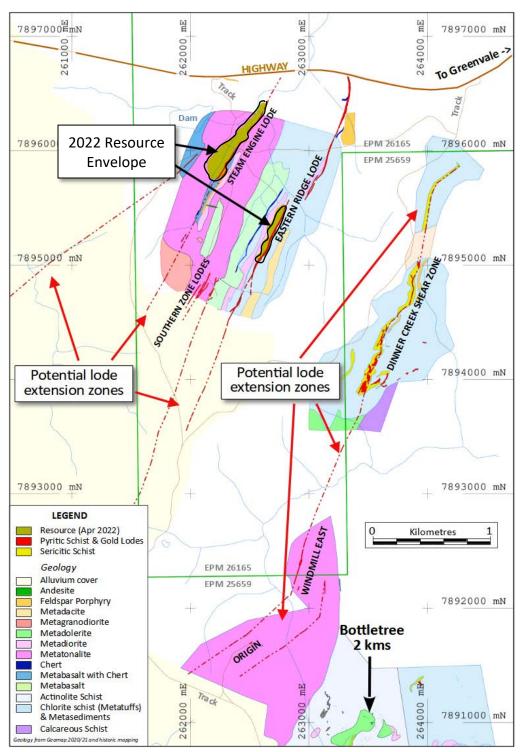
<sup>&</sup>lt;sup>4</sup> Refer to ASX Announcements: "First assays from Stage 2 drilling deliver spectacular results up to 184g/t Au at Steam Engine", dated 18 January 2021; "Steam Engine continues to deliver with grades up to 38.8g/t Au", dated 29 September 2021; and "Steam Engine returns spectacular intersection grading 115.2g/t Au", dated 18 October 2021.

<sup>&</sup>lt;sup>5</sup> Mineral Resource JORC confidence category breakdowns for each of the Resources are set out in Table 3 and original ASX announcement: "Material upgrade in Steam Engine Resource to 196,000 oz Au with 80.6% increase to Measured and Indicated categories", dated 11 April 2022 (available to view at <a href="https://www.superiorresources.com.au">www.superiorresources.com.au</a>). The Company is not aware of any new information or data that materially affects the MRE as presented and all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed.

<sup>&</sup>lt;sup>6</sup> Refer to Appendix 1 and original ASX announcement: "Positive Steam Engine Gold Scoping Study", dated 16 September 2024. The Company confirms that all the material assumptions underpinning the production target and the forecast financial information derived from the production target in the original ASX announcement continue to apply and have not materially changed.



- Feasibility Study progressing in parallel with Resource expansion drilling.
- The deposit has only been drilled to shallow levels with average vertical depths of 90 metres at the Steam Engine Lode and 35 metres at the Eastern Ridge Lode. The MRE is developed over a total of 1.2 kilometres of mineralised structures that have a total strike length of at least 10 kilometres.
- Highly anomalous SAM geophysical targets, recent identification of new gold mineralisation shoots at the northern end of each lode and new structures indicate additional expansion potential.



**Figure 3**. Plan of the Steam Engine Gold Project area showing mapped geology and gold lodes, outlines of the 2022 Mineral Resource envelopes and potential lode extension zones.



#### **2024 SCOPING STUDY**

#### **SCOPING STUDY OUTCOMES**

The Scoping Study has confirmed the potential for a compelling opportunity to develop Steam Engine as a low CAPEX, near-term mining and Toll Treatment operation with substantial production upside from any additional Resources that may be identified. If additional Resources are identified, a Stand-Alone Processing Plant operation becomes highly attractive.

Table 1 summarises the Base Case physical and financial evaluation of a Toll Treatment scenario and a Stand-Alone Processing Plant scenario based on a gold price assumption of A\$3,250 and the mining of 863k tonnes of ore at 2.34g/t Au to recover ≈55,000 ounces of gold (Toll Treatment scenario) and 2.13 million tonnes of ore at 1.53g/t Au to recover ≈89,000 ounces of gold (Stand-Alone Processing). The modelled production figures represent approximately 32% and 45% of the Total Mineral Resources for the Toll Treatment and Stand-Alone Processing scenarios, respectively.

Table 1. Scoping Study – Key Outcomes (Base Case assumptions using gold price of A\$3,250 /oz)

Parameter	Toll Treatment	Stand-Alone Processing	
Financial Summary			
Overall Cash Flow (pre-tax)	≈A\$46M	≈A\$71M	
NPV <sub>7%</sub> (discounted, pre-tax)	≈A\$38M	≈A\$42M	
Internal Rate of Return (IRR) (pre-tax)	104%	25%	
All-in Sustaining Costs (AISC) <sup>1</sup>	≈A\$2,325 /oz	≈A\$1,980 /oz	
Payback Period	≈1.5 years	≈4.25 years	
Gold Price Assumption	Gold Price Assumption A\$3,2		
Funding			
Total CAPEX (Pre-Production and Closure)	≈A\$6M	≈A\$63M	
Funding Required <sup>2</sup>	≈A\$13M	≈A\$61M	
Return on Capital (pre-tax)	≈764%	≈119%	
Physical Outputs			
Processing Period	≈2.6 years	≈4.6 years	
Total Ore	863 kt	2,133 kt	
Ore Grade	2.34 g/t	1.53 g/t	
Metallurgical Recovery – Gold	Metallurgical Recovery – Gold 82% Steam Engine / 95% Eastern Ridge		
Gold Produced and Sold	≈55,000 oz	≈89,000 oz	

<sup>&</sup>lt;sup>1</sup> AISC calculated in accordance with the 2018 World Gold Council Updated Guidance Note.

**Note:** Scoping Study information set out in this report is a summary of information contained in original ASX announcement: "Positive Steam Engine Gold Scoping Study", dated 16 September 2024. The Company confirms that all the material assumptions underpinning the production target and the forecast financial information derived from the production target in the original ASX announcement continue to apply and have not materially changed.

<sup>&</sup>lt;sup>2</sup> Includes pre-production CAPEX plus operating losses until profits are generated.



Base-case economic modelling indicates that the Project will deliver robust financial metrics for both the Toll Treatment and Stand-Alone Processing scenarios.

The purpose for assessing the two scenarios was to assist in determining the most beneficial development pathway for the Project.

# Upside Scenario (@A\$3,500 /oz gold price)

On the basis of a sustained positive outlook for the price of gold over the near to intermediate term, the Scoping Study also considered an upside scenario based on a gold price of **A\$3,500**. The impact on the Project economics is significant (**Table 2**). Under the Toll Treatment scenario, ore tonnes increases by 11% and the pre-tax overall cash flow increases by **45% to ≈\$67M**. The NPV increases by **46% to ≈\$55M**. Under the Stand-Alone Processing scenario, ore tonnes increases by 8% and the pre-tax overall cash flow increases by **47% to ≈\$104M**. The NPV increases by **58% to ≈\$66M**.

Table 2. Key Outcomes – Upside Scenario compared to Base Case Scenario

	Toll Tre	eatment	Stand-Alone	Processing
Scenario	Base Case @ A\$3,250 /oz	Upside Case @ A\$3,500 /oz	Base Case @ A\$3,250 /oz	Upside Case @ A\$3,500 /oz
Financial Summary				
Overall Cash Flow (pre-tax)	≈A\$46M	≈A\$67M	≈A\$71M	≈A\$104M
NPV <sub>7%</sub> (discounted, pre-tax)	≈A\$38M	≈A\$55M	≈A\$42M	≈A\$66M
Internal Rate of Return (IRR) (pre-tax)	104%	128%	25%	30%
All-in Sustaining Costs (AISC)¹ ≈A\$2,325 /oz ≈ <b>A\$2,339 /oz</b>		≈A\$1,980 /oz	≈A\$1,994 /oz	
Payback Period	≈1.5 years	≈1.3 years	≈4.3 years	≈3.1 years
Gold Price Assumption	A\$3,250 /oz	A\$3,500 /oz	A\$3,250 /oz	A\$3,500 /oz
Funding				
CAPEX (Pre-Production and Closure)	≈A\$6M	≈A\$6M	≈A\$63M	≈A\$63M
Funding Required <sup>2</sup>	≈A\$13M	≈A\$12M	≈A\$61M	≈A\$61M
Return on Capital (post-tax)	≈764%	≈1,108%	≈119%	≈175%
Physical Outputs				
Processing Period	≈2.6 years	≈2.8 years	≈4.6 years	≈4.9 years
Total Ore	863 kt	958 kt	2,133 kt	2,305 kt
Ore Grade	2.34 g/t	2.31 g/t	1.53 g/t	1.49 g/t
Metallurgical Recovery – Gold	;	82% Steam Engine /	95% Eastern Ridge	
Gold Produced and Sold	≈55,000 oz	≈61,000 oz	≈89,000 oz	≈96,000 oz

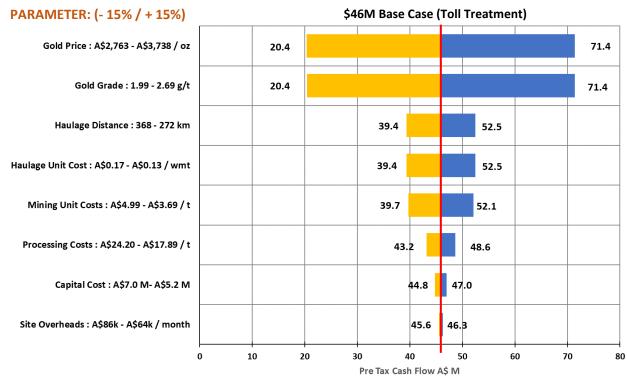
<sup>&</sup>lt;sup>1</sup> AISC calculated in accordance with the 2018 World Gold Council Updated Guidance Note.

<sup>&</sup>lt;sup>2</sup> Includes pre-production CAPEX plus operating losses until profits are generated.

