Superior Resources

ASX Announcement

16 September 2024

Positive Steam Engine Gold Scoping Study

Robust economics for Toll Treatment and Stand-Alone Plant scenarios

Superior Resources Limited (**ASX:SPQ**) (**Superior**, the **Company**) is pleased to announce the results of a revised Scoping Study conducted on the Company's 100%-owned Steam Engine Gold Project (**Project**) located approximately 210 kilometres west of Townsville, Queensland. The Project is unique, as it is centrally located between a newly recognised large scale porphyry Cu-Au belt and a large-scale magmatic Ni-Cu-PGE sulphide province, both of which are 100%-owned by the Company.

The study confirms a financially and technically robust opportunity to develop the Project as a low CAPEX open pit mining and toll treatment operation and also highlights robust economics for a stand-alone on-site processing plant operation, albeit with higher capital cost requirements.

Cautionary Statement

Scoping Study - General: The Scoping Study referred to in this announcement is a preliminary technical and economic study of the potential viability of developing the Steam Engine Gold Project (**Project**) as a mining and either a third-party toll-treatment operation or as an on-site, stand-alone processing plant operation. The Scoping Study outcomes, production target and forecast financial information referred to in this announcement are based on low level technical and economic assessments that are not sufficient to support the estimation of Ore Reserves. The Scoping Study has been completed to a level of accuracy of +/- 30% in line with a scoping level study accuracy. While each of the modifying factors was considered and applied, there is no certainty of an eventual conversion to Ore Reserves or that the production target itself will be realised. Further evaluation work and appropriate studies are required before Superior Resources Limited (**Superior**) will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Mineral Resources and Production Targets: The Scoping Study investigates and reports on forecasted financial information based on the mining of Mineral Resources comprising approximately 93% classified as Measured or Indicated Resources and 7% classified as Inferred Resources (Toll Treatment scenario) and 88% classified as Measured or Indicated Resources and 12% classified as Inferred Resources (Stand-Alone Plant scenario). There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the proposed Production Targets will be realised. Superior has concluded that it has reasonable grounds for disclosing the forecasted financial information and Production Targets, given that at least 88% of the production ounces are derived from Mineral Resources classified within the Measured or Indicated categories and that the first half of the scheduled production includes only about 15% Indicated Resources. The stated Production Targets are based on the Company's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that the Production Targets will be met. The Mineral Resource Estimates underpinning the Production Targets in the Scoping Study and this announcement have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). Full details of the Mineral Resource Estimates are set out in ASX Announcement dated 11 April 2022. Superior confirms that it is not aware of any new information or data that materially affects the information included in that announcement. All material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

Material Assumptions: The Scoping Study is based on the material assumptions outlined within this announcement. These include assumptions about the availability of funding. While Superior considers all of the material assumptions to be based on reasonable grounds, there is no certainty that those assumptions will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

Funding Requirements: To achieve the range of outcomes indicated in the Scoping Study, total funding in the order of $13 million (under the Toll Treatment scenario) and $61 million (under the Stand-Alone Plant Scenario) will likely be required for CAPEX and operating losses until profits are generated. Investors should note that there is no certainty that Superior will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to, or otherwise affect the value of Superior's existing shares. Although the availability of funding is affected by many factors including general market factors, Superior has concluded that it has a reasonable basis to assume the ability of funding during the timeframes contemplated by the Scoping Study. Superior could pursue other "value realisation" strategies such as sale or joint venture of the Project, which may materially reduce Superior's proportionate ownership of the Project.

Forward-looking Statements: This announcement contains forward-looking statements. Superior has concluded that it has a reasonable basis for providing these forward-looking statements and believes it has a reasonable basis to expect it will be able to fund development of the Project. However, several factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

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HIGHLIGHTS:

- **The Steam Engine Gold Project Scoping Study is a revision of a 2021 scoping study and was conducted as a result of the following key changes in circumstances:**
  - **significantly higher gold price assumption of A$3,250/oz (2021: A$2,200/oz)**
  - **significantly upgraded Mineral Resource (2022): 60.7% increase to 4.18Mt @ 1.5g/t Au for 196,000oz (Stand-Alone Processing); and 40.2% increase to 2.72Mt @ 2.0g/t Au for 171,000oz (Toll Treatment)** (refer ASX announcement dated 11 April 2022. Superior confirms that it is not aware of any new information or data that materially affects the information included in that announcement)
  - **significant increases in capital and operating cost assumptions (more conservative modelling)**
  - **new pit optimisations resulting in extraction of only approximately 55,000oz, or 32% of the current total Toll Treatment Mineral Resource (2021 study based on 70,000oz) and approximately 89,000oz, or 45% of the current total Stand-Alone Processing Mineral Resource**
  - **comparison of Stand-Alone Processing Plant scenario to Toll Treatment scenario**
- **Scoping Study outcomes indicate:**
  - **financially and technically robust cases for both low CAPEX Toll Treatment and higher CAPEX Stand-Alone Plant processing options, despite significantly increased cost assumptions**
  - **pre-tax overall cash flow: approximately $46M (Toll Treatment); approximately $71M (Stand-Alone Processing)**
  - **pre-tax $NPV_{7\%}$: approximately $38M (Toll Treatment); approximately $42M (Stand-Alone Processing)**
  - **considerable improvements in project economics compared to 2021 study, with significantly greater likelihood of project delivery as a near-term, low CAPEX, open pit mining operation**
- **Scoping Study identified considerable financial upside potential:**
  - **from Mineral Resource extensions along strike from existing lode systems: current Mineral Resource developed over only 1.2 kms of at least 10 kms of potential mineralisation strike length**
  - **from new lode targets identified by sub-audio magnetics (SAM) geophysical data including a potential southern extension to the Steam Engine Lode**
- **The Company will continue to expedite Resource expansion drilling, prioritising the SAM targets, whilst immediately commencing Feasibility Study work units**

The Scoping Study is based on the April 2022 upgraded Mineral Resource Estimate of **4.18 million tonnes @ 1.5g/t Au for 196,000 ounces (Stand-Alone Processing)** and **2.72 million tonnes @ 2.0g/t Au for 171,000oz (Toll Treatment)** (Refer ASX Announcement dated 11 April 2022). The current Scoping Study revises an earlier 2021 study with updated input assumptions, many of which have had material positive or negative effects on the financial outcomes of the Project. In addition, a Stand-Alone Processing Plant scenario was run together with a third-party Toll Treatment scenario for comparison purposes.

Although the Scoping Study indicated robust economics for the Stand-Alone Processing scenario, the Company considers that this scenario would be preferred only if additional Resources are identified from further drilling activities. This view is based on the higher capital expenditure requirements under the Stand-Alone Processing scenario and also the significant upside financial outcomes and risks associated with that scenario.

Pit optimisation and mine planning exercises result in pit shells which are scheduled to mine **863k tonnes of ore at 2.34g/t Au to recover approximately 55,000 ounces of gold (Toll Treatment scenario)** and **2.13 million tonnes of ore at 1.53g/t Au to recover approximately 89,000 ounces of gold (Stand-Alone Processing)**. The production figures equate to approximately **32%** and **45% of the Mineral Resources for the Toll Treatment and Stand-Alone Processing scenarios, respectively**.

Base-case economic modelling indicates that the Project will deliver robust financial metrics for both the Toll Treatment and Stand-Alone Processing scenarios. The Toll Treatment scenario delivers a **2.6-year** period of processing for a **pre-tax LOM cash flow of ≈A$46M** at an **assumed gold price of A$3,250 per ounce and a discount rate of 7%**. The Stand-Alone Processing scenario delivers a **4.6-year** period of processing for a **pre-tax LOM cash flow of ≈A$71M** at the same gold price and discount rate input assumptions.

The Scoping Study identified significant scalability upsides, highlighting substantially greater financial outcomes as additional Resources are identified. If additional Resources are identified through extensions of the current Mineral Resource envelope along strike or by the discovery of new lode zones (e.g. the SAM targets), the higher CAPEX Stand-Alone Processing scenario may become the preferred option.

As a result of the robust Scoping Study outputs, Feasibility Study work units will be commenced immediately, together with the continuation of the current Resource expansion and SAM target drilling programs.

Superior's Managing Director, Peter Hwang commented:

"In order to progress Steam Engine towards production, a revision of the earlier 2021 scoping study was required, given the sustained higher gold price environment enabling about a A$1,000 per ounce higher price assumption as well as a 60% upgrade to the Mineral Resource since 2021.

"Despite the recent cost escalations that have affected the resources sector and the adoption of a lower production target under the Toll Treatment scenario, the Scoping Study has clearly demonstrated the resilience and financial robustness of the Steam Engine deposit by delivering a 70% increase in the pre-tax NPV of the Project whilst also highlighting the financial viability of a Stand-Alone mining and processing scenario.

"We are naturally very pleased with the compelling Scoping Study outcomes, which are quite remarkable considering the increased cost inputs and the reduced level of production on which the study was based. Importantly, the Scoping Study highlights the substantial value escalation that the project can deliver with increasing scale.

"As a result, our current Resource expansion and exploration drilling programs are focussed on extending the Mineral Resource along strike, identifying new lode zones along approximately 10 kilometres of untested mineralised structural corridors and in particular, new high grade lode targets that have been identified by the SAM geophysics. We will also be commencing feasibility study work units alongside the Resource expansion programs.

"We are now confident to progress Steam Engine as a low capex and near-term revenue-generating operation capable of underpinning a greater Greenvale Project copper, gold and nickel development strategy, whilst also testing the large-scale potential of the Project."

Introduction

The Steam Engine Gold Project (**Project**) is located approximately 210kms west of the port city of Townsville, Queensland (**Fig. 1**). Access to the Project is via the Gregory Highway with the Project site located 25kms west of the township of Greenvale. The gold deposit lies only 600m south of the Gregory Highway and approximately 3km south of the Genex Power 100% Renewable Energy power corridor that is currently under construction.

The Project is unique, as it is centrally located between two geologically contrasting mineral provinces: a porphyry copper-gold province and a magmatic nickel-copper-platinum group element province (**Fig. 1**), together, forming the greater Greenvale Project. The Greenvale Project is held 100% by Superior under a portfolio of exploration permits with a total area of approximately 2,300km^2.

Within the porphyry belt, at least four large porphyry prospects, which include the Bottletree prospect, have been identified and are currently being systematically explored. At the large magmatic Ni-Cu-PGE sulphide province, at least 40 intrusions have been identified. Ni-Cu-PGE sulphide mineralisation and mineralisation systems of the Voisey's Bay and Julimar-Gonneville type have been proven, but the project has not been subjected to any systematic exploration.

Steam Engine represents a potential non-dilutive source of significant funding that may enable the realisation of maximum value return from the very significant potential presented by the Greenvale Project.

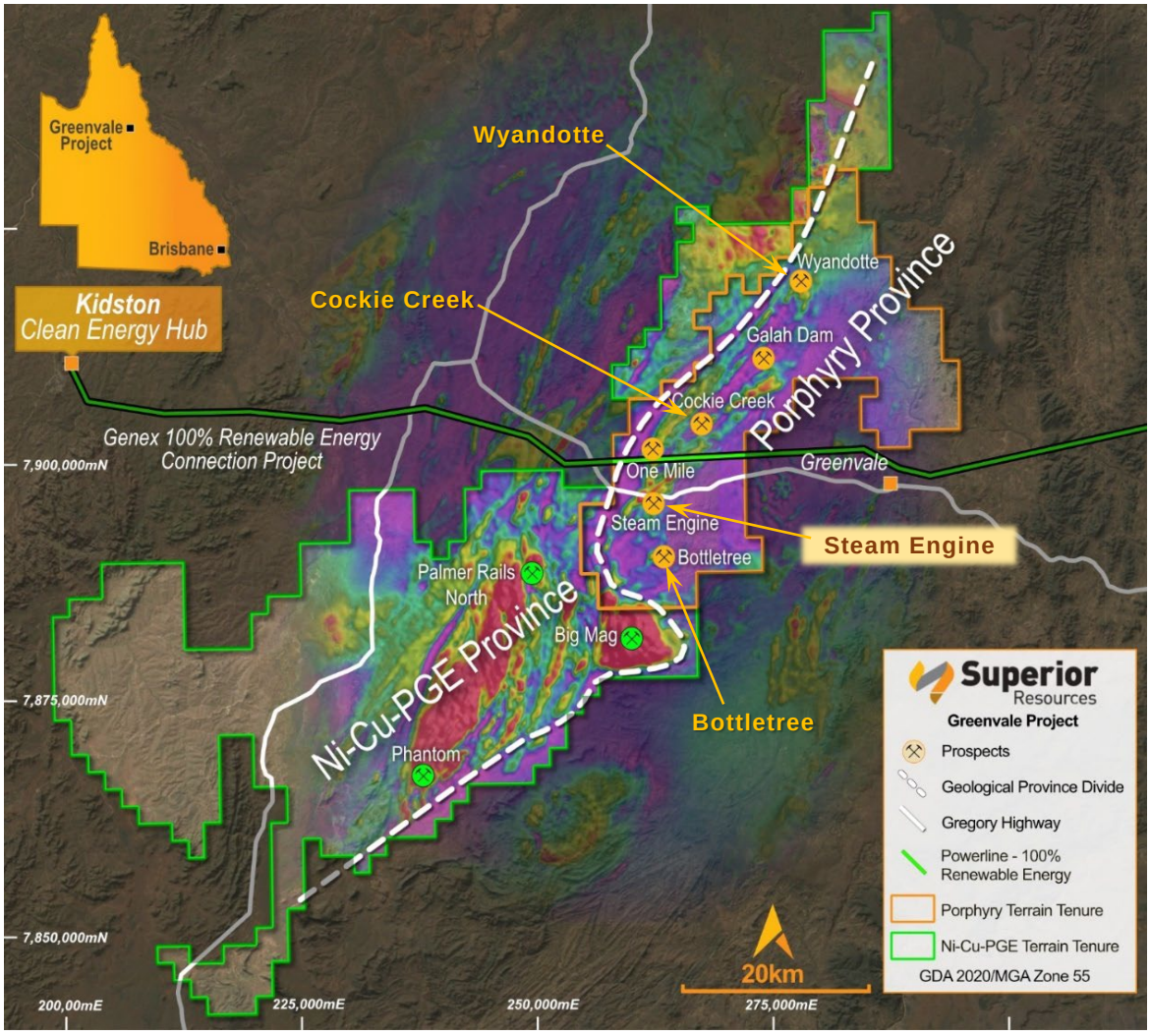

Figure 1. *Regional aerial magnetics over the Greenvale Project area showing the newly recognised porphyry province (amber tenements) and the magmatic Ni-Cu-PGE sulphide province (tenements outlined in green).*

Basis of Study – Two Processing Scenarios

The Scoping Study considers all aspects of developing and operating one or more open pit mines for the extraction of gold-bearing ore from the Project and then processing that ore to produce gold doré.

Two contrasting processing scenarios are assessed:

1. **"Toll Treatment"** – represents the scenario where mined ore is hauled from the Project site to a third-party processing plant for the treatment of the ore through that facility. Gold production is reconciled and a tolling fee is paid and settled with the third party at the toll treatment facility. Tailings are stored at the toll treatment site.
2. **"Stand-Alone Processing"** – represents the construction and operation of a gold processing plant of appropriate capacity at the Project site. Such a plant comprises crushing, grinding, gravity separation, leaching and bullion production circuits and an associated tailings and waste rock storage facility at the Project Site. Ore is processed through this plant, removing the need for haulage costs and the profit margin that is lost to a third-party tolling facility.

The Toll Treatment scenario imposes a higher cut-off grade for ore that is mined due to the significantly higher operating costs largely caused by the ore haulage costs, which are a significant cost to the Project. The higher cut-off grade results in smaller pits and significantly less ore being extracted. Another disadvantage of this scenario is the limited overall upside that can be realised from the Project. However, this scenario only requires low capital expenditure, the risks are relatively low and revenue can be realised much sooner.

The Stand-Alone Processing scenario allows a lower cut-off grade as the operating costs are significantly lower. As a result, the ore inventory and pits sizes are significantly larger, which results in increased gold production. This scenario requires significant capital and increases the project complexity with additional required approvals, the construction and operation of a processing plant, construction and maintenance of a tailings storage facility and additional infrastructure. However, substantial financial upsides can be realised as having an established processing plant on site enables scalability from continued Resource growth.

The Scoping Study uses the most recently upgraded 2022 Mineral Resource Estimate[1], which is set out in **Tables 3 and 4** of **Appendix 1** to this announcement (which is a condensed version of the Scoping Study).

The production target figures, which are detailed in **Tables 6 and 7** of **Appendix 1**, equate to approximately 32% and 45% of the Mineral Resources for the Toll Treatment and Stand-Alone Processing scenarios, respectively.

The Scoping Study was completed to an overall ±30% accuracy and based on assumptions as set out in **Table 1 and pages 6 to 19 of this announcement** and **Appendix 1**.

The study was conducted by independent consultants comprising:

- Metcor Pty Ltd (**Metcor**) (Study Manager, Processing, Cost Estimation, Financial Modelling); and
- Australian Mine Design and Development Pty Ltd (**AMDAD**) (Pit Optimisation, Mine Scheduling).

[1] Refer ASX Announcement dated 11 April 2022

Key Outcomes and Assumptions

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

Table 1 summarises the physical and financial evaluation of a Toll Treatment scenario and a Stand-Alone Processing Plant scenario based on 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.

All financial results are approximated in accordance with Scoping Study parameters and are provided in Australian dollars unless stated otherwise.

Table 1. Scoping Study – Key Outcomes (Base Case assumptions)

Parameter	Toll Treatment	Stand-Alone Processing
Financial Summary		
Overall Cash Flow (pre-tax)	**≈$46M**	**≈$71M**
$NPV_{7\%}$ (discounted, pre-tax)	**≈$38M**	**≈$42M**
Internal Rate of Return (IRR) (pre-tax)	104%	25%
All-in Sustaining Costs (AISC)[1]	≈$2,325 /oz	≈$1,980 /oz
Payback Period	≈1.5 years	≈4.25 years
Gold Price Assumption	$3,250 /oz	
Funding		
Total CAPEX (Pre-Production and Closure)	≈$6M	≈$63M
Funding Required[2]	≈$13M	≈$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	82% Steam Engine / 95% Eastern Ridge	
Gold Produced and Sold	**≈55,000 oz**	**≈89,000 oz**

[1] *AISC calculated in accordance with the 2018 World Gold Council Updated Guidance Note.*

[2] *Includes pre-production CAPEX plus operating losses until profits are generated.*

A gold price of A$3,250/oz is assumed for the base case financial analysis. This represents a 16% discount to the gold spot price (**≈A$3,779**) during August 2024, being the main period of the Scoping Study. In addition, a 7% discount rate is assumed in the financial analysis. This is considered reasonable in the context of the short to medium term outlook for the gold market. A breakeven analysis was conducted on various significant parameters, indicating breakeven gold prices of A$2,372/oz and A$2,412/oz for Toll Treatment and Stand-Alone Processing scenarios respectively, on the basis of the other parameters remaining constant.

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

Scenario	Toll Treatment		Stand-Alone Processing	
	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)	**≈$46M**	**≈$67M**	**≈$71M**	**≈$104M**
$NPV_{7\%}$ (discounted, pre-tax)	**≈$38M**	**≈$55M**	**≈$42M**	**≈$66M**
Internal Rate of Return (IRR) (pre-tax)	104%	128%	25%	30%
All-in Sustaining Costs (AISC)[1]	≈$2,325 /oz	≈$2,339 /oz	≈$1,980 /oz	≈$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)	≈$6M	≈$6M	≈$63M	≈$63M
Funding Required[2]	≈$13M	≈$12M	≈$61M	≈$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**

[1] *AISC calculated in accordance with the 2018 World Gold Council Updated Guidance Note.*

[2] *Includes pre-production CAPEX plus operating losses until profits are generated.*

Breakeven Points

Breakeven points for each of the key Base Case variables above have been determined – this is the level at which the pre-tax cash flow reduces to zero when all other parameters remain at base case levels (**Table 3**).

Table 3. Breakeven Analysis – Base Case Scenario

Parameter	Breakeven Value	
	Toll Treatment	Stand-Alone Processing
Gold Price	**≈A$2,372 /oz**	**≈A$2,412 /oz**
Gold Grade	**1.71 g/t**	**1.14 g/t**
Gold Recovery – Steam Engine Lode Ore	51%	54%
Haulage Distance	657 km	N/A
Haulage Unit cost	$0.31 /wmt/km	N/A
Mining Unit Cost	$9.15 /t	$7.73 /t
Total Processing Unit Cost	$74.21 /t	$56.63 /t

Sensitivity Analysis

The Base Case Project economics were subjected to a sensitivity analysis on the basis of a +/-15% change in key parameters (**Figs. 2 and 3**). 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.

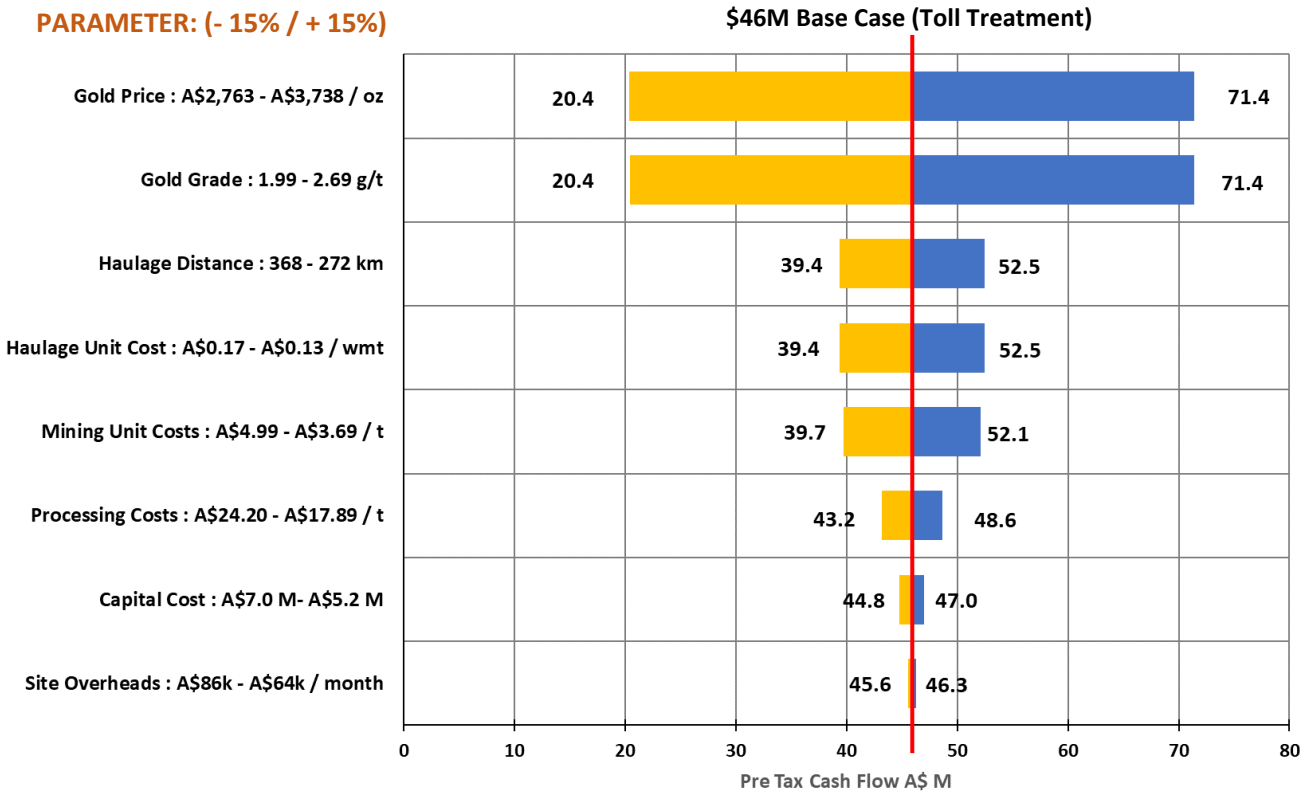

Figure 2. *Sensitivity analysis on the* ***Toll Treatment scenario*** *showing the effects of a ±15% variability in key parameters on the base case $46M Pre-Tax Cash Flow.*

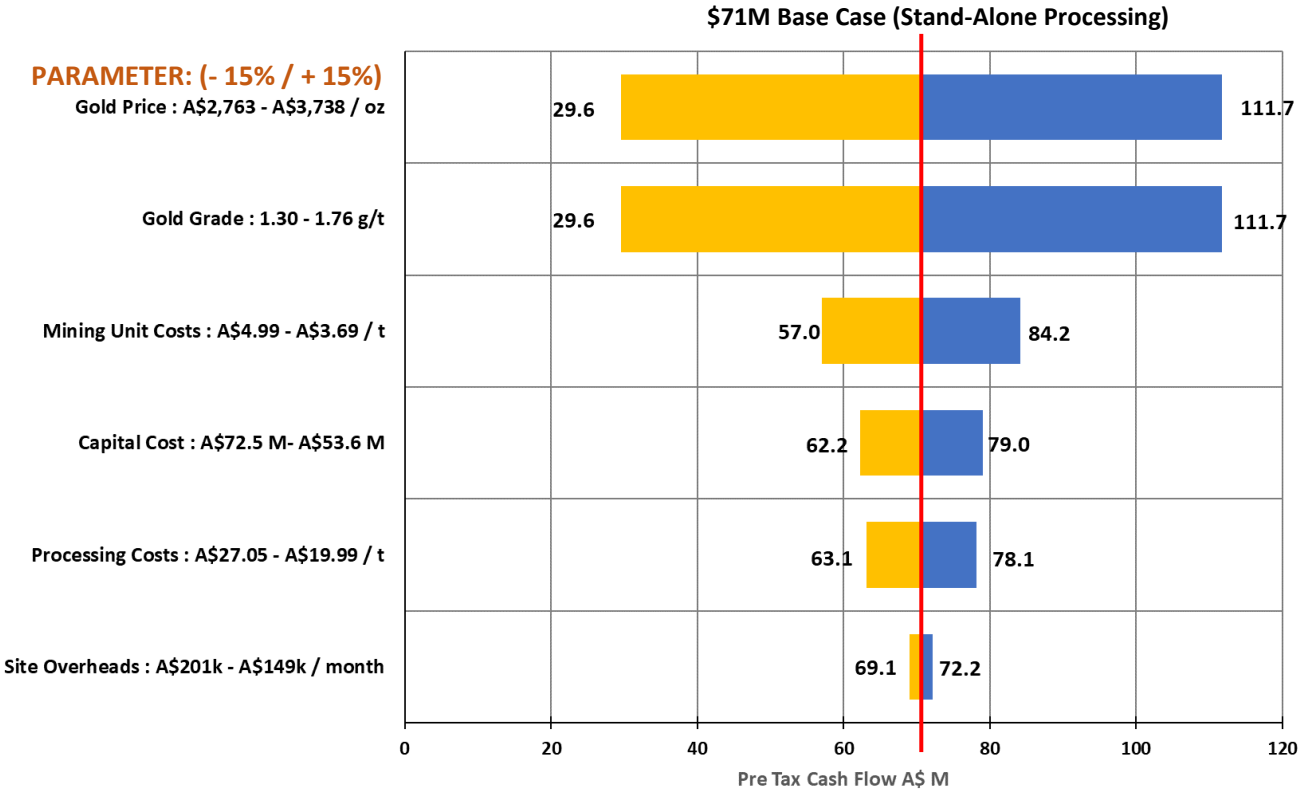

Figure 3. *Sensitivity analysis on the* ***Stand-Alone Processing scenario*** *showing the effects of a ±15% variability in key parameters on the base case $71M Pre-Tax Cash Flow.*

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.