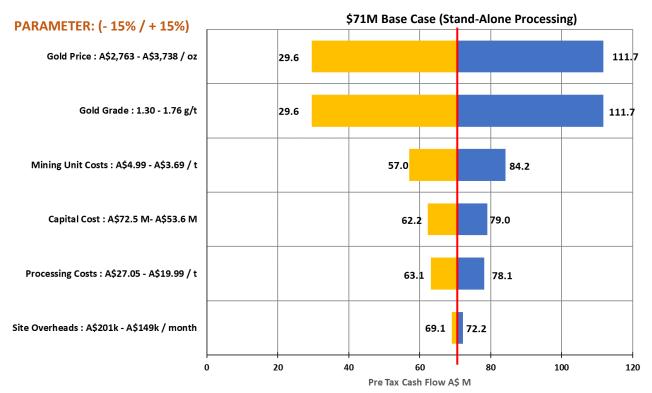


# Sensitivity Analysis

The Base Case project economics were subjected to a sensitivity analysis on the basis of a +/-15% change in key parameters (**Figs. 4 and 5**). Changes in the Australian dollar gold price and average gold grade result in the largest impact to project economics under both the Toll Treatment and Stand-Alone Processing scenarios.



**Figure 4.** Sensitivity analysis on the **Toll Treatment scenario** showing the effects of a  $\pm 15\%$  variability in key parameters on the base case \$46M Pre-Tax Cash Flow.



**Figure 5.** Sensitivity analysis on the **Stand-Alone Processing scenario** showing the effects of a  $\pm 15\%$  variability in key parameters on the base case \$71M Pre-Tax Cash Flow.



Under the Toll Treatment scenario, haulage distance and haulage unit costs are the most sensitive parameters after gold price and grade, with mining unit costs having a similar impact.

The significant deleterious effects of haulage on the economics are not a factor under the Stand-Alone Processing scenario. This enables a significantly greater amount of ore to be mined and milled, resulting in the Stand-Alone Processing option producing 62% more gold than the Toll Treatment scenario. The overall cashflow is also significantly higher under the Stand-Alone Processing scenario, despite the higher capital and operating costs.

#### Mineral Resource Estimate

The Scoping Study is based on the April 2022 Mineral Resource Estimate<sup>7</sup>, which was conducted in accordance with JORC (2012) by a Competent Person.

The Steam Engine and Eastern Ridge Lodes within the Steam Engine Project have only been drilled to shallow levels with average vertical depths of 90 metres at the Steam Engine Lode and 35 metres at the Eastern Ridge Lode. A high-quality Mineral Resource with a significant portion in the JORC 2012 Measured confidence category was established on the two lodes in 2022 (**Table 3**; **Figs. 6 to 9**). The high degree of confidence in the Mineral Resource enables ready progression to feasibility and mining studies.

Steam Engine is characterised by a significant high grade ore zone that dominates the Steam Engine Lode. Bonanza grade gold mineralisation occurs within this zone.

Table 3. Steam Engine Gold Project Mineral Resource Estimates (JORC, 2012)

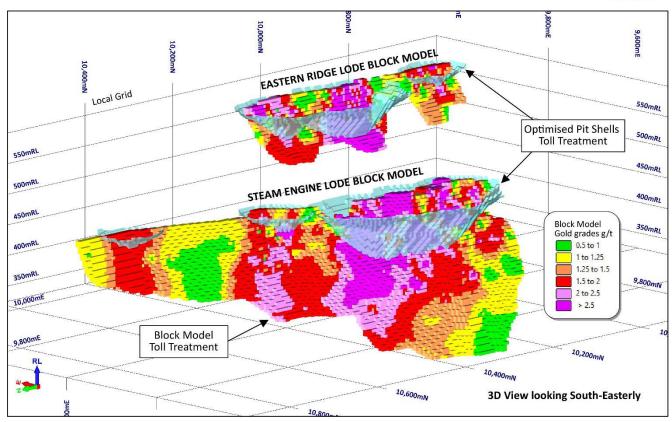
Model	Classification	Tonnes	Grade (g/t Au)	Ounces (Au)
STAND-ALONE PROCESSING	MEASURED	800,000	2.1	53,000
MODEL	INDICATED	1,420,000	1.5	68,000
(0.25 g/t Au block grade cut-off)	INFERRED	1,960,000	1.2	75,000
TOTAL		4,180,000	1.5	196,000
	MEASURED	590,000	2.6	49,000
TOLL TREATMENT MODEL (1.0 g/t Au block grade cut-off)	INDICATED	1,020,000	1.9	62,000
(=== 6, ======= 8, aae aa an )	INFERRED	1,110,000	1.7	60,000
TOTAL		2,720,000	2.0	171,000

The MRE incorporates results from a total of 314 drill holes for 22,733 metres of drilling, with the Steam Engine Lode accounting for 16,182 metres of drilling and the Eastern Ridge Lode, 3,983 metres. The estimation process considered two scenario models, requiring the modelling of two separate MREs:

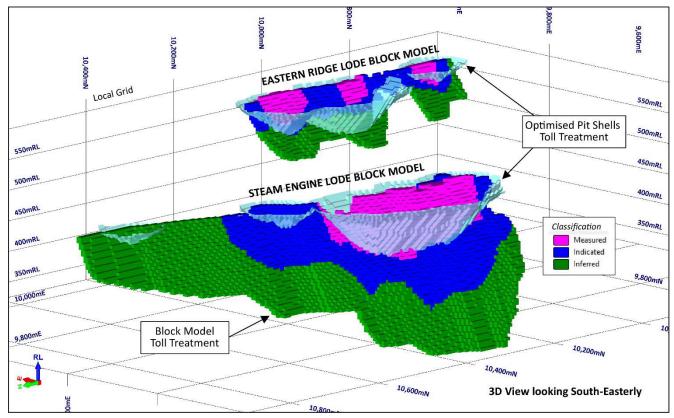
- 1. High Grade Model Toll Treatment model; and
- 2. Low Grade Model Owner-operated on-site processing plant model.

<sup>&</sup>lt;sup>7</sup> Information in this report relating to Mineral Resource Estimates (MRE) and associated block models is a summary of information contained in original ASX announcement: "Material upgrade in Steam Engine Resource to 196,000 oz Au with 80.6% increase to Measured and Indicated categories", dated 11 April 2022. The Company is not aware of any new information that materially affects the MRE as presented and all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed.



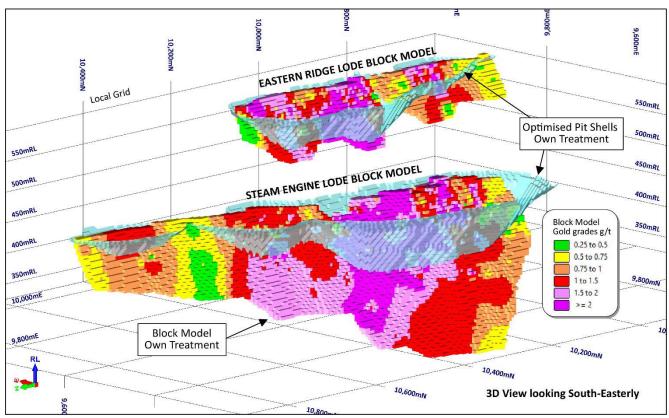


**Figure 6.** Steam Engine and Eastern Ridge **Toll Treatment** block models showing Base Case optimised pit shells and gold grade categories.

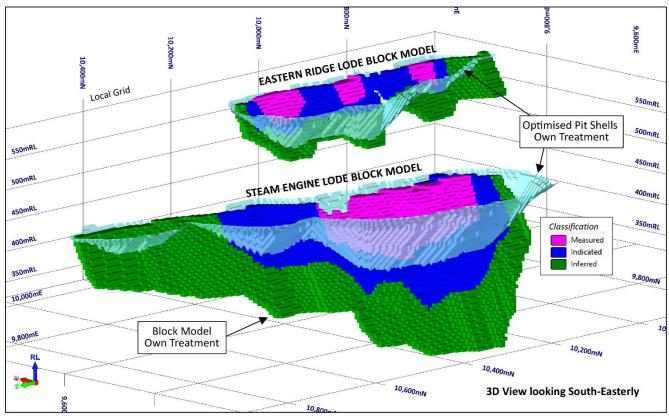


**Figure 7.** Steam Engine and Eastern Ridge **Toll Treatment** block models showing Base Case optimised pit shells and Measured, Indicated and Inferred Mineral Resource confidence classifications.





**Figure 8.** Steam Engine and Eastern Ridge **Stand-Alone Processing** block models showing base case optimised pit shells and gold grade categories.



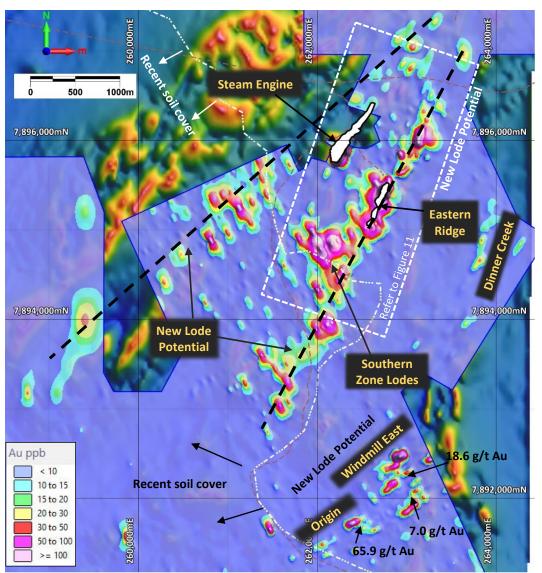
**Figure 9**. Steam Engine and Eastern Ridge **Stand-Alone Processing** block models showing base case optimised pit shells and Measured, Indicated and Inferred Mineral Resource confidence classifications.



#### RESOURCE EXPANSION POTENTIAL

Almost all exploration work to date has been focussed on Resource definition and expansion drilling of the two historically known lode zones, the Steam Engine Lode and the Eastern Ridge Lode. During 2020 and 2021, the Company conducted intense drilling campaigns with the aim of establishing and expanding a JORC, 2012-compliant Mineral Resource. The drilling campaigns enabled the incorporation of 314 drill holes totalling 22,733 metres of drilling into the most recent Mineral Resource Estimate that was completed during 2022.

Gold mineralisation at the SEGP is contained within significant geological structures that, to varying degrees, comprise localised shear zones. These mineralised structures are highlighted geochemically by anomalous zones of elevated Au-in-soil geochemistry (**Fig. 10**).



**Figure 10.** Plan image showing gridded Au soil geochemistry over background RTP airborne magnetics data. The Steam Engine and Eastern Ridge lode Mineral Resource outlines are shown as white polygons together with areas of potential new lode zones. The Southern Zone, Windmill East and Origin mineralised zones are also shown.

The Mineral Resource is developed over a total of 1.2 kilometres of this structure. Gold-in-soil geochemistry indicates that gold mineralisation exists along structures with a total strike length of at least 10 kilometres (**Fig. 10**). It is evident that significant potential exists to extend gold lode mineralisation along strike to the north and south of the Steam Engine and Eastern Ridge lodes (**Fig. 10**). Strong gold mineralisation also exists over a large area at the Windmill East and Origin Prospects, with rock chip assays up to 65.9 g/t Au.



#### SUB-AUDIO MAGNETICS SURVEY

Analysis of data acquired by a recent SAM geophysical survey over the Steam Engine and Eastern Ridge lodes indicates that the SAM geophysical technique may be particularly effective at identifying more intensely mineralised gold lodes as well as lodes that have significant depth extent to the mineralisation. Late channel responses from the total field electromagnetics (TFEM) component of the SAM survey appears to effectively highlight the Steam Engine and Eastern Ridge lodes and in particular, depth extensions to the high-grade zones within the lodes (Fig. 11).

Strikingly, the TFEM has highlighted a potential southern extension of the Steam Engine Lode at an area that has not been drill-tested (Figs. 11 and 12). Such an extension was previously thought to not exist. Furthermore, several other previously unknown potential lode zones with significant depth extent are also highlighted by the SAM TFEM data (Fig. 11).

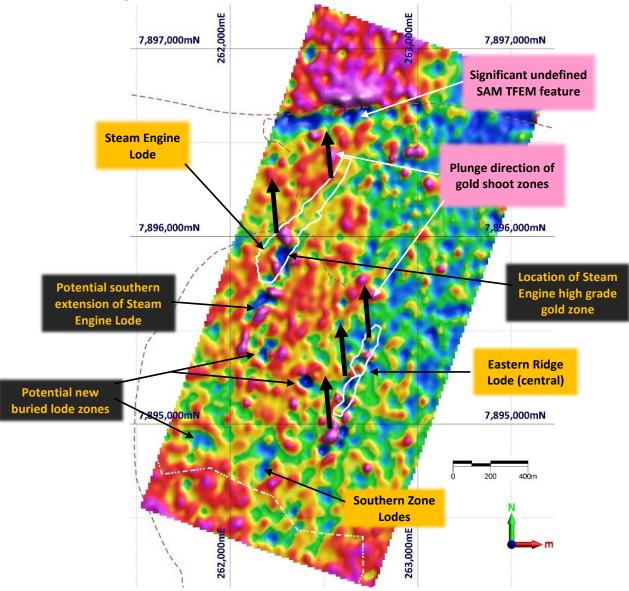


Figure 11. Image of late channel (Channel 16) SAM total field electromagnetics (TFEM) responses over the Steam Engine and Eastern Ridge lodes<sup>8</sup>. Discrete areas of low SAM TFEM response are coincident with the most intensely mineralised parts of the gold lodes. A possible southern extension to the Steam Engine Lode is visible as well as other potential lode zones.

<sup>&</sup>lt;sup>8</sup> Refer to ASX announcement dated 4 June 2024, "Steam Engine Gold Project – 2024 Resource expansion drilling and mining studies" for further information regarding the SAM geophysical survey.

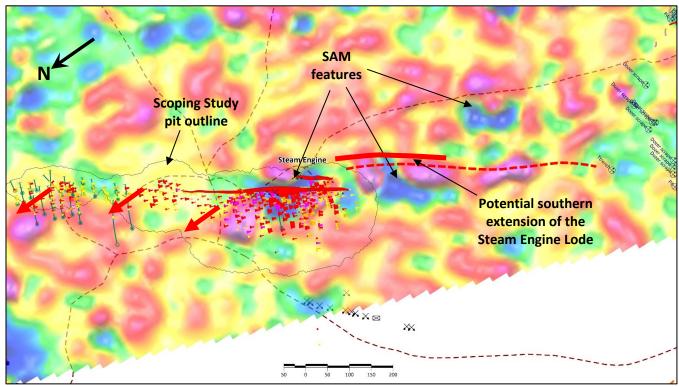


The SAM anomalies are currently unexplained. However, they each resemble the intense SAM TFEM anomaly that is perfectly coincident with the highest grade and largest gold shoot zone within the Steam Engine Lode.

The above observations would be consistent with a second Steam Engine high grade lode that is in an en-echelon spatial and structural arrangement to the main Steam Engine Resource.

These are important findings. If new lodes are present at these locations, a rapid and substantial expansion of the total Mineral Resource may result.

The second SAM anomaly is planned to be drill tested with highest priority as soon as cultural heritage clearance is obtained. Any significant gold mineralisation that is intersected would significantly lift the overall project economics.



**Figure 12.** Modelled SAM TFEM geophysical survey data<sup>9</sup> (background) showing the Steam Engine Lode and mineralisation drill intersections. Note the intense low SAM TFEM chargeability feature coincidentally located with the most intensely mineralised part of the lode. Note also a similar SAM feature to the south of the Steam Engine Lode. An outline of the Scoping Study optimised pit is also shown.

\_

<sup>&</sup>lt;sup>9</sup> Refer to ASX announcement dated 4 June 2024, "Steam Engine Gold Project – 2024 Resource expansion drilling and mining studies" for further information regarding the SAM geophysical survey.



#### 2024 DRILLING PROGRAM

Results from the Scoping Study indicate that substantial uplifts in overall cash flow and NPV outcomes will result from modest increases in the total open-pittable Resources. Based on those outcomes, expansion of shallow gold Resources became an objective to be conducted in parallel with the Feasibility Study.

The 2024 Steam Engine Gold Project drilling program was conducted over two phases of drilling (**Fig. 13**). Total Phase 1 and 2 drilling amounts to 69 RC holes for 5,282 metres (**Table 4**).

Table 4. 2024 Steam Engine Drilling Program

	Steam Engine	Eastern Ridge	Windmill East	Holes	Metres		
	Phase 1						
Holes	16	16	-	32	2,614		
Metres	1,230	1,384	-	32			
		Phase 2					
Holes	16	16	5	37	2,668		
Metres	1,222	1,201	245	3/			
			TOTAL	69	5,282		

# Stage 1 and 2 drill results

Significant intersections include 10:

#### **STEAM ENGINE LODE**

#### SRC215:

- 12m @ 1.03g/t Au from 10m
   incl 4m @ 2.00g/t Au from 11m
- 6m @ 1.68g/t Au from 30m
   incl 4m @ 2.08g/t Au from 31m

#### SRC220:

8m @ 1.73g/t Au from 79m
 incl 1m @ 5.62g/t Au from 83m

#### SRC206:

7m @ 1.38g/t Au from 16m
 incl 1m @ 4.67g/t Au from 22m

#### SRC216:

8m @ 1.06g/t Au from 37m
 incl 1m @ 2.90g/t Au from 43m

#### SRC225:

6m @ 1.96g/t Au from 64m
 incl 1m @ 3.90g/t Au from 68m

### SRC247:

■ 18m @ 1.40g/t Au from 75m incl 6m @ 2.68g/t Au from 85m

#### **EASTERN RIDGE LODE**

#### SRC202:

12m @ 3.29g/t Au from 71m
 incl 5m @ 7.65g/t Au from 73m
 incl 2m @ 17.09g/t Au from 74m

#### SRC203:

6m @ 2.35g/t Au from 59m
 incl 3m @ 4.26g/t Au from 59m
 incl 1m @ 9.08g/t Au from 59m

#### SRC193:

3m @ 1.72g/t Au from 103m
 incl 1m @3.20g/t Au from 104m

# SRC195:

1m @ 7.18g/t Au from 4m
 incl 1m @3.20g/t Au from 104m

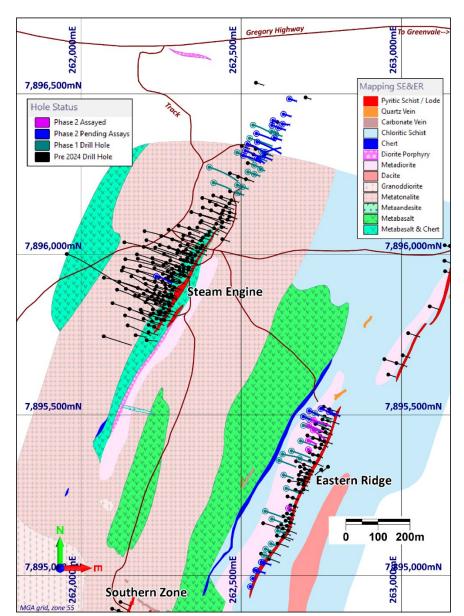
#### **Windmill East**

#### SRC254:

8m @ 3.01g/t Au from 12m
 incl 3m @ 7.51g/t Au (and 1.31%
 Zn) from 15m
 incl 1m @ 16.62g/t Au from 17m

<sup>&</sup>lt;sup>10</sup> Refer to ASX Announcements dated 3 October 2024, 23 September 2024, 20 December 2024, 24 March 2025 and 10 April 2025.





**Figure 13.** Map of part of the Steam Engine and Eastern Ridge lodes showing surface geology, lode outcrops (red), Phase 2 assayed holes (pink traces), Phase 2 holes awaiting assaying (blue traces), Phase 1 holes (green traces) and pre-2024 drill holes (black traces). Note the plan does not include the 5 Windmill East Phase 2 drill holes that are located some 3km to the south of the Eastern Ridge Lode (refer to **Fig. 10**).

#### **Observations**

The 2024 program results have confirmed the strike extension of the gold lodes and also identified potential new gold shoots at the northern ends of each of the Steam Engine and Eastern Ridge lodes. At the northern end of each of the lodes, a newly recognised stacked, multi-lode gold shoot zone has been identified (**Figs. 14, 15 and 20**). The shoot zones indicate a potential strengthening of the mineralising system or a complex strain zone that may develop into a greater volume of lode or bulk mineralisation at the northern end of the lode.