Scalability

The Scoping Study demonstrates that the Project financial outcomes respond very positively to increases in project scale. For example, under the Stand-Alone Processing scenario, **an increase of 25% additional produced ounces (i.e. 22,000oz Au), results in a ≈48% increase in the NPV (i.e. ≈$42M to ≈$62M)** (refer **Fig. 5**).

Growth in project scale may arise from one or more of the following mechanisms:

- an increase in ore tonnes as a result of further drilling;
- the selection of a higher revenue factor pit shell as a basis for the pit design in periods of forecast high gold price; and
- the discovery of new gold lodes – e.g. from new lode targets identified by sub-audio magnetics (**SAM**) geophysical data.

The effect of scale growth has been modelled in the context of the current short to medium term forecasts relating to the gold markets. Modest increases in project scale significantly improve the Project production, cash flow and NPV outcomes (**Figs. 4 and 5**).

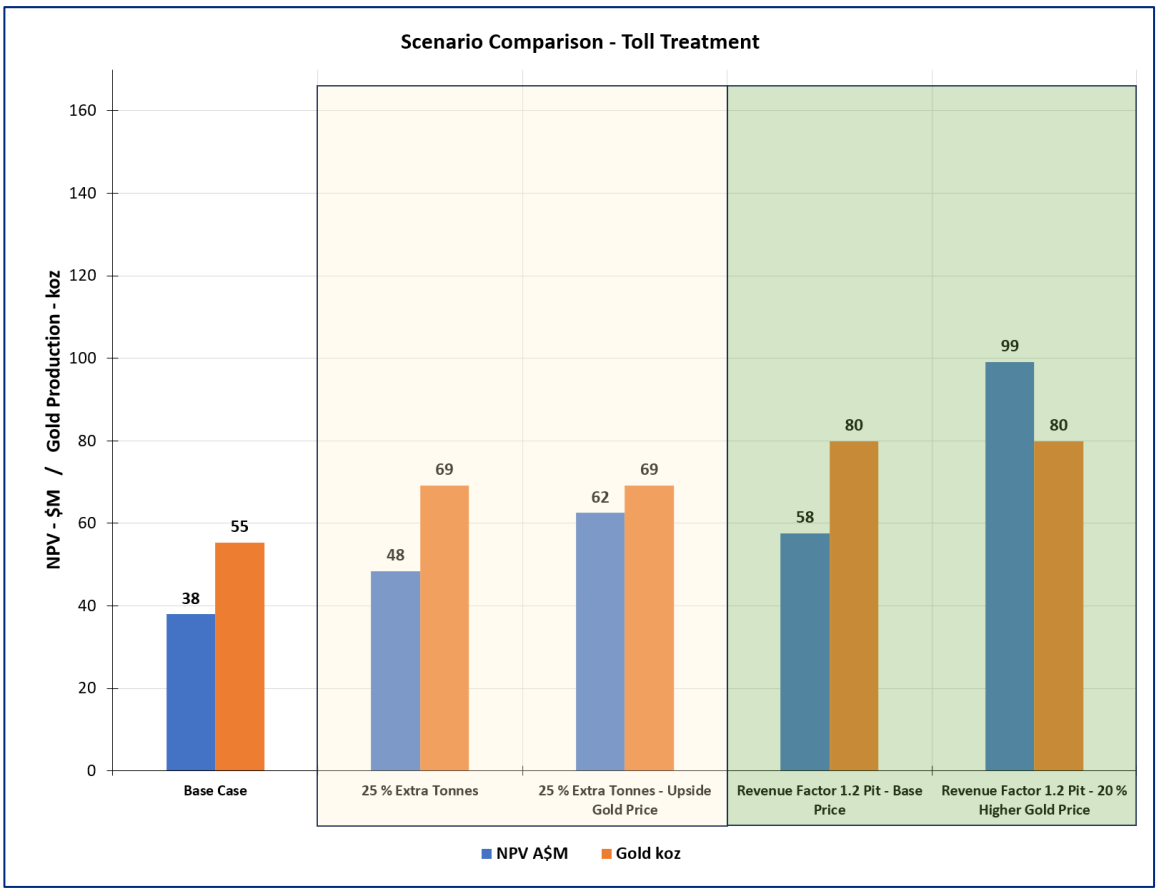

Figure 4. *Modelled financial outcomes for various up-scale scenarios under the Toll Treatment processing option.*

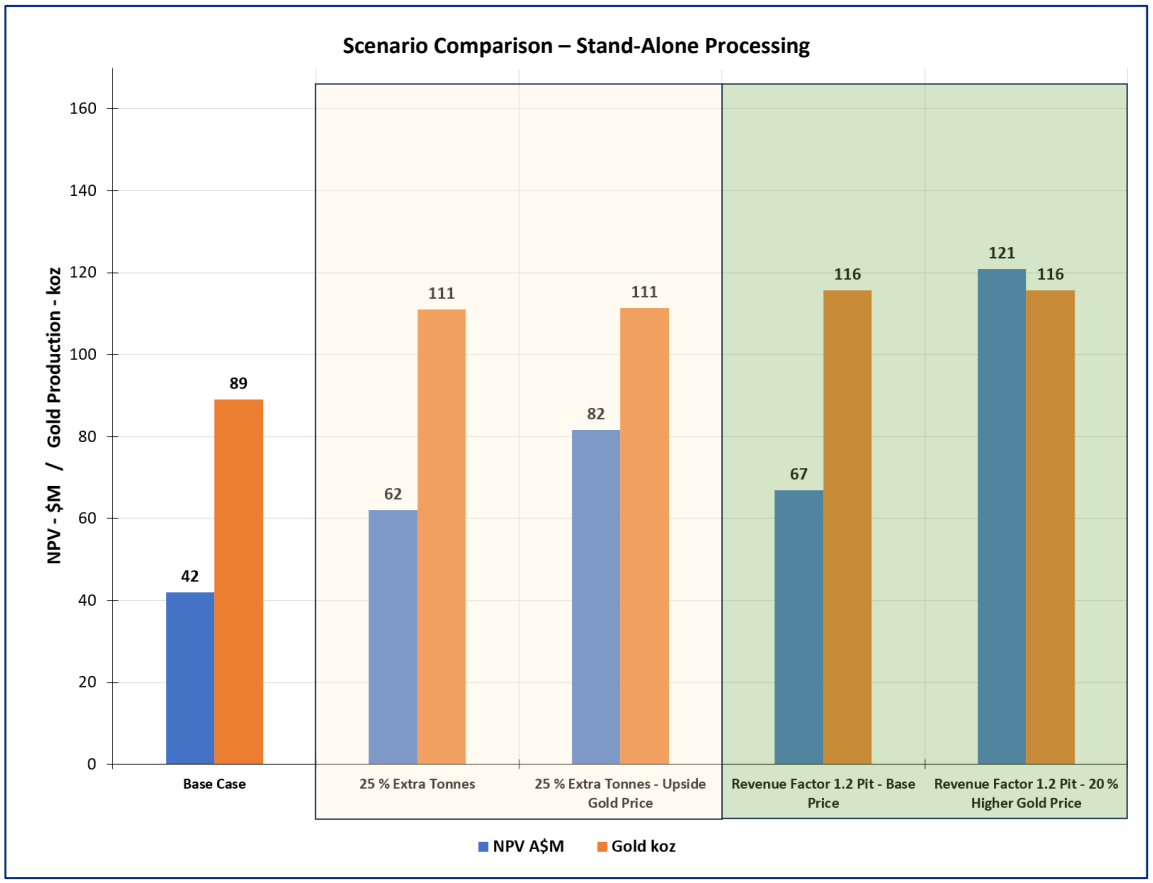

Figure 5. *Modelled financial outcomes for various up-scale scenarios under the Stand-Alone Processing option.*

The significant upside financial performance potential from modest expansions of the Mineral Resource is the motivator for the ongoing exploration and Resource expansion drilling campaigns.

Mineral Resources, Pit Optimisation, Production Targets

The Scoping Study is based on the April 2022 Mineral Resource Estimate[2], which was conducted in accordance with JORC (2012) by a Competent Person. The 2022 Mineral Resource Estimate stands at:

Lower Grade Stand-Alone Processing Plant Model (lower cut-off grade of 0.25 g/t Au)

- **Total Measured, Indicated and Inferred Resource:**
  4.18 Mt @ 1.5 g/t Au for 196,000 oz Au
- Total Measured and Indicated Resource:
  2.22 Mt @ 1.7 g/t Au for 121,000 oz Au.

High Grade Toll Treatment Model (higher cut-off grade of 1.0 g/t Au)

- **Total Measured, Indicated and Inferred Resource:**
  2.72 Mt @ 2.0 g/t Au for 171,000 oz Au
- Total Measured and Indicated Resource:
  1.61 Mt @ 2.2 g/t Au for 111,000 oz Au.

Scoping level studies conducted by Metcor included the establishment of input parameter assumptions that were based on researched cost parameters relating to recent similar operations within Queensland and nationally, together with adjustments based on inflationary factors where necessary. Other work units include processing options and design and financial modelling. Separately, AMDAD conducted pit optimisation and mine scheduling studies.

Pit optimisations and mine planning resulted in nested pit shells that correspond with a range of total production tonnages. Base Case pit shells were selected on the basis of the highest undiscounted cash flow, which in effect, is a trade-off between total gold produced and operating costs.

The pit shells that were selected as the optimal Base Case pit designs result in 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)** (**Figs. 6 to 9**; refer also to **Table 1**). This represents approximately **≈32% and ≈45%** of the Total Mineral Resources for the Toll Treatment and Stand-Alone Processing scenarios, respectively.

In each of the Toll Treatment and Stand-Alone Processing scenarios, a very high proportion of the production ounces are derived from Mineral Resources classified within the Measured and Indicated categories (**Table 4**), with the first half of the scheduled production including only about 15% Indicated Resources (**Figs. 10 and 11**).

Table 4. Breakdown of total production ounces according to Resource categories

Scenario	Production Ounces – Mineral Resource Confidence Category		
	Measured	Indicated	Inferred
Toll Treatment	68%	25%	7%
Stand-Alone Processing	47%	41%	12%

[2] Refer ASX Announcement dated 11 April 2022; Refer to **Appendix 1**, **Section 4** for further detail regarding the Mineral Resource Estimate.

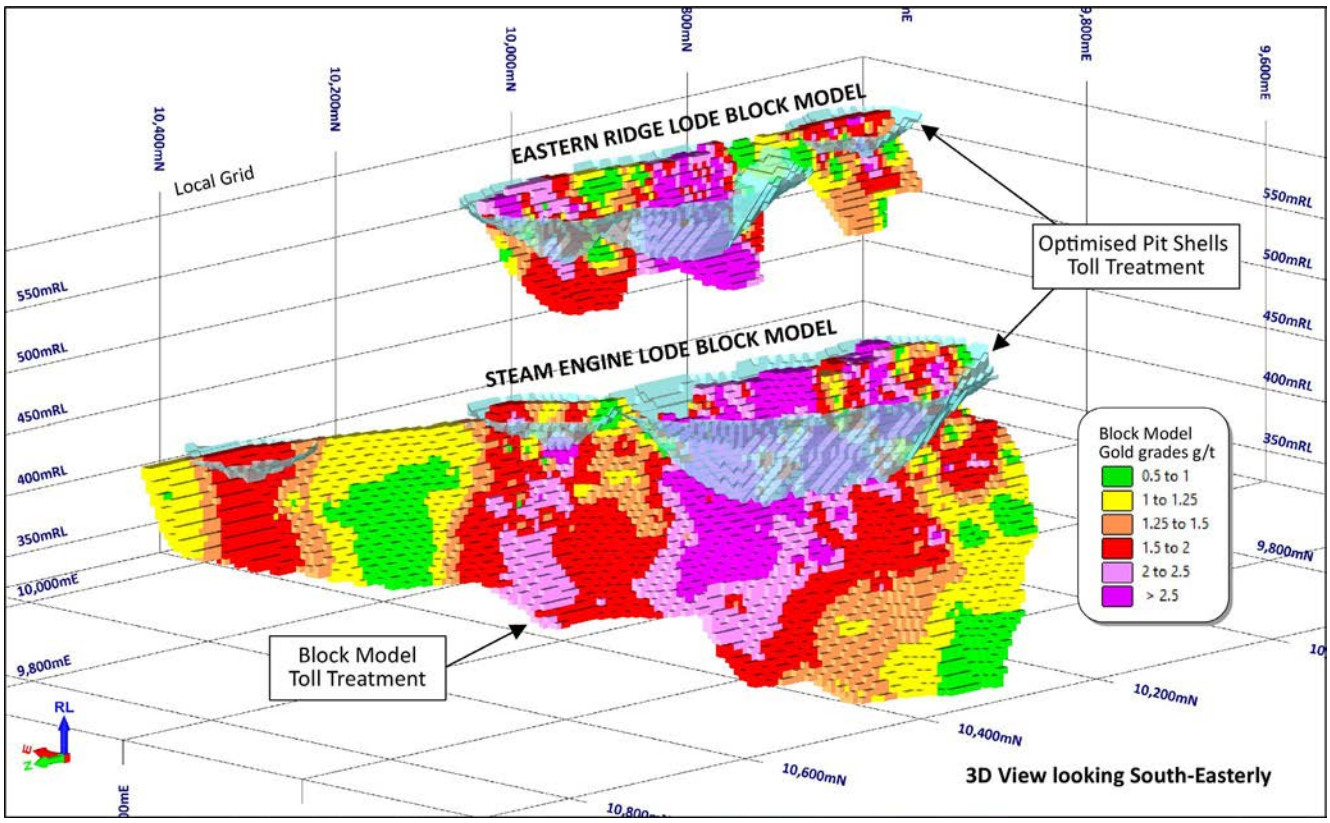

Figure 6. *Steam Engine and Eastern Ridge* ***Toll Treatment*** *block models showing Base Case optimised pit shells and gold grade categories.*