A particularly notable observation is the identification of a potentially new lode zone located about 80 metres to the west of the Eastern Ridge Lode. This zone was intersected in 6 of the 16 holes drilled (SRC192, 195, 198, 199, 203 and 204). Each of the 6 holes are step-out holes designed to extend the existing Mineral Resource envelope down-dip.



# Shallow plunging shoot zone

The new gold shoot zones at the northern ends of each of the lodes show a shallow plunge towards the north (**Figs. 16 to 19**). This is consistent with current observations from two other gold shoot zones on the central part of the Eastern Ridge Lode and indicates further mineralisation potential at this northern end of the Eastern Ridge Lode.

# Potential en-echelon system

The 2024 drilling has indicated a potential en-echelon structural control to the gold mineralisation at Steam Engine and Eastern Ridge. En-echelon structures often develop in shear zones and are expressed as a repeating series of dilational zones within a zone that has undergone shearing deformation. En-echelon structures are typically developed as multiple overlapping dilational structures that are infilled with mineralisation and can be extensive over large areas.

The gold shoot zones that have been identified to date are equidistantly spaced with about 150 metres of separation (Figs. 16 to 19). At least two of the zones show a similar shallow plunging orientation towards the north.

Each of the lodes are very extensive and can be traced geochemically over at least 6kms. Considerable potential exists for the delineation of multiple gold lode zones along these structures.

# **Implications for the Steam Engine Lode**

Although there are significant differences between the Eastern Ridge and Steam Engine lodes, particularly in terms of size, the Steam Engine Lode also shows high grade shoot zones with a plunge towards the northwest, albeit at a steeper plunge angle.

The somewhat perplexing truncation at the southern end of the Steam Engine Lode together with the lack of any structural displacement or faulting, may actually represent the southern boundary of a (very) large dilatational zone that is developed within an en-echelon regime.

This observation has elevated the significance of an intense SAM chargeability anomaly located immediately to the south of the southern end of the Steam Engine Lode (**Figs. 11 and 12**). This SAM anomaly is currently unexplained but resembles the SAM anomaly that is perfectly coincident with the highest grade and largest gold shoot zone within the Steam Engine Lode.

The above observations would be consistent with a second Steam Engine high grade lode that is in an en-echelon spatial and structural arrangement to the main Steam Engine Resource.

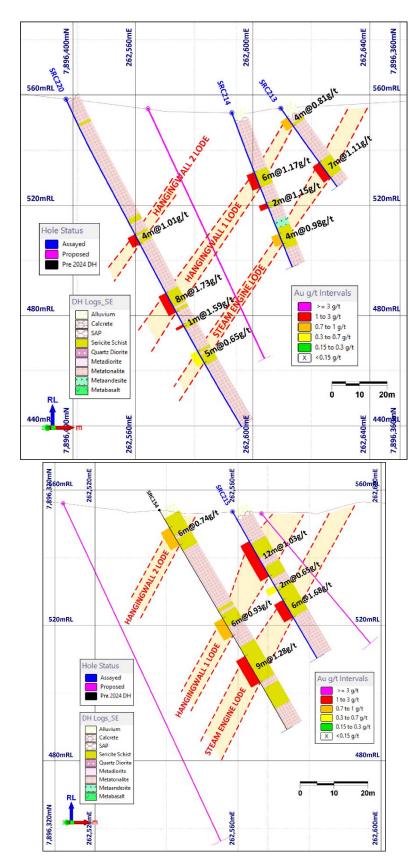
The second SAM anomaly will be drill tested with highest priority as soon as cultural heritage clearance is obtained. Any significant gold mineralisation that is intersected would significantly lift the overall project economics.

#### Impacts on financial model

The new zones of mineralisation at the northern end of each of the lodes are significant as they are located outside and to the north of the optimised pit that was modelled from the 2022 Mineral Resource for the purposes of the recent Scoping Study<sup>11</sup> (**Figs. 16 and 19**). The location of these results within the 2022 Mineral Resource (Toll Treatment) model indicates that a positive impact can be expected on project development economics.

<sup>&</sup>lt;sup>11</sup> Refer to ASX announcement "Positive Steam Engine Gold Scoping Study", dated 16 September 2024.



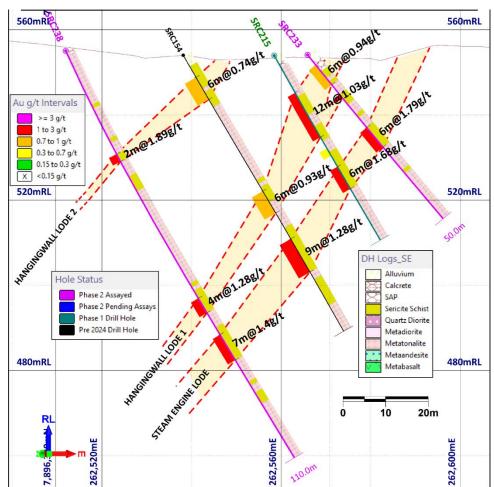


**Figure 14.** Cross sections through the new gold shoot zone at the northern part of the Steam Engine Lode looking NNE<sup>12</sup>. Section through holes SRC213, SRC214 and SRC220 (blue trace) and planned Phase 2 drill hole (pink trace) (left). Section through SRC215 (blue trace), pre-2024 hole SRC154 (black trace) and planned Phase 2 drill holes (pink trace) (right).

\_

<sup>&</sup>lt;sup>12</sup> Refer to ASX announcement "Discovery of a multi-lode gold shoot at northern end of Steam Engine Lode from Phase 1 program", dated 3 October 2024.





**Figure 15.** E-W cross section along Phase 2 drill holes SRC233 and SRC238 showing multiple stacked lodes at the northern end of the Steam Engine Lode, average lode intersection grades, hole status and down-hole logged lithology. The direction of view is towards NNW.

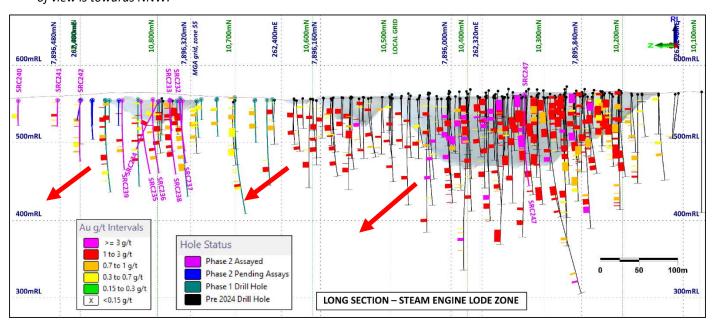
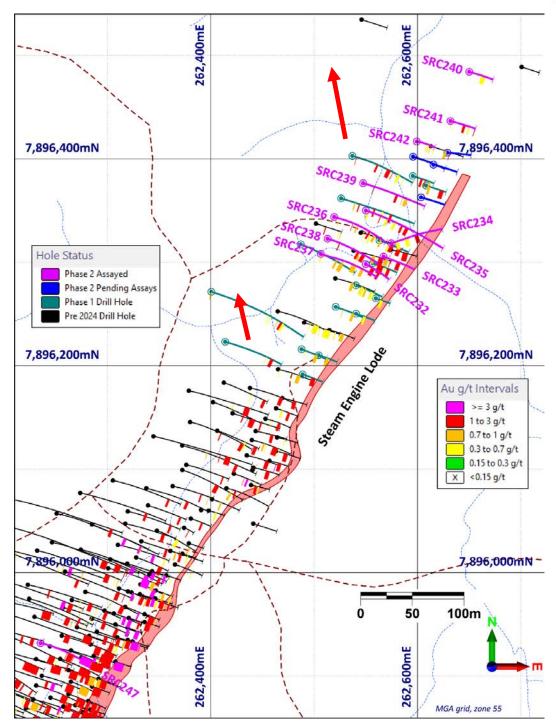


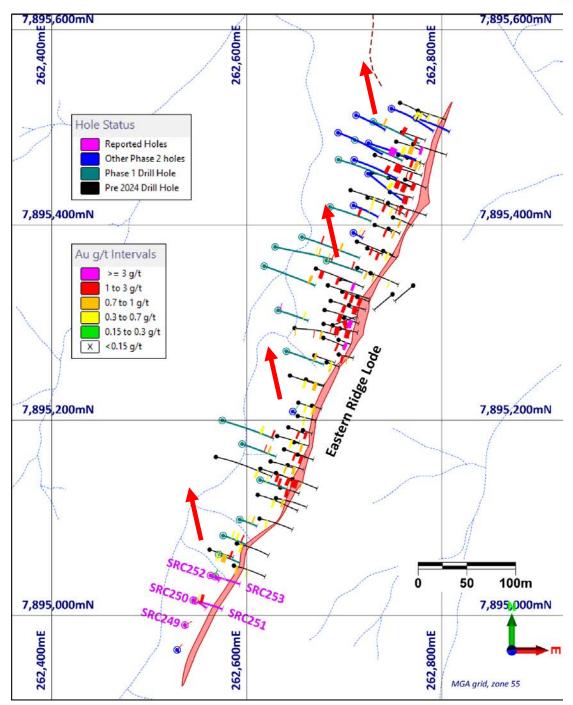
Figure 16. Long section view of the Steam Engine Lode, looking ESE, and showing Au intersections. Drill holes reported in this report are labelled. The 2024 pit optimisations are shown in the background (light grey, refer to ASX announcement dated 16 September 2024). Note that the pit outlines are based on the 2022 MRE and do not take into account the results from the 2024 drilling programs or the significantly increased gold prices. Red arrows indicate the interpreted plunge direction of the gold shoot zones. The 2022 Eastern Ridge MRE is outlined (grey dashed line; refer to ASX announcement dated 11 April 2022).





**Figure 17.** Plan view of northern part of the Steam Engine Lode showing the assayed 2024 Phase 2 drill hole traces (drill hole numbers are shown for reported holes), Phase 2 drill holes that are awaiting assaying, the 2024 Phase 1 drill holes and pre-2024 holes. Red arrows indicate the interpreted plunge direction of the gold shoot zones.