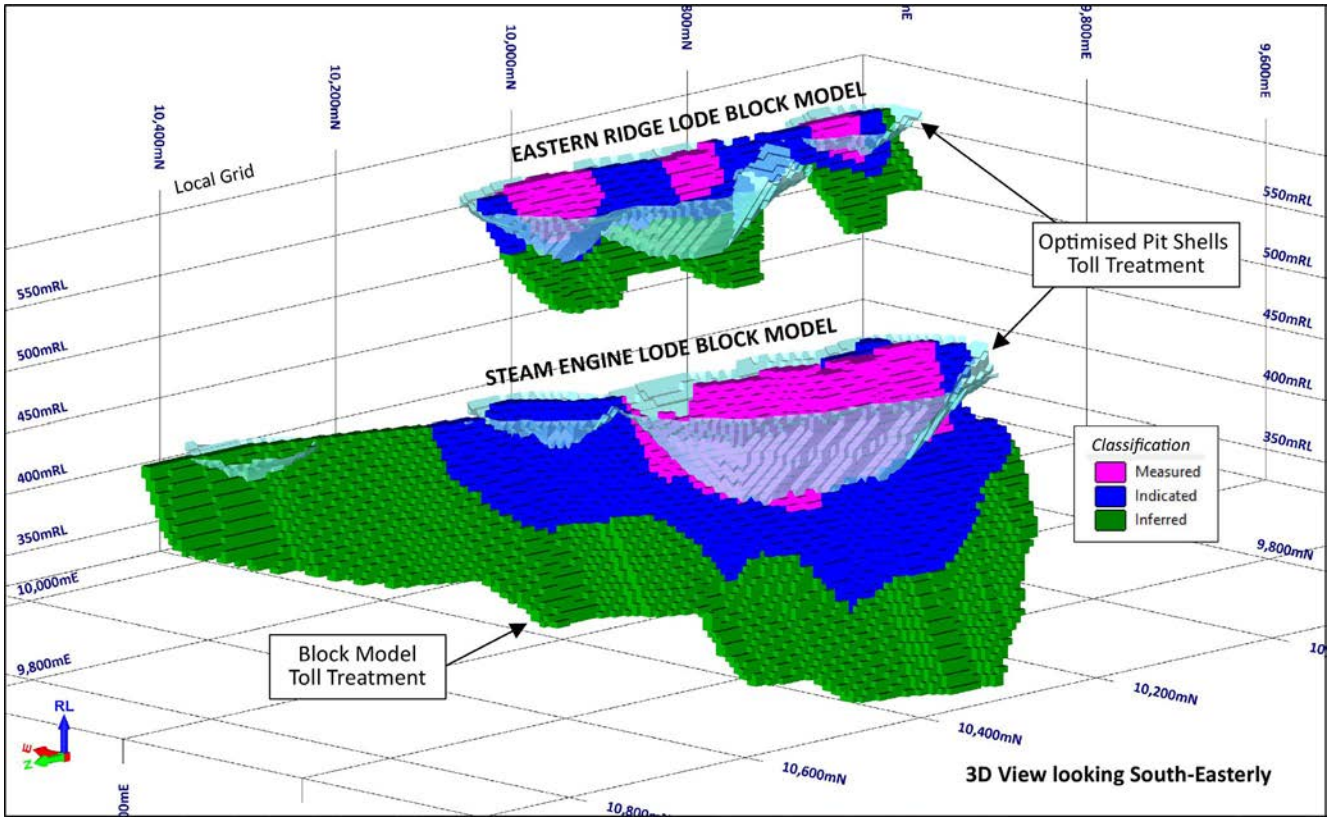

Figure 7*. Steam Engine and Eastern Ridge* ***Toll Treatment*** *block models showing Base Case optimised pit shells and Measured, Indicated and Inferred Mineral Resource confidence classifications.*

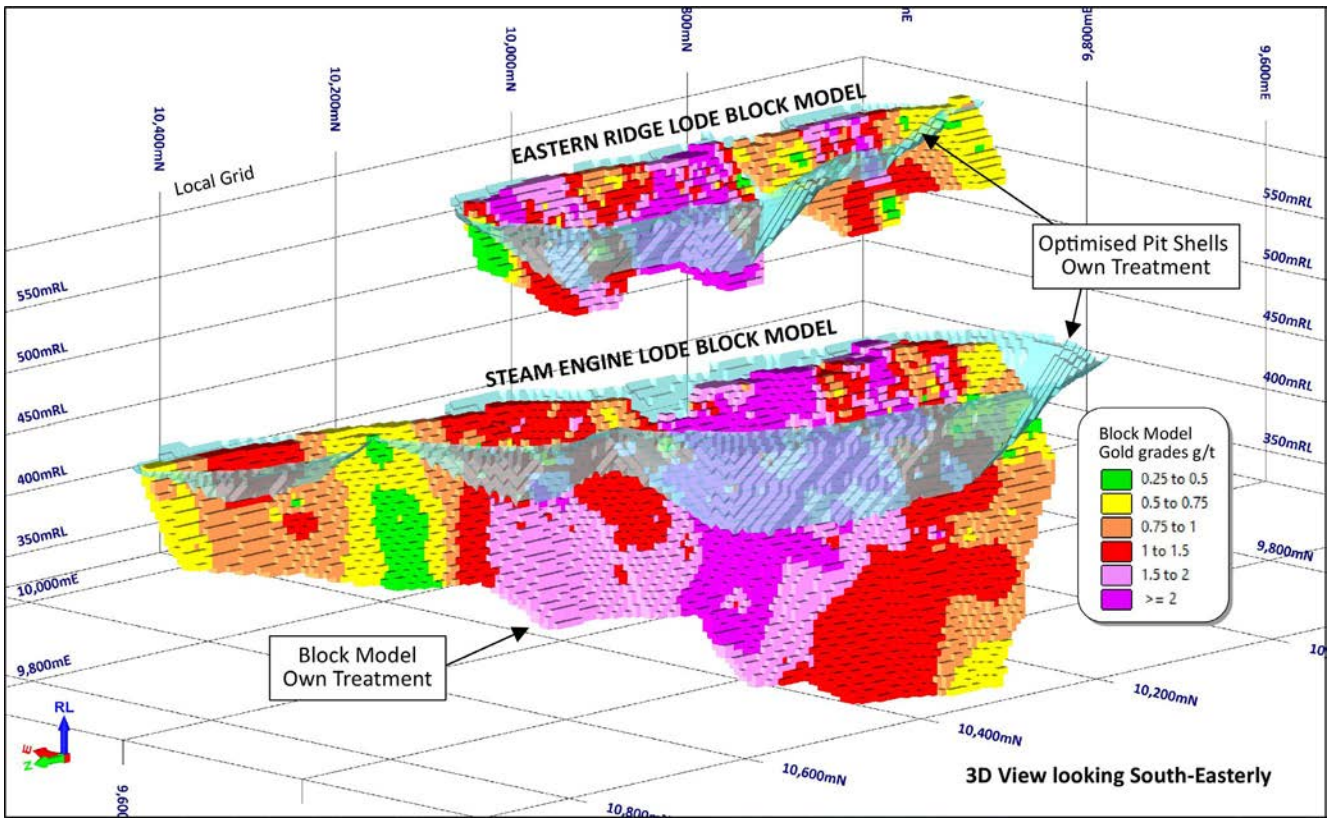

Figure 8. *Steam Engine and Eastern Ridge* ***Stand-Alone Processing*** *block models showing base case optimised pit shells and gold grade categories.*

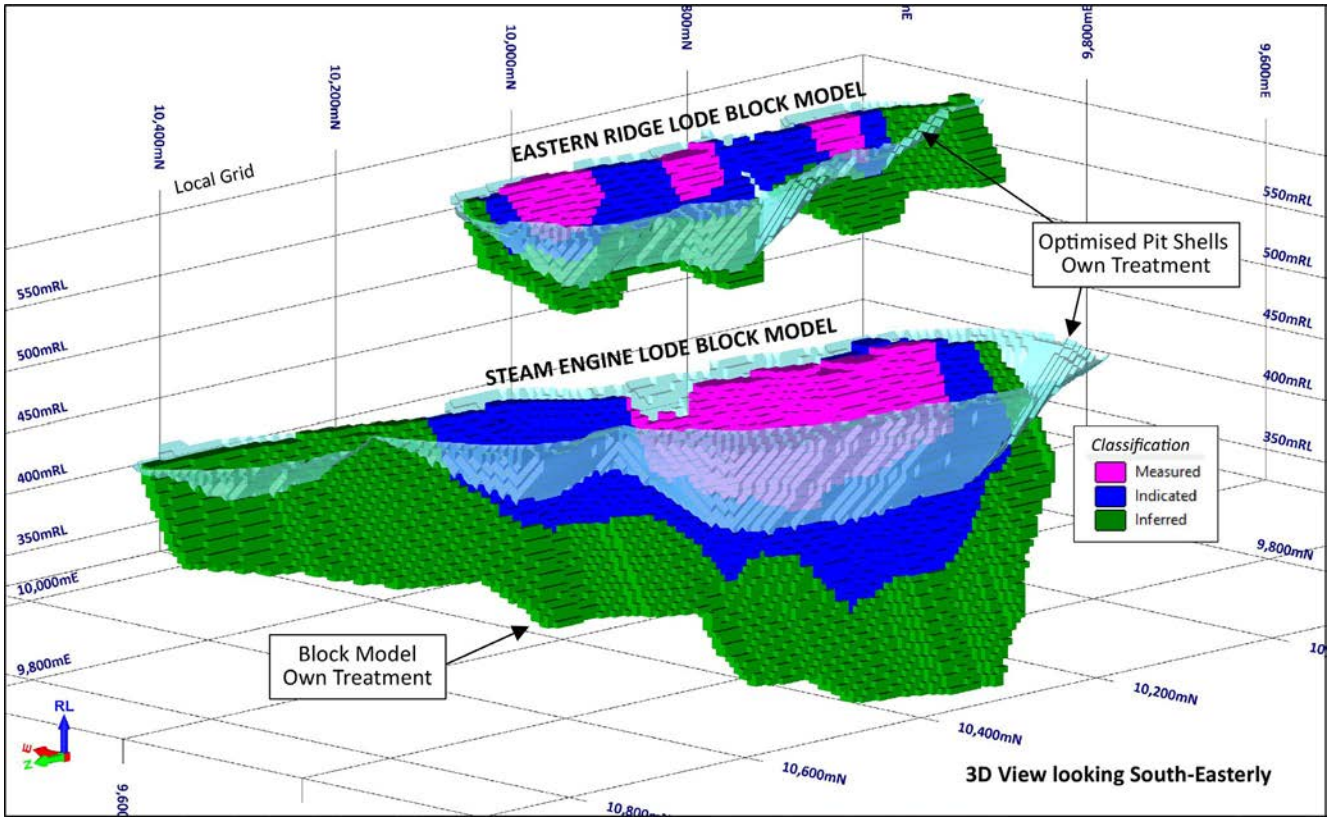

Figure 9*. Steam Engine and Eastern Ridge* ***Stand-Alone Processing*** *block models showing base case optimised pit shells and Measured, Indicated and Inferred Mineral Resource confidence classifications.*

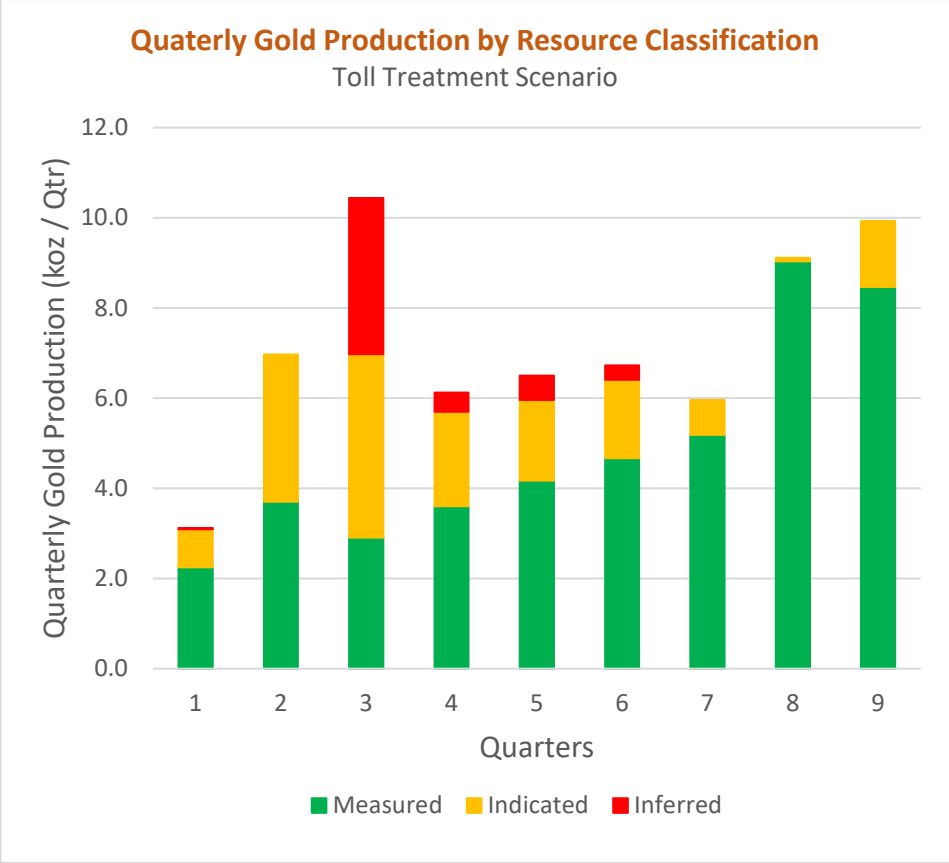

***Figure 10**. Steam Engine Gold Project quarterly gold production under the Toll Treatment scenario. The proportions of Measured, Indicated and Inferred Resource classifications are identified for each quarter.*

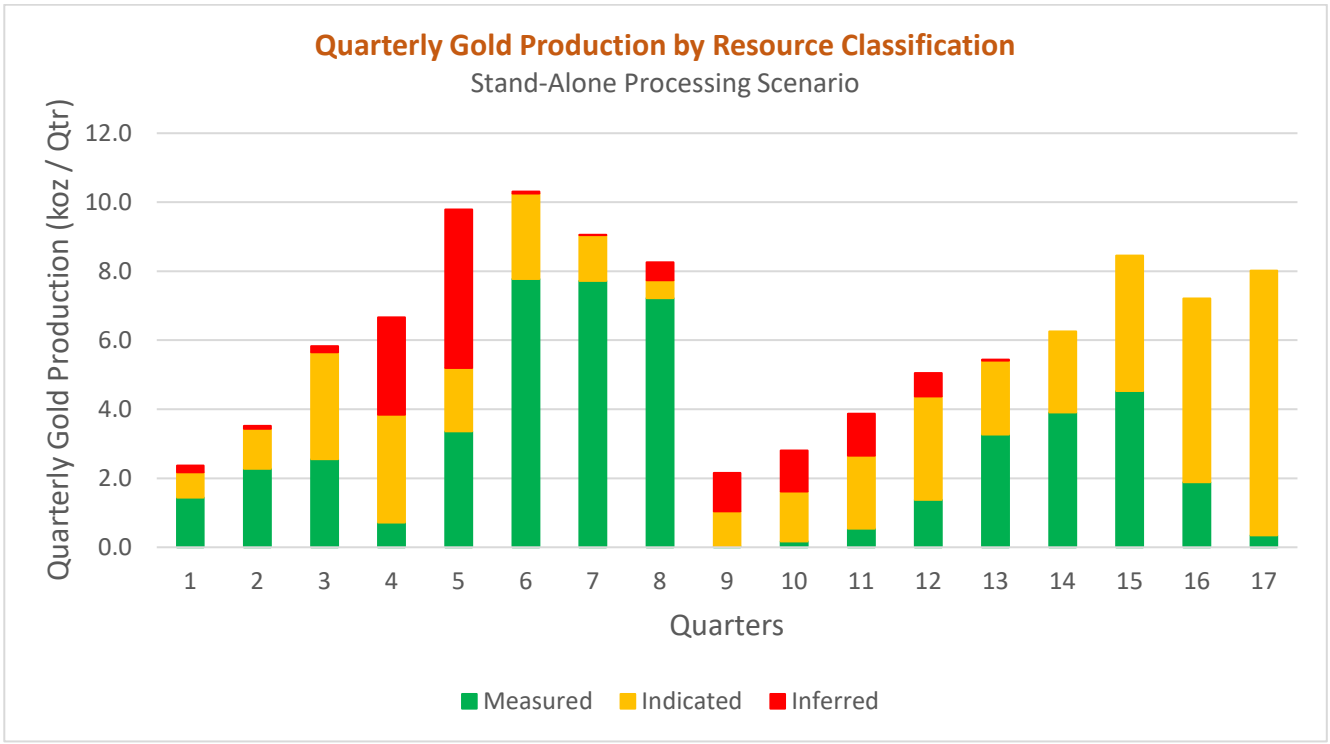

***Figure 11.** Steam Engine Gold Project quarterly gold production under the Stand-Alone Processing scenario. The proportions of Measured, Indicated and Inferred Resource classifications are identified for each quarter.*

Additional input assumptions to simulate real-world practical mining outcomes were factored into the pit optimisation and financial modelling. Dilution of ore grade by associated waste tonnages was factored by 10% and loss of recovery during mining was factored by 5%. Other assumptions associated with processing were also factored, such as processing cost, refining costs and State government royalties.

On the basis of the above and other input assumptions, the cut-off grades under the Toll Treatment scenario for each of the Steam Engine Lode and Eastern Ridge Lode deposits are 1.12g/t Au and 0.97g/t Au, respectively. Under the Stand-Alone Processing scenario, the cut-off grades fall significantly to 0.36g/t Au for the Steam Engine Lode and 0.31g/t Au for the Eastern Ridge Lode.

Refer to **Appendix 1, Section 5.1** for a detailed breakdown and analysis of pit optimisation and design factor assumptions.

For both scenarios, contractor-based mining is assumed due to the relatively short operational durations that have been contemplated under the Scoping Study. Initial discussions have been conducted with one contract miner.

Conventional haulage contractors will be engaged for the Toll Treatment scenario together with a tolling arrangement with a third-party processing facility. Initial discussions have been made with the owners of two such facilities.

Refer to **Appendix 1, Sections 6.3 and 6.4** for more detailed analysis of the toll treatment and processing assumptions.

Production schedule modelling resulted in a preferred scenario that commences with the mining of the Eastern Ridge Lode pit first, followed immediately by mining of the Steam Engine Lode pit. This outcome provides the greatest value return and the greatest flexibility on the basis that ore from Eastern Ridge has significantly better metallurgical performance, results in a smaller pit void that may be suitable for the storage of waste rock or tailings from the Steam Engine Lode and better accommodates the ramp up of mining equipment.

Refer to **Appendix 1, Section 5.2** for a detailed breakdown and analysis of modelled production schedules and assumptions for the Toll Treatment and Stand-Alone Processing scenarios.

Metallurgy

Metallurgical leach test work has been conducted in a series of four batches over periods between November 2020 and January 2022.

Metallurgical recovery of gold from Eastern Ridge Lode samples showed excellent results with recoveries between 86% and 98%. Samples from the Steam Engine Lode show lower overall recoveries.

On the basis of the metallurgical testing completed to date, metallurgical recoveries of 82% (Steam Engine Lode) and 95% (Eastern Ridge Lode) are assumed for the financial modelling.

Refer to **Appendix 1, Sections 6.1 and 6.2** for a more detailed analysis of the metallurgical test work.

Site Layout

Proposed site layouts with the required site infrastructure in place were designed for the purpose of the Scoping Study for the Toll Treatment and Stand-Alone Processing scenarios (**Figs. 12 and 13**).

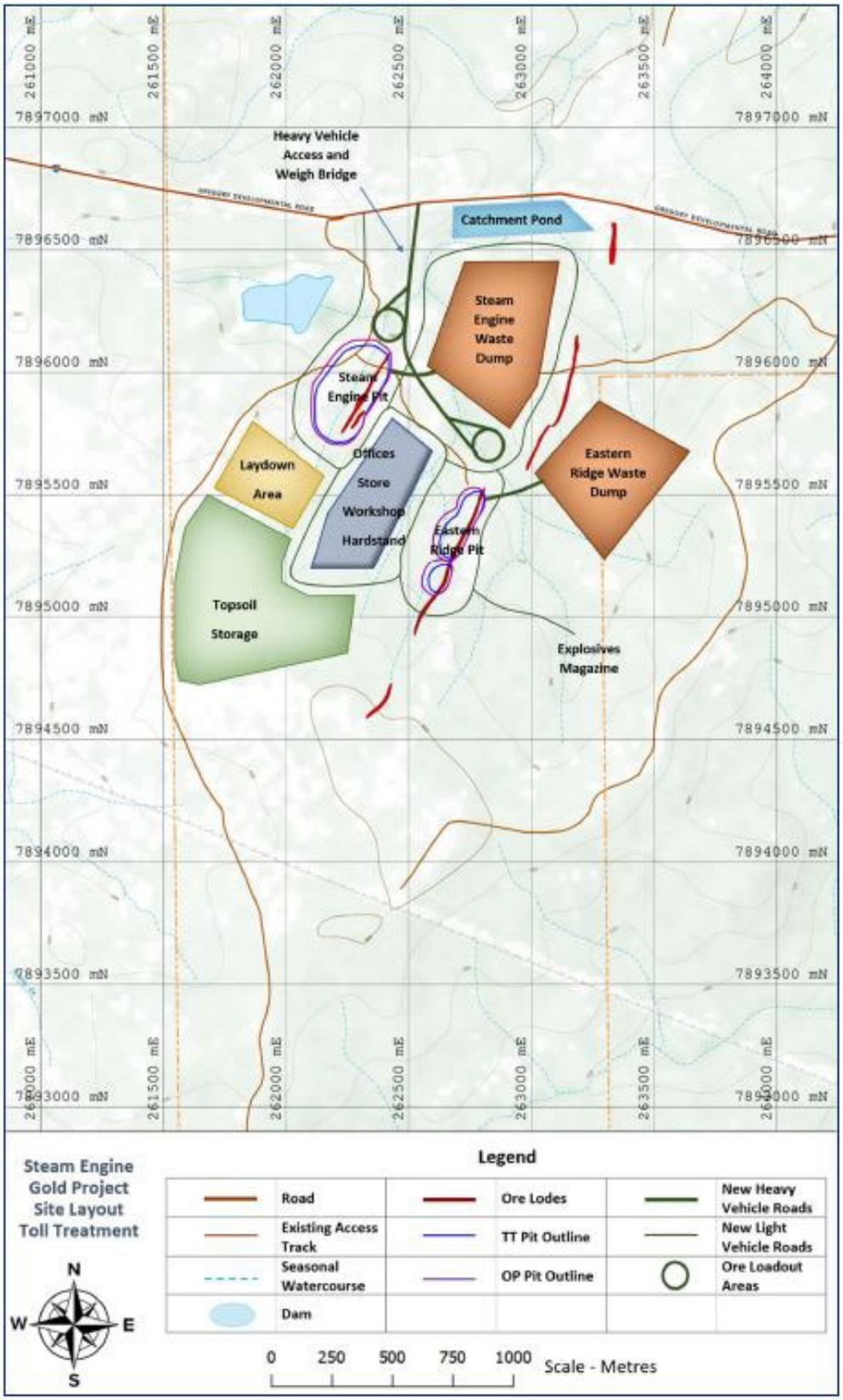

Figure 12. *Steam Engine Gold Project conceptual site layout – Toll Treatment scenario.*

Figure 13. *Steam Engine Gold Project conceptual site layout – Stand-Alone Processing scenario.*

Capital, Operating Costs and Funding

Capital Costs

Capital costs to develop the Project and for closure are estimated at a Scoping Study level of accuracy of ±30% and generally in accordance with an AACE Class 5 Estimate Category (Guidelines developed by the Association for the Advancement of Cost Engineering) (**Tables 5 and 6**).

Table 5. Toll Treatment scenario Capital Cost Estimate (all estimations are approximate)

Category	Materials $	Labour $	Growth $	Freight $	TOTAL $
Site Preparation	31,800	224,465	51,253	1,000	**308,518**
Mining	72,000	363,971	87,194	2,000	**525,165**
Processing	0	0	0	0	**0**
Infrastructure	839,700	185,130	204,966	79,948	**1,309,744**
Owner's Costs	721,212	1,502,870	435,583	1,100	**2,660,765**
Contingency @ 25%					**1,201,048**
TOTAL	**1,664,712**	**2,276,436**	**778,996**	**84,048**	**6,005,240**

The timing of the capital expenditure can be summarised as:

- **≈$4,937,000** during Project development and start-up; and
- **≈$1,068,000** during Project closure.