**Figure 18.** Plan view of central part of the Eastern Ridge Lode showing the Phase 2 drill hole traces (pink and blue traces), Phase 1 drill holes (green traces) and pre-2024 holes (black traces). The red arrows indicate the interpreted plunge direction of the gold shoot zones.



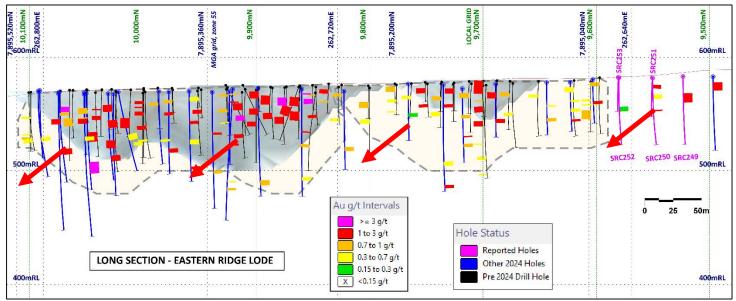
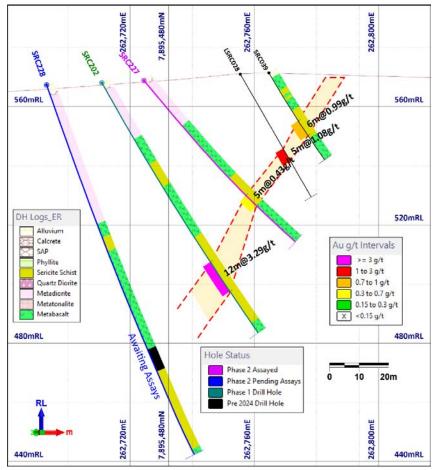


Figure 19. Long section view of the central part of the Eastern Ridge Lode, viewed ESE and showing the interpreted plunge of high-grade gold shoots (red arrows). The 2024 pit optimisations are shown in the background (light grey; refer to ASX announcement dated 16 September 2024). Note that the pit outlines are based on the 2022 MRE and do not take into account the results from the 2024 drilling programs or the significantly increased gold prices. The 2022 Eastern Ridge MRE is outlined (grey dashed line; refer to ASX announcement dated 11 April 2022).



**Figure 20.** Cross section of Eastern Ridge Lode looking NNE along Phase 2 drill hole SRC227. Also shown is the Phase 2 drill hole SRC228 awaiting assays, and earlier drill holes<sup>13</sup>.

 $<sup>^{13}</sup>$  Refer to ASX announcement dated 20 December 2024.



#### WINDMILL EAST

Five RC holes drilled at Windmill East represent maiden exploratory drilling conducted by the Company at this prospect (**Figs. 21 and 22**). Three historical holes drilled about 40 years ago, were targeting historical Au-in-soil geochemistry and did not adequately test the lode zone, with some holes completely missing the lode.

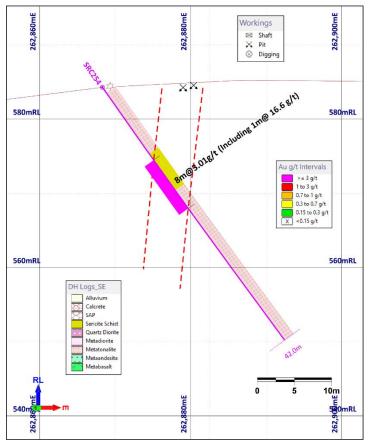
The 2024 program targeted an area of significant Au-in-soil anomalism, with some indication of mineralisation from a couple of the historical drill holes and historical prospectors' pits. SRC254 and SRC256 intersected a significantly mineralised lode structure with up to 8 metres down-hole thickness (apparent thickness) (**Fig. 21**). Significant mineralisation grade was also returned in SRC254:

8m @ 3.01 g/t Au from 12m – (SRC254 – Windmill East) incl 3m @ 7.51 g/t Au (and 1.31% Zn) from 15m incl 1m @ 16.62 g/t Au from 17m.

The maiden drilling has confirmed the potential for at least one significant gold lode as well as providing initial indications of the lode orientation. Observations from SRC254 and SRC256 indicate that the orientation of Au mineralisation is much steeper than at the Dinner Creek prospect, which lies along strike to the North Northeast. The mineralised zone was not intersected by the other three holes drilled.

The presence of significant levels of zinc and higher levels of copper than at Steam Engine and Eastern Ridge points to some significant differences in the type or level of Au mineralisation at Windmill East. However, logged alteration characteristics appear similar to those reported for the other Steam Engine Project lode systems.

The significant strike length of mineralisation covering the zone of historical workings together with significant soil anomalism (+300 metres) provides an important target for follow-up drilling.



**Figure 21.** Windmill East cross section along 2024 Phase 2 drill hole SRC254, looking NNE, showing interpreted mineralisation orientation (red dashed lines) based on the historical workings located at the surface above the drill hole.



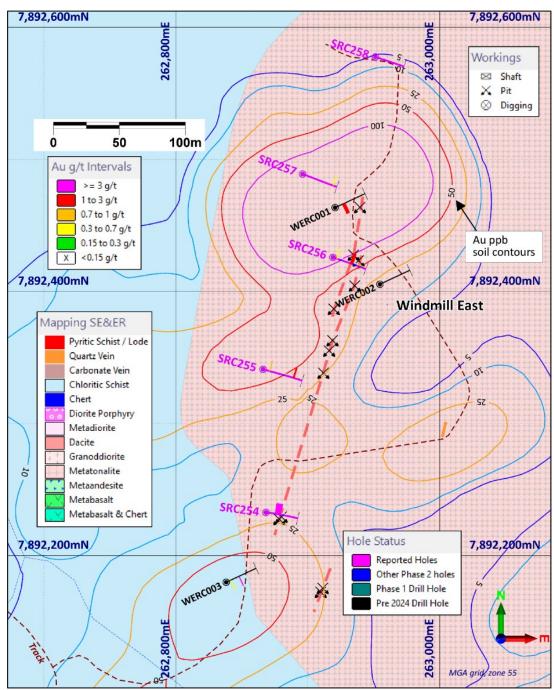


Figure 22. Plan view of Windmill East area showing the reported Phase 2 drill holes and historical holes.



# **BOTTLETREE (PORPHYRY Cu-Au-Mo)**

The results of 3D geophysical modelling of high-resolution ground gravity data as set out in this section were reported to the market on 1 August 2024<sup>14</sup>.

Further geological and geophysical interpretive work together with drill program planning were conducted during the Quarter.

# **GRAVITY SURVEY AND MODELLING**

A high-resolution ground gravity survey was completed over the Bottletree Project area during the latter half of 2023, covering an area of approximately 7km<sup>2</sup> with gravity station acquisition on a 100m x 100m grid configuration.

Terrain correction and modelling of the gravity data using UBC 3D inversion modelling software produced a 3D gravity model that has enabled a detailed analysis of rock density variations across the project area, including at depth.

Ground or airborne gravity surveys are a valuable tool for the exploration of a range of ore deposit systems and have been instrumental in the discovery of many large porphyry copper deposits. By measuring gravity factors, bulk rock densities can be modelled and interpreted over a broad area. Rock densities are variable depending on numerous factors such as the rock type (e.g. sandstone, granite, ironstone), the degree and type of alteration and various forms of mineralisation.

#### **GRAVITY MODEL OBSERVATIONS**

Prior to the gravity survey, no information was available to provide a characterisation of the rock density architecture within the project area.

The 3D inversion modelling on the Bottletree gravity data has defined two distinct gravity-high features (Fig. 23).

#### Central Gravity Anomaly

The highest priority anomaly, which is more centrally located within the survey area, is striking, as it is coincident with the porphyry core target that was determined in 2023. The 2023 porphyry core target (**Figs. 24 and 25**) was based on:

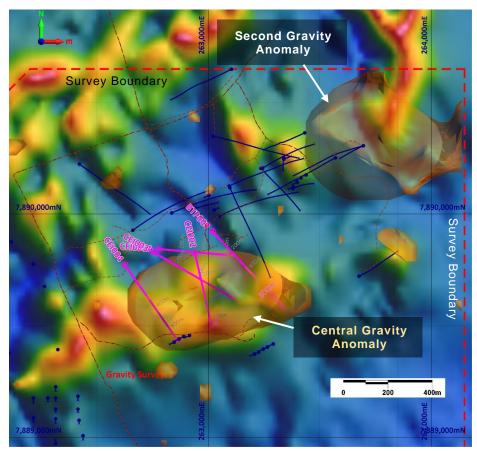
- limited vectoring from porphyry indicators identified in drill core;
- hydrothermal alteration zonation patterns across the prospect area; and
- outcropping gossans at the target location.

The central gravity anomaly, located approximately 400 metres to the south of the 2022 and 2023 drill holes, is of moderately high amplitude and extends to significant depths (**Fig. 23**). Importantly, the anomaly is partly associated with a magnetic-high anomaly. The 3D form of the modelled gravity anomaly appears to conform around the 3D geometry and form of the magnetic anomaly (**Fig. 25**).

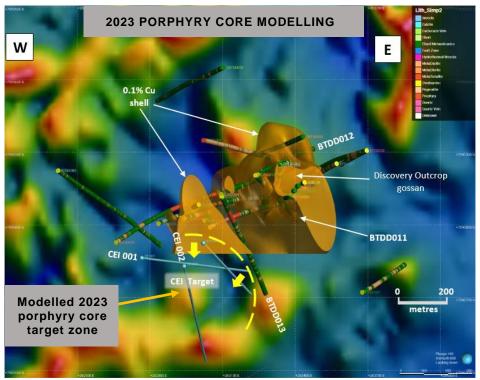
The gravity and magnetic observations are interpreted to be consistent with features associated with a porphyry system, including alteration, pyrrhotite-pyrite-chalcopyrite mineralisation or alteration associated with secondary magnetite. The two proposed CEI drill holes are considered to appropriately test the central gravity anomaly and do not require any redesign (Fig. 23).

<sup>&</sup>lt;sup>14</sup> Refer ASX announcement "Gravity survey highlights porphyry core target and identifies second significant target", dated 1 August 2024.