Table 6. Stand-Alone Processing scenario Capital Cost Estimate (all amounts are approximate estimations)

Category	Materials $	Labour $	Growth $	Freight $	TOTAL $
Site Preparation	615,971	770,579	277,310	58,137	**1,721,998**
Mining	72,000	508,583	116,117	2,000	**698,699**
Processing	14,474,743	9,649,829	4,824,914	1,447,474	**30,396,960**
Infrastructure	2,363,357	1,200,901	712,852	232,314	**4,509,424**
Owner's Costs	1,679,972	7,802,979	1,487,357	80,457	**11,050,765**
Contingency @ 25%					**12,094,462**
TOTAL	**19,206,044**	**19,932,871**	**7,418,550**	**1,820,382**	**60,472,308**

The timing of the capital expenditure can be summarised as:

- **≈$1,190,000** during Project design and approvals;
- **≈$55,440,000** during site preparation and construction; and
- **≈$3,842,000** during Project closure.

Refer to **Appendix 1, Section 9** for further detail and breakdowns on the capital cost assumptions for each of the mining and processing scenarios.

Operating Costs

Refer to **Appendix 1, Section 10** for information and analysis on the operating cost assumptions for each of the mining and processing scenarios.

Funding

To achieve the range of outcomes indicated in the Scoping Study, funding in the order of $13M (under the Toll Treatment scenario) will likely be required for CAPEX and operating losses until profits are generated. The Company considers that based on the current Mineral Resource inventory and market factors, the Toll Treatment scenario is currently the preferred scenario for development. The Stand-Alone Processing scenario would be preferred only if additional Resources are identified from further drilling activities.

The Company has formed the view that there is a reasonable basis to believe that the necessary funding to develop the Project under the Toll Treatment scenario will be available when required. The Company considers that in the event that additional Mineral Resources are identified, there would be a reasonable likelihood that the necessary funding to develop the Project as a Stand-Alone Processing operation would be available at the relevant time. The grounds on which the Company has formed the reasonable basis view include:

- the Project has robust financial and technical fundamentals that provide a very attractive return of capital investment, whilst generating strong cash flows at gold prices that are considered by the Company to be conservative in the current and medium-term market. This is an attractive basis for obtaining debt and equity funding;
- the Company considers that the likelihood of significant growth in the total Project Mineral Resources through Resource extensions along strike of the known gold lodes and discovery of new lodes is high. The Scoping Study has clearly demonstrated the high degree of value growth in the Project economics as additional gold ounces are added to the Mineral Resource, which would create a compelling case for development of the Project as a Stand-Alone operation;
- capital markets are aware of the intrinsic practical and strategic relationship that the Project has with the surrounding high-potential and large-scale copper and nickel projects within the greater Greenvale Project. The markets are aware of the secondary purpose and reason for ensuring the development of the Project in the most effective and efficient manner;
- the Company's board has a strong track record of successfully raising equity funds as and when required for the purposes of progressing the Company's Greenvale Project; and
- it is the Company's intention to appoint a corporate advisor in the near term to assist with obtaining the most economically effective funding solutions as the Project and the Company progresses.

However, investors should note that there is no certainty that the Company will be able to raise the amount of necessary funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to, or otherwise affect the value of the Company's existing shares.

2024 Resource Expansion Program

RESOURCE EXPANSION POTENTIAL

Almost all exploration work to date at the Project has been focussed on 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 producing 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 2022 Mineral Resource Estimate.

Gold mineralisation at the Project is contained within significant geological structures that, to varying degrees, comprise localised shear zones. The locations of these mineralised structures are highlighted geochemically by anomalous zones of elevated Au-in-soil geochemistry (**Fig. 14**).

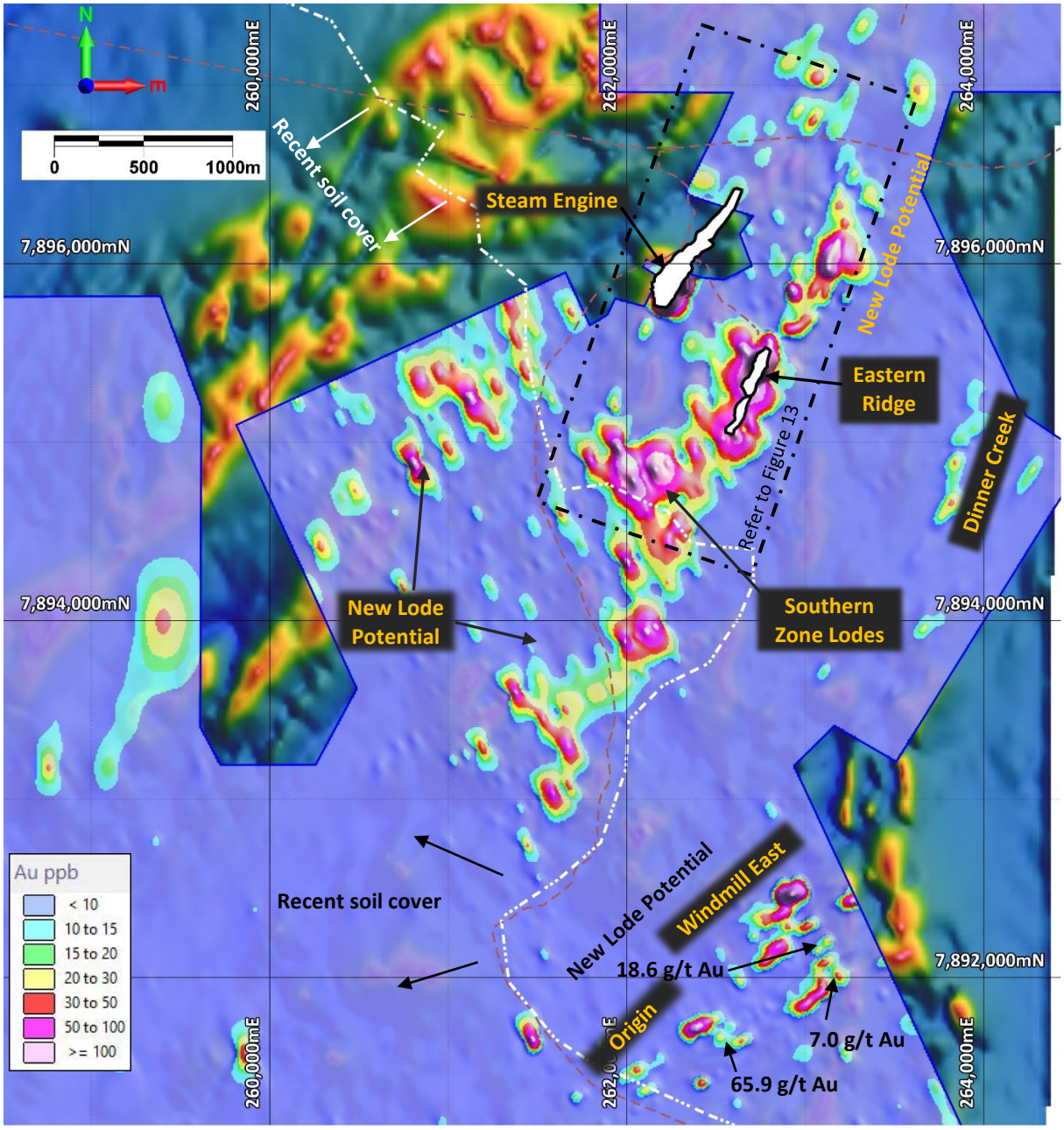

Figure 14. *Plan showing gridded Au soil geochemistry over background RTP airborne magnetics data. The Steam Engine and Eastern Ridge lode Mineral Resource outlines are shown as white polygons together with areas of potential new lode zones. The Southern Zone, Windmill East and Origin mineralised zones are also shown.*

The Mineral Resource is developed over a total of 1.2 kilometres of these structures. At least 10 kilometres of strike of gold-mineralised structures have been identified by soil geochemistry (**Fig. 14**). Furthermore, strong gold mineralisation exists over a large area at the Windmill East and Origin Prospects, with rock chip assays up to **65.9 g/t Au** (refer ASX announcement 4 June 2024). Significant potential clearly exists to extend gold lode mineralisation along strike to the north and south of the Steam Engine and Eastern Ridge lodes (**Fig. 14**).

Additionally, additional potential is currently presented by SAM geophysical targets (refer below) that appear to highlight new gold lodes that have not previously been identified by the other data sets.

SUB-AUDIO MAGNETICS SURVEY

Analysis of data acquired by a recent sub-audio magnetics (**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. 15**).

Strikingly, the TFEM has highlighted a potential southern extension of the Steam Engine Lode. 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. 15**). This is an important finding and if new lodes are present at these locations, a rapid and substantial expansion of the Steam Engine Mineral Resource may result.

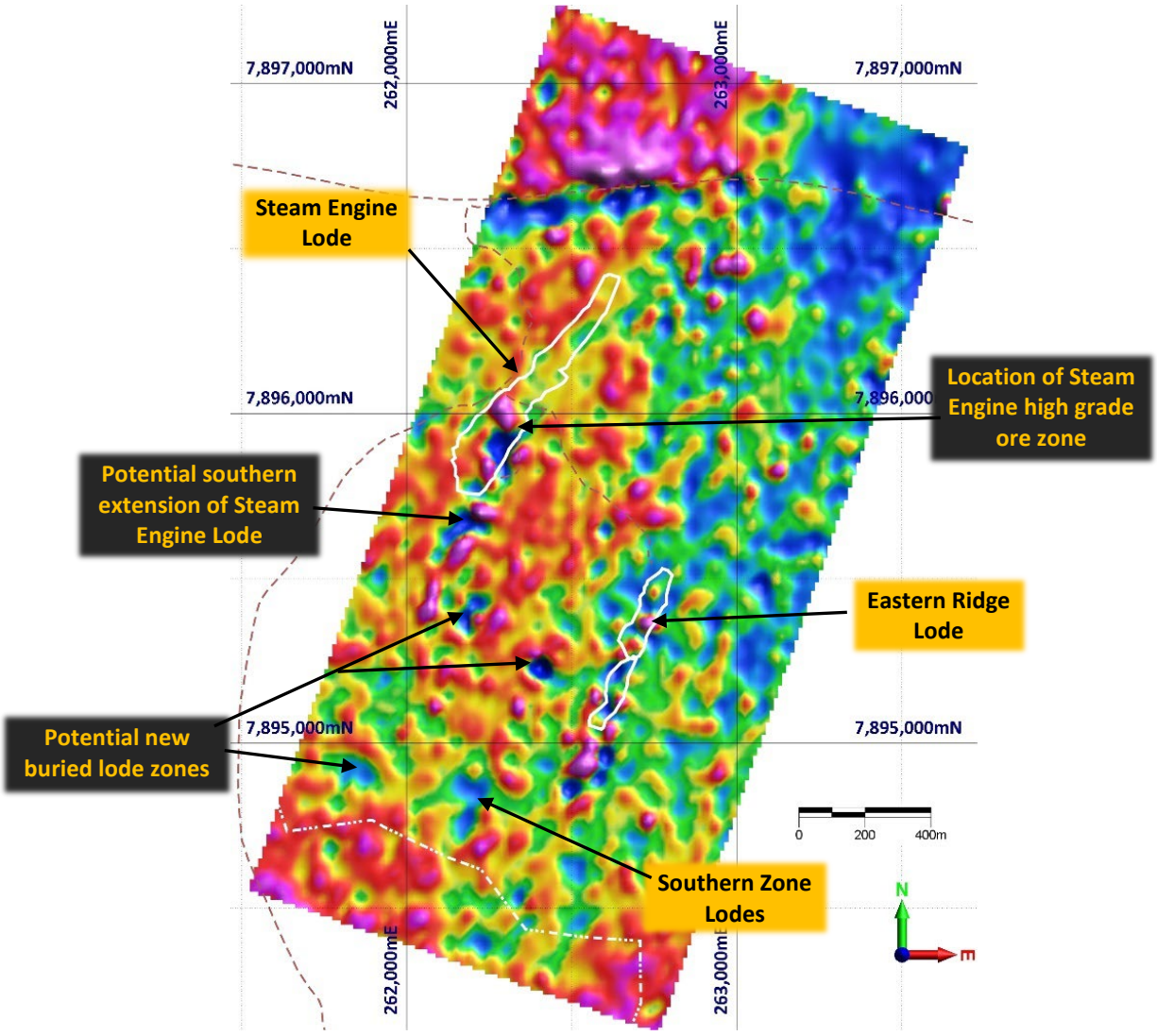

Figure 15. *Image of late channel (Channel 16) total field electromagnetics (TFEM) responses over the Steam Engine and Eastern Ridge lodes. Discrete areas of low TFEM response are coincident with the most intensely mineralised parts of the gold lodes. A possible southern extension to the Steam Engine Lode is visible as well as other potential lode zones.*

CURRENT DRILL PROGRAM

A current program of Resource expansion drilling is continuing and initial assays from the first few holes has been received and will be reported to the market as soon as possible.

As a result of the outcomes from the SAM geophysical modelling, the new SAM targets are now considered to be the highest priority targets. Drill-testing of these targets is planned to commence in the next few weeks.

Indicative Timetable

Although the Scoping Study outcomes indicate a compelling case for development of the Project under the Toll Treatment scenario, the significant upsides that are presented by the Stand-Alone Processing scenario, particularly considering the positive gold market forecasts, justify a strategy of progressing further mining studies and a mining lease application process for a Toll Treatment operation, whilst also expediting further Resource expansion and exploration drilling programs. This will enable the progression of study units and the permitting process applicable to both scenarios, whilst maintaining scenario optionality as the Project progresses forward.

On this basis, Feasibility Study work units are scheduled to commence immediately. The Resource expansion and exploration drilling programs will continue as originally planned.

For the purposes of conducting the Scoping Study, the following nominal, but reasonable timeframe assumptions were used:

Toll Treatment scenario:

- Jan 2027: Statutory permitting and approvals in place;
- Jul 2027: Ore mining commences; and
- Oct 2029: Production ceases.

Stand-Alone Processing scenario:

- Apr 2027: Statutory permitting and approvals in place;
- Apr 2028: Ore mining commences; and
- Jul 2032: Production ceases.

The Company considers that if an immediate commitment to develop the current Mineral Resource under a Toll Treatment scenario is made, the Project can be brought into production in a significantly shorter timeframe that may result in reaching a fully permitted stage in the first calendar half of 2026.

Conclusion and Next Steps

The Steam Engine Gold Project has been shown to be financially and technically robust in both a Toll Treatment scenario and Stand-Alone Processing scenario, from a Scoping Study perspective. The strong Scoping Study outcomes provide a compelling case to further progress the Project towards a feasibility study and potential development.

On the basis of the positive outcomes from the Scoping Study, the following work categories will either continue or immediately commence:

- **Feasibility Study work units**;
- **Drill-testing of SAM and other new lode targets**;

- **Resource Expansion drill programs**;
- **Further metallurgical test work and studies** aimed at improving gold recovery;
- **Regulatory approvals processes**, including native title, environmental and cultural heritage;
- **Mining lease application work units**; and
- **Commercial negotiations** regarding third party toll treatment, contract mining road haulage.

In addition to progressing the above work units, the Company will also maintain a priority objective to fast-track drilling programs aimed at expanding the existing Mineral Resource.

Indications from the Scoping Study are that a stand-alone mining and processing operation has the potential to significantly improve the economic outcomes. However, the Company currently considers that additional Resources need to be identified in order to justify the CAPEX required to develop a Stand-Alone Processing operation.

Assuming the key parameters continue to apply or improve, a modest increase in total Mineral Resources is likely to provide significant justification for a standalone operation, which would then substantially improve the Project economics and returns.

Approved for release by the Board of Superior Resources Limited

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About Superior

Superior Resources Limited (ASX:SPQ) is an Australian public company exploring for large copper, nickel-copper-cobalt-PGE, lead-zinc-silver and gold deposits in northern Queensland, which have the potential to return maximum value growth for shareholders. The Company is focused on multiple Tier-1 equivalent exploration targets and has a dominant position within the Carpentaria Zinc Province in NW Qld and Ordovician rock belts in NE Qld considered to be equivalents of the NSW Macquarie Arc.

For more information about the Company, please visit our website at www.superiorresources.com.au.

Reporting of Mineral Resources: *Information contained in this report that relates to Mineral Resources was originally announced on the ASX Market Announcements Platform on 11 April 2022 and is based on information compiled by Mr Kevin Richter, a full-time employee of Superior Resources Limited, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Richter 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 Richter consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. Further information regarding the Mineral Resources referred to in this report is set out in ASX announcement dated 11 April 2022.*

Reliance on previously reported information: *In respect of references contained in this report to previously reported Exploration Results or Mineral Resources, Superior 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. The form and context in which the relevant Competent Person's findings are presented have not been materially modified from the original document.*

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.*

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APPENDIX 1

STEAM ENGINE GOLD PROJECT

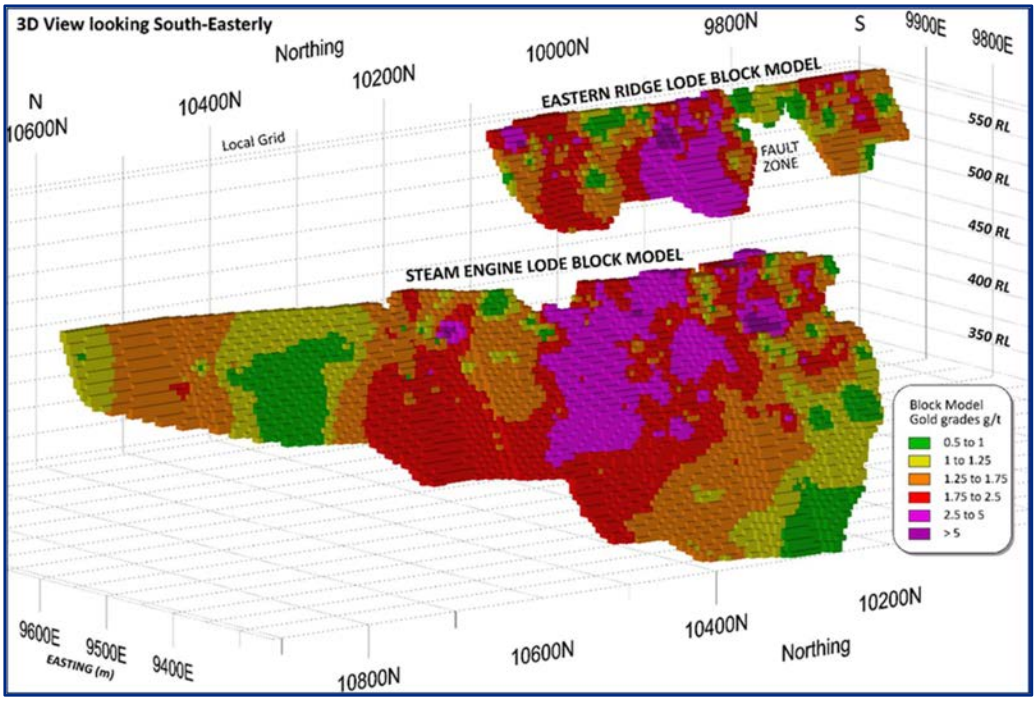
2024 SCOPING STUDY
EXECUTIVE SUMMARY AND SUPPORTING ASSUMPTIONS

Providing Metallurgical, Management and Corporate Services to the Mining Industry

Superior Resources

STEAM ENGINE GOLD PROJECT

EXECUTIVE SUMMARY AND SUPPORTING ASSUMPTIONS FOR 2024 SCOPING STUDY



COMPLETED AND APPROVED BY:

ALASDAIR NOBLE PRINCIPAL CONSULTANT METCOR PTY. LTD.

AUGUST 2024

TABLE OF CONTENTS

CONTEXT OF STUDY SUMMARY - DISCLAIMER

This Summary Study report is a condensed version of the full scoping study for inclusion by SPQ in an ASX announcement. The full study contains more discussion on many aspects of the project; particularly in options that have been assessed and risks and opportunities identified. The full scoping study has been provided to Superior Resources Limited for internal use.

This Summary Report and the full Scoping Study Report were prepared by Metcor Pty Ltd at the request of Superior Resources Limited. The statements, technical information and recommendations contained herein are believed to be accurate at the time of writing and all reasonable care has been taken to ensure this, some information in this report has been provided by others and therefore Metcor Pty Ltd can not completely warrant or guarantee the accuracy of the information contained herein.

The user is cautioned that the underlying assumptions and inputs may change over time and the report and any recommendations made should be viewed and used in this context. The user should ensure that the assumptions and inputs remain valid.

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1 EXECUTIVE SUMMARY

The Steam Engine Gold Project, the basis for this scoping study, lies around 30 kilometres west of the township of Greenvale, which in turn is around 220 km from Townsville. This is one of a number of prospects within the broader Greenvale Project tenements held by Superior Resources Limited (SPQ), an ASX-listed junior Queensland focussed base metals, battery metals and gold explorer based in Brisbane.

Previous exploration on and around the project site has been carried out from 1959 until the present day, with a maiden Mineral Resource Estimate being reported in 2017 after Superior Resources took over the tenements. Drilling has continued since then to improve the confidence in the resource estimate, to increase the size of the resource and to test potential new ore zones. The approvals process for the project has been mapped out and has commenced, with a mining lease application expected to be submitted as part of the future work program.

A number of gold bearing lodes occur in the area, of which the Steam Engine lode is the most notable. The Steam Engine lode has a known surface strike length of over 600 metres and is open along strike and down dip. The Eastern Ridge lode is located some 500 metres eastwards of the Steam Engine lode and has a surface strike length of approximately 1,400 metres and is also open along strike and down dip. The lodes are typically interpreted as being of the mesothermal vein type and comprise pyritic-quartz-sericite-carbonate schist within metabasalts, metasediment and / or metatonalite within shear zones. The existence of a further lode system, Dinner Creek, further to the southeast has been identified and there is potential for a Southern lode or other satellite gold deposits within the tenement areas.

Two options are assessed for the processing of ore, and these are compared side by side in this study:

Option 1 "Toll Treatment" is for the scenario where ore is hauled from the Steam Engine site to a processing plant in the vicinity of the project for toll treatment through that facility.

Option 2 "Owner Plant" is the scenario where a gold processing plant is constructed on the Steam Engine site and ore is processed through this facility, removing the need for haulage of ore.

This study is at a scoping level and covers all aspects of developing and operating open pit mines to extract gold bearing ore from the Steam Engine project area and processing that ore to produce doré using either of the pathways described above.

The study uses the updated Mineral Resource Estimate as reported by Superior Resources in April 2022.

On the basis of the testwork to date, the gold recovery predictions for Steam Engine ore and Eastern Ridge ore respectively are 82 and 95 percent, the lower recovery of the Steam Engine ore is attributed to a component of the gold being associated with arsenopyrite.

The total capital cost estimate for the toll treatment option is A$ 6.1 million comprised mostly of infrastructure costs to support the site development, mobilisation costs for the mining and haulage contractors and closure costs.

The total capital cost for the owner plant option increases considerably to A$ 63 M with the construction of a 500,000 tpa plant including crushing, grinding, leaching, gold production and tailings management.

These capital cost estimates have been combined with operating cost estimates and the physical mining schedules from pit optimisation work to develop a full production, cost and revenue model for the project.

The physical outputs of the mining and production schedule are summarised in Table 1, and the financial outcomes from the analysis are summarised in Table 2 using a gold price assumption of A$ 3,250 per ounce and a discount rate of 7 %. All NPV's quoted are on the basis of pre tax cash flows.

Table 1: Summary of Evaluation Physicals

Parameter	Unit	Toll Treatment	Owner Plant
Total Material Mined	kt	9,535	20,856
Ore Milled	kt	863	2,133
Ore Gold Grade	g/t	2.34	1.53
Gold Produced	koz	55	89
Processing Period	months	31	55

Table 2: Summary of Evaluation Financials – Pre-Tax

Parameter	Unit	Toll Treatment	Owner Plant
Total Capital	A$ M	6.1	63.0
Pre-Tax Overall Cash Flow	A$ M	45.9	70.6
Payback Period	Months	18	51
Pre-Tax NPV	A$ M	37.9	41.7
Return on Capital	%	764	119
Funding Required	A$ M	13	61
Return on Funding	%	353	116

The cumulative pre-tax cashflow profile of the two options is shown below.

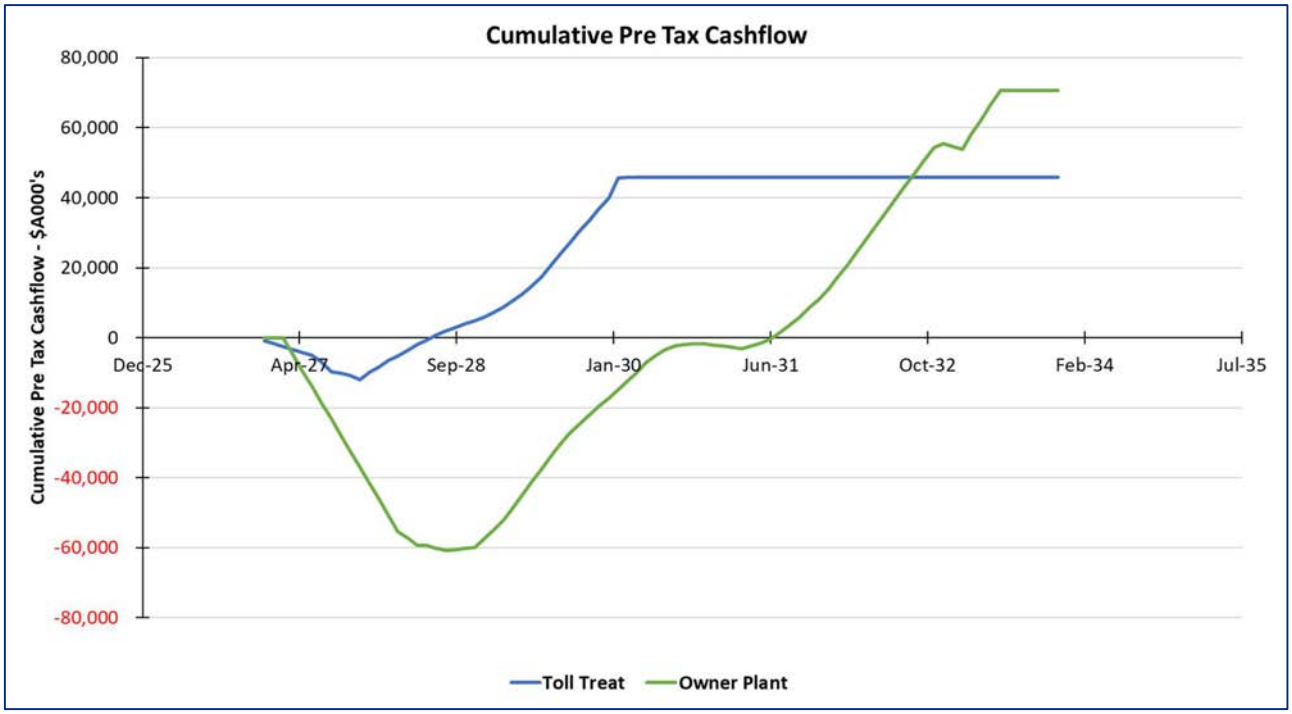


Figure 1: Cumulative Cashflow Profile

Upside scenarios have been developed at A$ 3,500 per ounce gold price, or an increase of 8 % from the baseline level. In the toll treatment scenario, this sees ore tonnes increasing by 11 % and the pre-tax overall cash flow increasing by 45 % to A$ 66.6 M. The NPV increases by 46 % to A$ 55.2 M. For the owner plant scenario, ore tonnes increased 8 % and the pre-tax overall cash flow increased by 47 % to A$ 104 M. The NPV increases by 58 % to A$ 66.0 M.