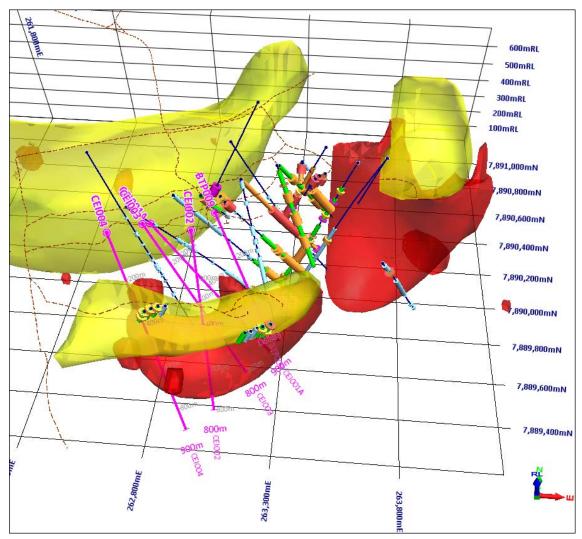


**Figure 23.** Plan showing 3D inversion density models of the central gravity anomaly and the second gravity anomaly as high-density 2.77t/m3 iso-surfaces. Also shown are 2022 – 2023 drill holes (blue trace) and the proposed 2024 drill holes, including QLD government CEI grant holes (pink trace). Aerial magnetic imagery background.



**Figure 24.** Plan of Bottletree Project area showing the 2023-predicted porphyry core target area (yellow half circle) as modelled from drill hole data. Also shown are the 0.1% Cu mineralisation shells, 2022 – 2023 drill holes and the proposed CEI holes as planned in 2023.





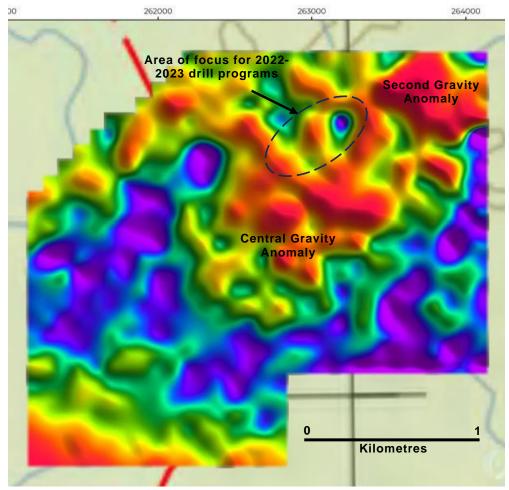
**Figure 25.** Perspective view (looking north) of Bottletree 3D inversion density model (red polygons) together with 3D modelled aerial magnetics (yellow polygons) showing the close relationship between the two models.

# Gravity Response Over Broader Bottletree Prospect Area

Another important observation associated with the central gravity anomaly is that the immediate area of the Bottletree Prospect corresponds with a broad, oval-shaped positive amplitude gravity feature that is about 1.5 kilometres in average diameter (Fig. 26).

The positive amplitude zone is interpreted to be related to the Bottletree porphyry system and provides further confidence about the presence and size of the alteration system associated with the porphyry.





**Figure 26.** Pseudo-coloured plan image of first vertical derivative (1VD) of spherical cap bouguer anomaly from the Bottletree gravity survey data showing a large oval-shaped area coincident with the Bottletree Prospect area. Note the relatively high gravity responses that define the prospect area, with a low gravity response surrounding area.

#### Second Gravity Anomaly

Notably, the 3D modelling has defined an unexpected large second and potentially higher amplitude gravity anomaly located approximately 100 metres to the northeast of the 2022 and 2023 drill holes (**Figs. 23, 25 and 26**).

This anomaly is particularly interesting as surface geological mapping shows dolerite cropping out at surface over some parts of the anomaly, which prompts an initial interpretation that a dolerite intrusion (typically high density) is the cause of the anomaly.

However, such an interpretation is not supported by the 3D magnetic model (dolerite is characterised by high magnetic susceptibility). The magnetic anomaly is small in size and does not correlate with the large gravity anomaly (**Fig. 20**). Instead, the magnetic anomaly appears to reside in 'embayments' in the shallower parts of the gravity anomaly. Such an interplay between the magnetic anomaly and the gravity anomaly is similarly observed at the central gravity anomaly.

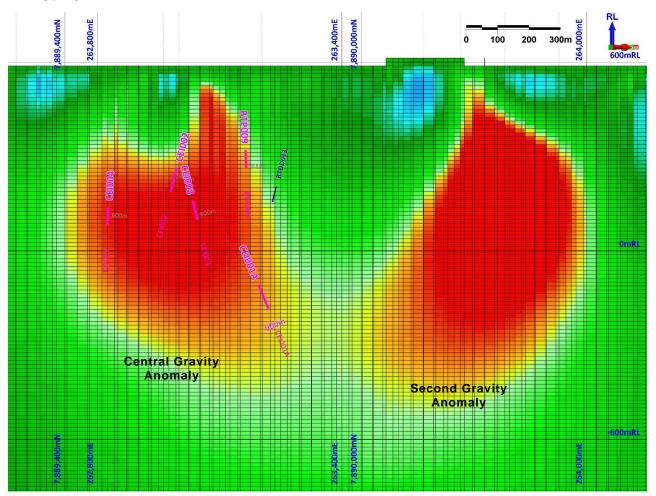
In addition, 2022 drill holes BTDD002 and BTDD003 were drilled from a collar location and at a dip that was expected to intersect the mapped dolerite. Dolerite was not identified in either of the holes.

Furthermore, the 3D inversion modelling indicates that the second gravity anomaly plunges towards the central gravity anomaly and both anomalies may coalesce together at depth (Fig. 27).



As a result, the second gravity anomaly is interpreted to be caused by a rock type other than dolerite and potentially, an intrusion that is related to the main Bottletree porphyry system.

The second gravity anomaly is considered to be a high priority target to be drill tested in the next Bottletree drilling program.



**Figure 27.** Cross section of Bottletree 3D inversion density model across the central gravity anomaly and the second gravity anomaly showing an apparent convergence of the two anomalies at depth.

# QUEENSLAND GOVERNMENT CEI GRANT PROGRAM UPDATE

On 8 April 2024, the Company was awarded a \$300,000 Collaborative Exploration Initiative (**CEI**) grant for the drilling of two deep diamond core holes to test a high priority porphyry core target. The two planned holes total 1,700 metres of drilling. The funding arrangements are on a reimbursement basis.

During the reporting period and in light of the deleterious equity market conditions, the relevant government office sought to vary the timeframes for the completion of the agreed CEI funded activities. As a result, the agreed date for completion of the Bottletree CEI holes has been extended from 18 November 2024 to 15 May 2025.

Subject to weather conditions, the Company is planning to drill the CEI holes within the next two months. The Company is considering engaging a prominent drilling company that is willing to conduct the drilling for script payment.

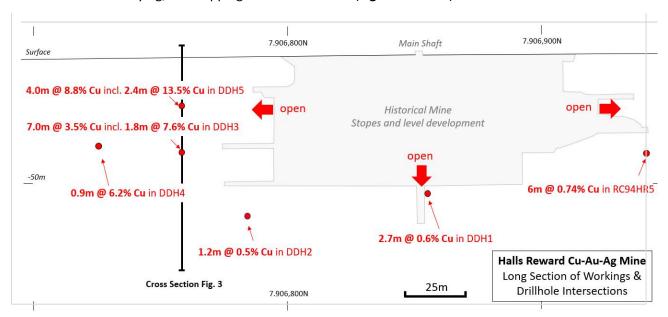


# HALL'S REWARD HIGH GRADE Cu-Au-Ag

#### HALLS REWARD MAIN LODE

The abandoned Halls Reward mine produced 11,461t of ore from 1933 to 1959. The ore was processed at Mt Morgans and Mt Isa, with recovered grades averaging 17.41% Cu, 5g/t Au and 23g/t Ag<sup>15</sup>. From 1959 to 1960, a further 140t @ 11.2% Cu was treated at Mt Isa, and 1,270t of direct-shipping ore was sent for processing in Japan.

Stoping of oxide ore occurred to approximately 50m below surface on a pinch-and-swell ore shoot, with the controlling structure continuing along strike and at depth (Fig. 28). The host structure strikes north-south and generally dips steeply to the east (varying from steep east to steep west) with higher grades in drill holes that intersected a flatter-lying, east-dipping zone to the south (Figs. 28 and 29).



**Figure 28.** Long section view of Halls Reward mine looking west, showing stoped areas to 50m below surface, and historical drilling intersections. Mineralisation is open in all directions; exceptional high-grade material remains in situ to the south.

Diamond drilling by the Queensland Government Department of Mines (Connah, 1959) returned exceptional high-grade Cu results from 35m to 80m south of the stoped areas, including:

- 4.0m @ 8.8 % Cu from 31.6m incl. 2.4m @ 13.5 % Cu in DDH5
- **7.0m @ 3.5 % Cu** from 64.0m incl. 1.8m @ 7.6 % Cu in DDH3
- 0.9m @ 6.2 % Cu from 52.2m incl. 0.7m @ 7.2 % Cu in DDH4

The high-grade mineralisation includes malachite, azurite, cuprite, tenorite and native copper within a shear zone comprised of ferruginous, siliceous schist with quartz vein stringers.

Fault offsets were observed in the historical workings and interpreted on drill sections (Fig. 29).

These results demonstrate continuity of mineralisation on the host structure, which will be targeted for additional high-grade Cu zones at greater depths and along strike.

<sup>&</sup>lt;sup>15</sup> White, D.A. et.al., 1958, Geology of the Hall's Reward Copper Mine Area, Northern Queensland, BMR Record 1958/60. Note: Historical production records may be inaccurate or incomplete. Au and Ag were not recovered at Mt Isa, such that ore grades may have been higher than the average recovered grades.



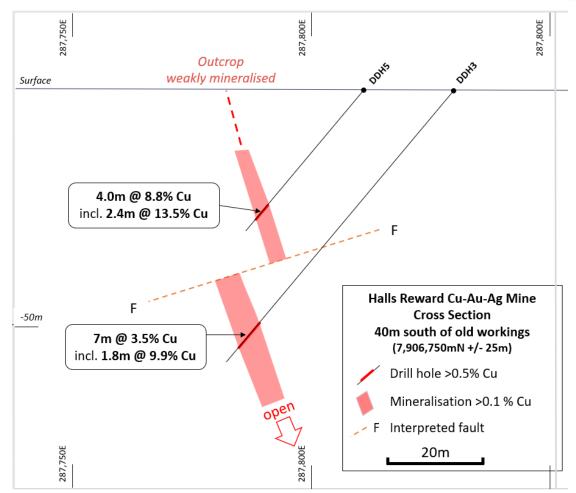


Figure 29. Cross section showing high-grade drilling intersections 35m south of historically stoped areas.

Soil geochemical sampling in the 1990's revealed a large 900m-long and 300m-wide Cu in soil anomaly (>100 ppm Cu, with a peak of 14,000 ppm Cu), which is considerably more extensive than the Main Lode workings and covers multiple parallel mineralised structures to the west (Fig. 30).

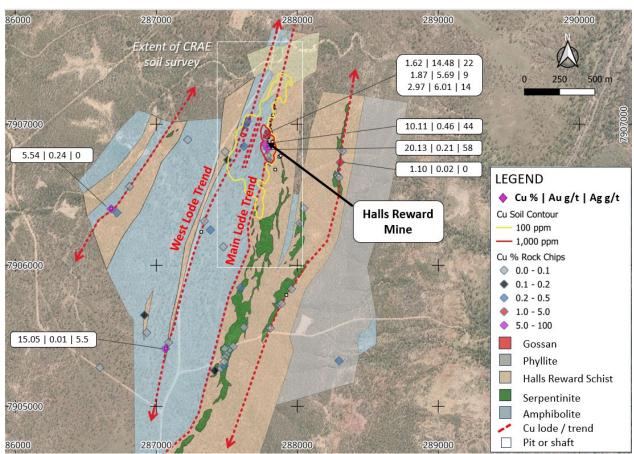
At the Main Lode, Superior's reconnaissance sampling around the old workings returned **high-grade Cu (Fig. 30)**:

- 20.13 % Cu + 0.21 g/t Au + 58 g/t Ag
- 10.11 % Cu + 0.46 g/t Au + 44 g/t Ag

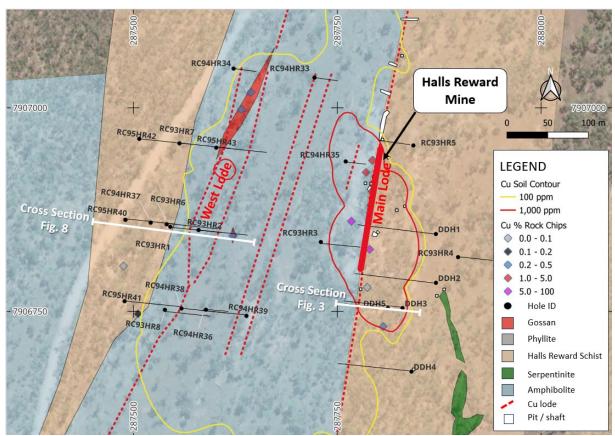
Additionally, three mullock samples returned **high-grade Au** with elevated Cu and Ag:

- 1.62 % Cu + 14.48 g/t Au + 22 g/t Ag
- 2.97 % Cu + 6.01 g/t Au + 14 g/t Ag
- 1.87 % Cu + 5.69 g/t Au + 9 g/t Ag





**Figure 30.** Plan view of the Company's reconnaissance mapping and rock chip sampling, and strong soil anomalism associated with the Main Lode and parallel structures.



**Figure 31.** Drill collar plan showing diamond core holes targeting the Main Lode and CRAE's RC holes mainly targeting the West Lode gossan and geochemical anomaly.



CRA Exploration drilled 3 holes around the Main Lode, namely RC93HR3, RC93HR5 and RC94HR35 (Fig. 31). It is clear that RC93HR3 and RC93HR35, both drilled toward the east below the Main Lode and failed to intersect the structure because it also dips east.

However, a shallow intersection of 3m @ 0.57 % Cu from 21m in RC94HR35, approximately 30m west of the Main Lode reflects an additional parallel lode that has had no further drilling (Fig. 31). At the northern extension of the Main Lode, RC93HR5 intersected 6m @ 0.74 % Cu from 57m, reflecting a lower tenor zone within the Main Lode structure (see also Fig. 28). North of the mine, the Main Lode structure is interpreted to extend beneath transported alluvium, which may conceal additional high-grade shoots; this represents a priority target area.

#### **SYNOPSIS**

Extensive, high-grade mineralisation has been identified along strike of the Halls Reward Mine and on multiple parallel structures. The mineralisation sits within an accreted magmatic arc geological setting, which together with the structure, alteration and metal assemblage, indicates the Cu-Au-Ag mineralisation is of Cyprus VMS style. Cyprus style deposits are typically high grade and occur in clusters along structural corridors, further enhancing the prospectivity of the Halls Reward target area.

Soil geochemical sampling over the broader project area is planned to assist in defining drilling targets. The mineralisation is also expected to be highly conductive and amenable to EM geophysical surveying to identify concealed conductors for drill testing.

#### **NEXT STEPS**

The following sets out the key activities planned at Halls Reward:

- 1. Extension of the geochemical survey along strike of the Halls Reward structure and targeting additional high-grade historical workings.
- 2. EM geophysical surveying to model conductors at depth and along strike of host structures in the broader Halls Reward target area, with the objective of defining high-grade Cu-Au-Ag drilling targets.
- 3. Drill the resulting targets.



# COCKIE CREEK Cu-Au-Mo PORPHYRY

#### MAIDEN MINERAL RESOURCE ESTIMATE

The first drilling program for more than 30 years was conducted at the Cockie Creek Cu-Au-Mo Porphyry Prospect during H2 of 2023 (**Fig. 32**) with delivery of assays completed during Q1 of 2024. Better than expected grades and thicknesses of porphyry Cu-Au-Mo mineralisation were consistently returned from a total of seven diamond core holes for 2,716.5m of core.

#### Results include:

- o 117m @ 0.52% Cu, 0.11g/t Au and 109ppm Mo from 20m (CCDD002)<sup>16</sup>
  - incl. **71m @ 0.69% Cu, 0.13g/t Au** and **158ppm Mo** from 27m
  - incl. 36m @ 0.77% Cu, 0.14g/t Au and 146ppm Mo from 56m
  - incl. 10m @ 1.08% Cu, 0.20g/t Au and 44ppm Mo from 56m
- o 248m @ 0.28% Cu, 0.06g/t Au and 44ppm Mo from 56m to 303.7m (EOH) (CCDD003)<sup>17</sup>
  - incl. 177m @ 0.35% Cu, 0.07g/t Au and 52ppm Mo from 57m
  - incl. 130m @ 0.41% Cu, 0.08g/t Au and 49ppm Mo from 57m
  - incl. 33m @ 0.68% Cu, 0.11g/t Au and 56ppm Mo from 130m
  - incl. 14m @ 0.91% Cu, 0.12g/t Au and 79ppm Mo from 140m
- 320m @ 0.21% Cu, 0.05 g/t Au and 31 ppm Mo from 176m (CCDD007)<sup>18</sup>
  - incl. **271m @ 0.24 % Cu, 0.05 g/t Au** and **36 ppm Mo** from 225m
  - incl. 171m @ 0.32% Cu, 0.07g/t Au and 40 ppm Mo from 225m
  - incl. **69m @ 0.52% Cu, 0.10g/t Au** and **69ppm Mo** from 225m
  - incl. 23m @ 0.70% Cu, 0.12g/t Au and 68ppm Mo from 265m
  - incl. 13m @ 0.89% Cu, 0.13g/t Au and 79 ppm Mo from 265m

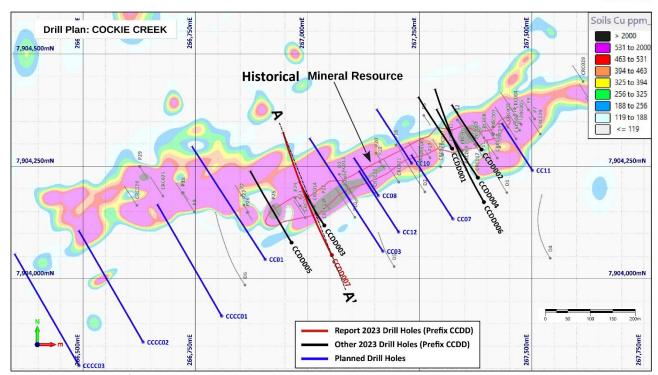
Preparation of a maiden JORC (2012) Mineral Resource Estimate was conducted mainly during the reporting period, but also during prior periods. Reporting of the Mineral Resource Estimate is nearing completion and expected to be released to the market during the second Quarter of 2025.

<sup>&</sup>lt;sup>16</sup> Refer to ASX announcement dated 16 October 2023.

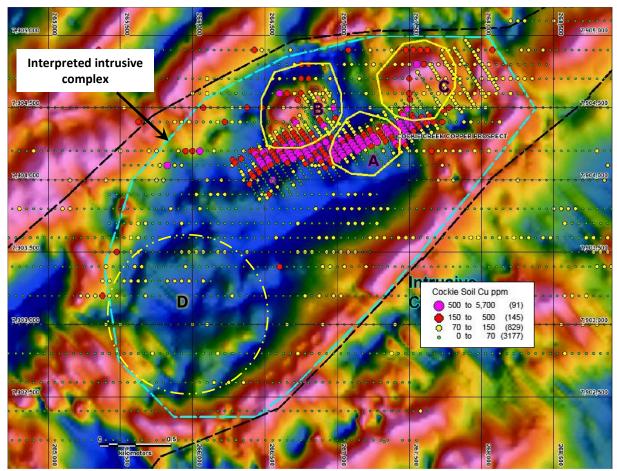
<sup>&</sup>lt;sup>17</sup> Refer to ASX announcement dated 6 November 2023.

<sup>&</sup>lt;sup>18</sup> Refer to ASX announcement dated 29 January 2024.



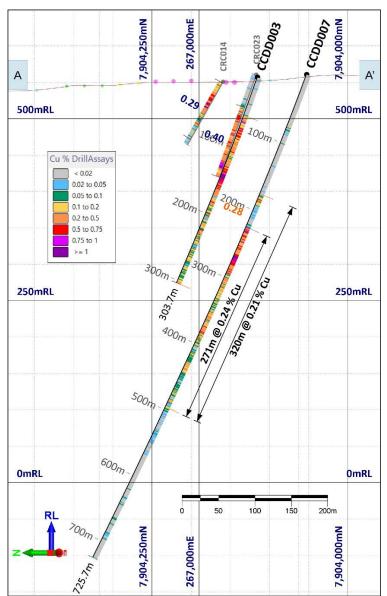


**Figure 32**. Plan map of the Cockie Creek Discovery Outcrop area showing completed drill holes CCDD001 – CCDD007 (in black) with new assay data discussed in this release (in red), other 2023 drill holes reported in previous releases (in black), planned but not yet drilled holes (in blue) and historic drill holes (in grey) over gridded Cu soil geochemistry. Outline of historic Mineral Resource at surface and cross section A-A' is shown.



**Figure 33**. Cockie Creek thematic Cu soil data and interpreted porphyries on TDr VI NSSF processed airborne magnetics data, showing interpreted porphyry intrusions (A to D) within an interpreted intrusive complex.





**Figure 36.** Cross-section (+/- 20m) taken along A-A' (as shown in Figure 2) looking east-northeast showing CCDD007 and CCDD003 and historic CRC023 (twinned by CCDD003), and proximal historic drill hole CRC014. Down-hole copper assay values (1m intervals) are represented as grade categories.



# **CORPORATE AND COMMERCIAL**

# **Capital Raise**

On 10 April 2025, the Company announced the completion of a capital raise campaign comprising a Placement to sophisticated and professional investors, resulting in a total amount raised of \$950,000.

The Placement was made under the Company's existing Placement capacity under ASX Listing Rule 7.1A for the issue of 201,086,958 fully paid ordinary shares and under ASX Listing Rule 7.1 for the issue of 100,543,481 unlisted options.

The new shares were priced at \$0.0046 per share, with one attaching option (exercise price of \$0.009, expiry 10 April 2027) for every two new shares subscribed for.

The Managing Director participated in the Placement for \$25,000, subject to shareholder approval.

#### **Investments**

Superior maintains an exposure in relation to ASX listed entity, Deep Yellow Limited (ASX:DYL).

As at 31 March 2025, the Company held 74,244 DYL shares with a closing value of \$78,698.64.

# **Related Party Matters**

Payments to Directors of the Company and related parties during the Quarter totalled \$113,747.64.

# **ASX Listing Rule 5.3.3**

Appendix 1 sets out information that is required under ASX Listing Rule 5.3.3 (for exploration entities).

Peter Hwang Managing Director Contact: Mr Peter Hwang

Ph: (07) 3847 2887

Further Information: <u>www.superiorresources.com.au</u>

manager@superiorresources.com.au



**Reporting of Results:** The Exploration Results, Mineral Resource Estimations, Scoping Study outcomes and exploration interpretations contained in this report reflect information that has been reported in ASX market announcements as referenced within this report.

Information in this report relating to the Steam Engine Gold Project 2024 Scoping Study is a summary of information contained in original ASX announcement: "Positive Steam Engine Gold Scoping Study", dated 16 September 2024.

Information in this report relating to Mineral Resource Estimates (MRE) and associated block models is a summary of information contained in original ASX announcement: "Material upgrade in Steam Engine Resource to 196,000 oz Au with 80.6% increase to Measured and Indicated categories", dated 11 April 2022. The Competent Person relevant to the original ASX announcement is Mr Kevin Richter.

Information in this report relating to the Bottletree Project is a summary of information contained in original ASX announcement: "Gravity survey highlights porphyry core target and identifies second significant target", dated 1 August 2024. The Competent Person relevant to the original ASX announcement is Mr Peter Hwang.

Information in this report relating to the Halls Reward Prospect is based on exploration information compiled by Mr Cain Fogarty who is a Competent Person and a Member of the Australian Institute of Geoscientists. This information was summarised from original ASX announcement: "Halls Reward Cu-Au-Ag Mine. Greenvale Data Review Reveals High-Grade Cu-Au-Ag Targets", dated 12 February 2025.

**Reliance on previously reported information:** In respect of references contained in this report to previously reported Exploration Results, Mineral Resources, Ore Reserves or Exploration Targets, the Company confirms that it is not aware of any new information or data that materially affects the information, results or conclusions contained in the original reported document. In respect of previously reported Mineral Resource estimates, all originally reported material assumptions and technical parameters underpinning the estimates continue to apply and have not been materially changed or qualified.

In respect of references contained in this report to previously reported Scoping Study results, the Company confirms that all the material assumptions underpinning the production target and the forecast financial information derived from the production target in the original ASX announcement continue to apply and have not materially changed.

Forward looking statements: This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position and performance are also forward-looking statements. The forward-looking statements in this presentation are based on current interpretations, expectations, estimates, assumptions, forecasts and projections about Superior, Superior's projects and assets and the industry in which it operates as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made. The forward-looking statements are subject to technical, business, economic, competitive, political and social uncertainties and contingencies and may involve known and unknown risks and uncertainties. The forward-looking statements may prove to be incorrect. Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results expressed or implied by any forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements.

**Disclaimer:** Superior and its related bodies corporate, directors, officers, employees, agents or contractors do not make any representation or warranty (either express or implied) as to the accuracy, correctness, completeness, adequacy, reliability or likelihood of fulfilment of any forward-looking statement, or any events or results expressed or implied in any forward-looking statement, except to the extent required by law. Superior and its related bodies corporate and each of their respective directors, officers, employees, agents and contractors disclaims, to the maximum extent permitted by law, all liability and responsibility for any direct or indirect loss or damage which may be suffered by any person (including because of fault or negligence or otherwise) through use or reliance on anything contained in or omitted from this presentation. Other than as required by law and the ASX Listing Rules, the Company disclaims any duty to update forward looking statements to reflect new developments.



# **Appendix 1**

# DISCLOSURES REQUIRED UNDER ASX LISTING RULE 5.3.3

• Mining tenements held at the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Hedleys 2	EPM15670	Nicholson	100%	SPQ	Granted
QLD	Hedleys South	EPM18203	Nicholson	100%	SPQ	Granted
QLD	Tots Creek	EPM19097	Victor	100%	SPQ	Granted
QLD	Scrubby Creek	EPM19214	Victor	100%	SPQ	Granted
QLD	Cockie Creek	EPM18987	Greenvale	100%	SPQ	Granted
QLD	Cassidy Creek	EPM19247	Greenvale	100%	SPQ	Granted
QLD	Dinner Creek	EPM25659	Greenvale	100%	SPQ	Granted
QLD	Wyandotte	EPM25691	Greenvale	100%	SPQ	Granted
QLD	Cockie South	EPM26165	Greenvale	100%	SPQ	Granted
QLD	Victor Extended	EPM26720	Victor	100%	SPQ	Granted
QLD	Twelve Mile Creek	EPM26751	Greenvale	100%	SPQ	Granted
QLD	Dido	EPM27754	Greenvale	100%	SPQ	Granted
QLD	Arthur Range	EPM27755	Greenvale	100%	SPQ	Granted
QLD	Phantom Creek	EPM27932	Greenvale	100%	SPQ	Granted
QLD	Six Mile Creek	EPM28630	Greenvale	100%	SPQ	Granted
QLD	Lyndhurst	EPM28632	Greenvale	100%	SPQ	Granted
QLD	Middle Creek	EPM28633	Greenvale	100%	SPQ	Granted

# • Mining tenements acquired and disposed of during the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments

# • Beneficial percentage interests held in farm-in or farm-out agreements at end of the quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter by exploration entity or child entity	Comments

# Abbreviations:

EPM Exploration Permit for Minerals, Queensland

SPQ Superior Resources Limited

# Appendix 5B

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

Name of entity

SUPERIOR RESOURCES LIMITED			
ABN Quarter ended ("current quarter")			
72 112 844 407	31 March 2025		

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers		
1.2	Payments for		
	(a) exploration & evaluation		
	(b) development		
	(c) production		
	(d) staff costs	(94)	(234)
	(e) administration and corporate costs	(28)	(349)
1.3	Dividends received (see note 3)		
1.4	Interest received		
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	(122)	(583)

2. Ca	ash flows from investing activities	
2.1 Pa	yments to acquire or for:	
(a)	entities	
(b)	tenements	
(c)	property, plant and equipment	0
(d)	exploration & evaluation	(36)
(e)	investments	
(f)	other non-current assets	

ASX Listing Rules Appendix 5B (17/07/20)

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 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	(36)	(1,234)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	0	1,181
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	0	(93)
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)	18
3.10	Net cash from / (used in) financing activities	(3)	1,106

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	398	948
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(122)	(583)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(36)	(1,234)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(3)	1,106

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.5	Effect of movement in exchange rates on cash held		
4.6	Cash and cash equivalents at end of period	237	237

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	237	398
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)	237	398

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	93
6.2	Aggregate amount of payments to related parties and their associates included in item 2	21
	if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must includ ation for, such payments.	le a description of, and an

Directors fees and salaries paid during the quarter totalled \$113,747.64

7.	Financing facilities  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.	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 qu	ıarter end	
7.6	Include in the box below a description of each facility above, including the lender, i rate, maturity date and whether it is secured or unsecured. If any additional financi facilities have been entered into or are proposed to be entered into after quarter er include a note providing details of those facilities as well.		itional financing

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(122)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(36)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(158)
8.4	Cash and cash equivalents at quarter end (item 4.6)	237
8.5	Unused finance facilities available at quarter end (item 7.5)	
8.6	Total available funding (item 8.4 + item 8.5)	237
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	1.5

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.

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: Due to the wet weather in North Queensland field exploration and drilling activity is expected to be reduced during the month of April 2025.

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: A capital raise was completed on 10 April 2025 and net funds raised amounted of \$814,106.

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. The Board expects to meet its business objectives and to be able to continue operations as it believes it would be successful in funding operations.

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**

- 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:	30 April 2025
Authorised by:	By the board
dullorised by.	(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.
- 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.