Sensitivity analyses of the financial outcomes with respect to key parameters were undertaken, and these are shown in Figure 2 and Figure 3. The movement in NPV for a – 15 % change and for a + 15 % change in each parameter are shown. The key sensitivities are gold price and gold grade, as is to be expected. For the toll treatment option, the parameters that are next most sensitive are the haulage distance and haulage unit cost, followed by the mining unit cost. For the owner plant option, haulage is not an aspect so the next most sensitive parameter after gold price and gold grade is the mining unit cost. The base cash flows that these sensitivities are with respect to are A$ 45.9 M for the toll treatment option and A$ 70.6 M for the owner plant option.

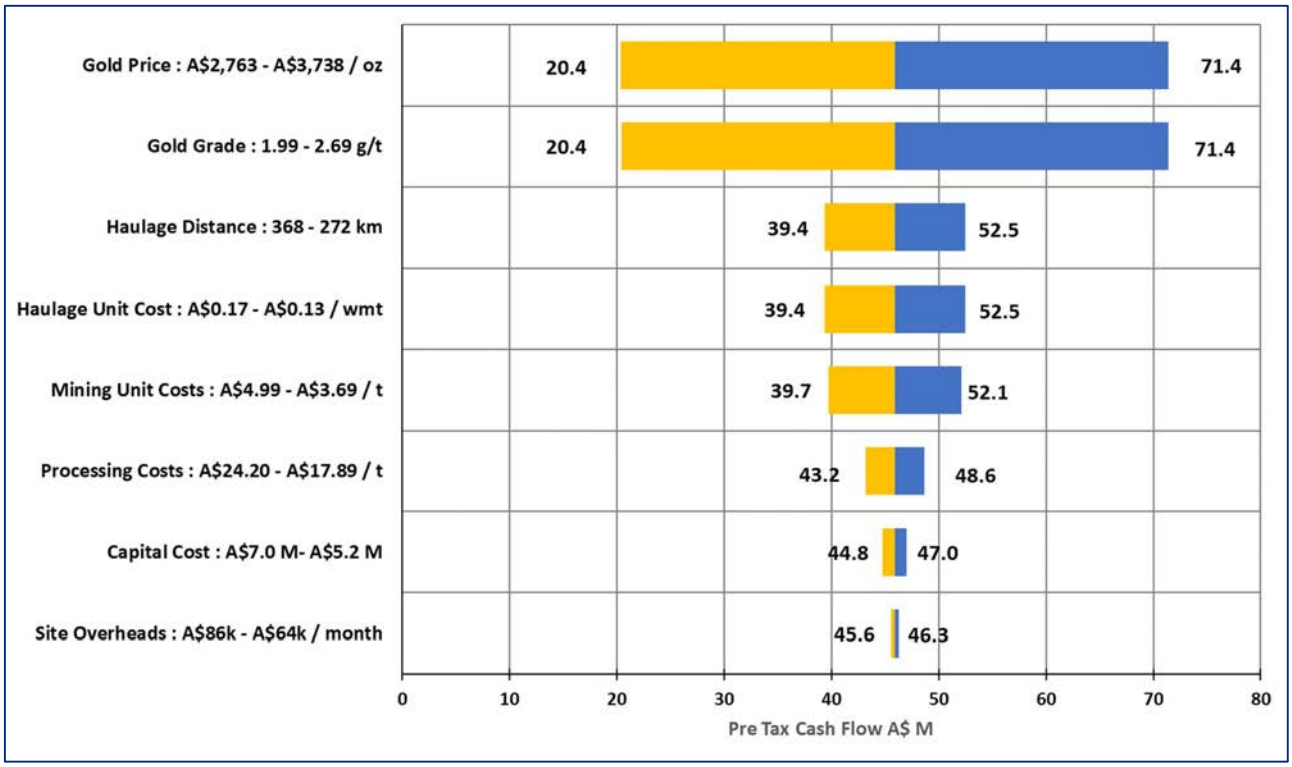


Figure 2: Sensitivity Summary – Toll Treatment

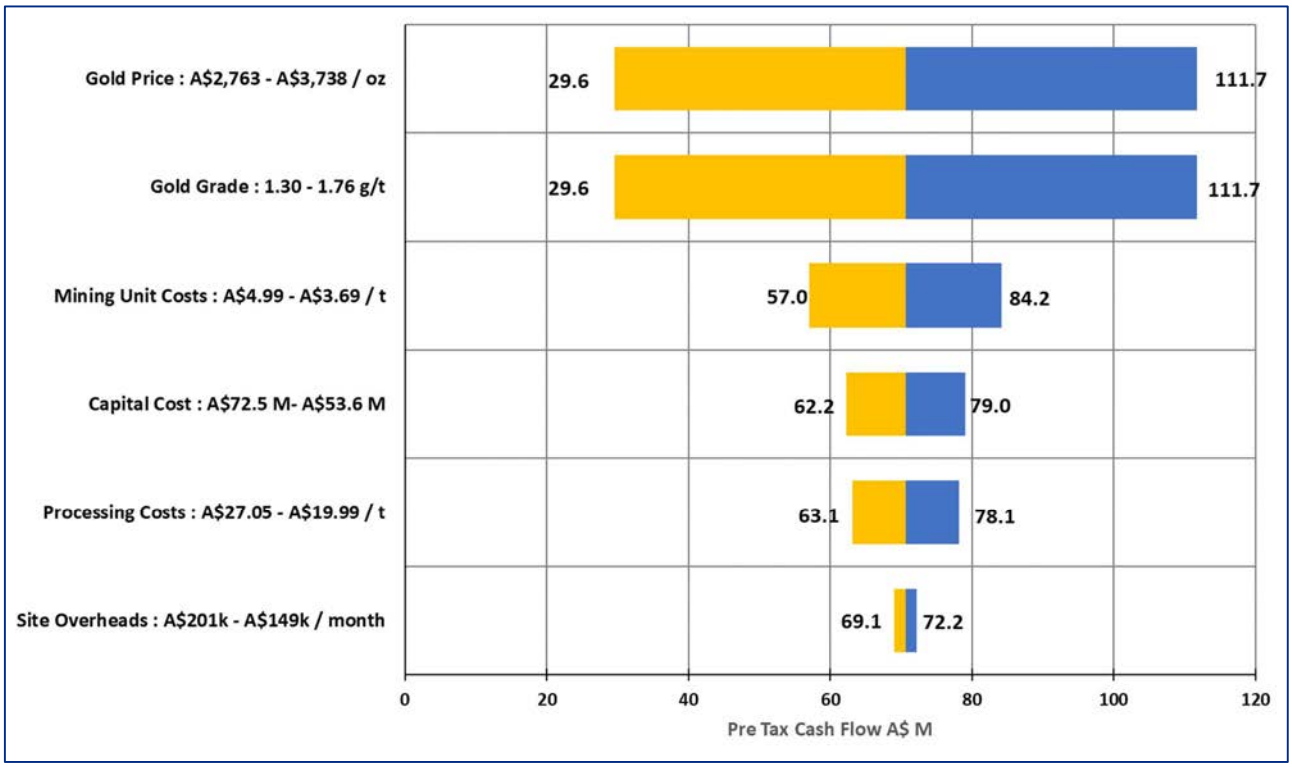


Figure 3: Sensitivity Summary – Owner Plant

An earlier Scoping Study was completed in 2021 – on the basis of toll treatment only. This 2024 Scoping Study is fundamentally different to the 2021 study with changes including:

- New block models with the addition of data from 85 new drill holes and some 7,900 m of drilling that was undertaken during 2021 and 2022;

- A new mineral resource estimate (MRE) including these additional data and expressing the resource for two scenarios, toll treatment and owner plant, using cutoff grades calculated for each option;
    - 2021 MRE was a total of 1,730,000 tonnes at 2.2 g/t gold for 122 koz.
    - 2024 Toll Treat MRE is a total of 2,720,000 tonnes at 2.0 g/t gold for 171 koz.
    - 2024 Owner Plant MRE is a total of 4,180,000 tonnes at 1.5 g/t gold for 196 koz.

- Additional metallurgical testwork taking the number of samples tested from 6 to 31, with more intensive leaching conditions also investigated;

- Basis of study changed to directly compare toll treatment and owner plant options;

- Significant revisions to capital and operating costs based on additional work undertaken, particularly in haulage modelling and in the development of processing capital and operating costs;

- New pit optimisations completed using the new block models and the revised cost assumptions so that the basis for the selection of ore and waste in the pit optimisation aligns with the latest financial model;

- Overall, the input assumptions used have been made more conservative and realistic than the early assumptions used; and

- An increase to the gold price based on a different macro-economic environment.

The impact of these changes is shown in a waterfall chart for the pre-tax NPV. This graph is for the toll treatment options only, as this was the basis for the 2021 Scoping Study. The waterfall chart should be read from left to right: it shows the NPV from the 2021 Scoping Study as the blue bar on the left, then shows the major changes and their impact on NPV in each of the bars from left to right along the “waterfall”. Positive impacts to NPV are shown as green bars and negative impacts to NPV are shown as red bars. The final blue bar on the right of the chart is the NPV of the 2024 Scoping Study.

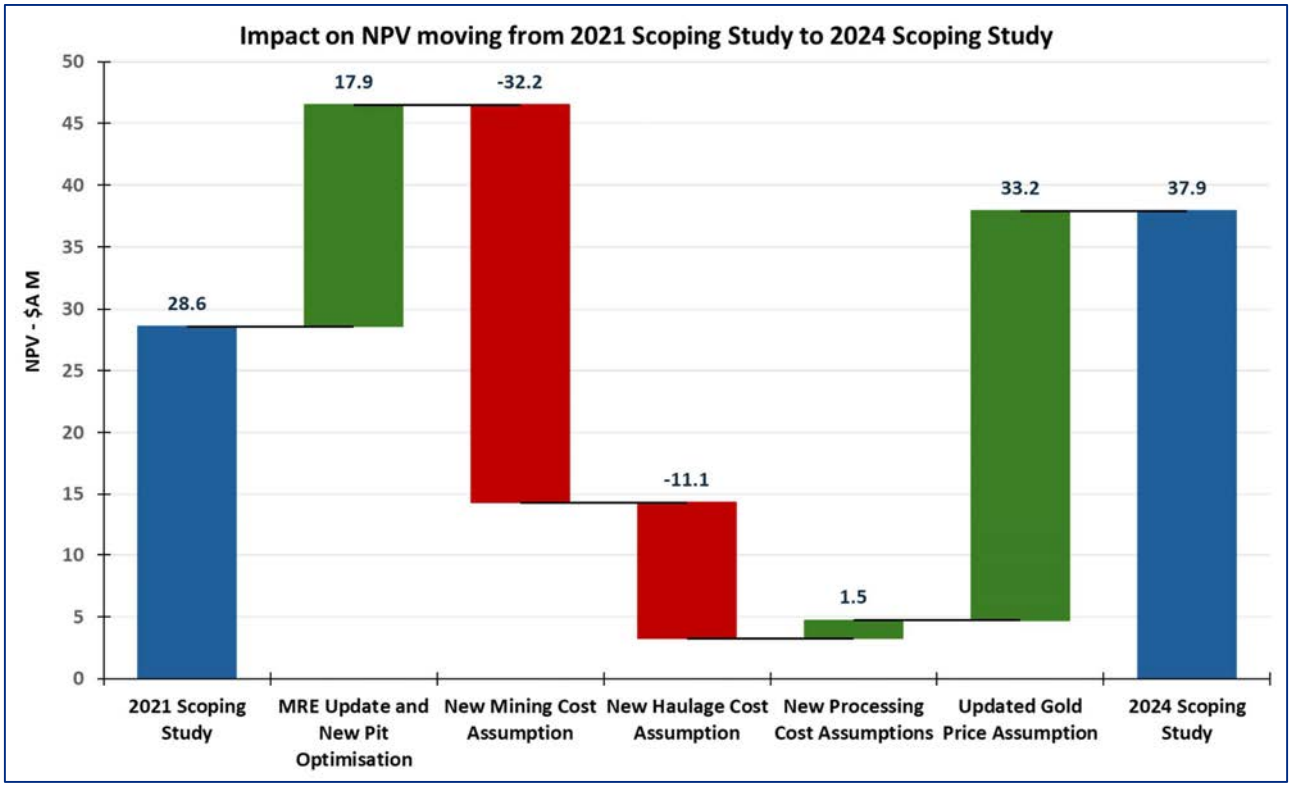


Figure 4: Impact on NPV moving from 2021 Scoping Study to 2024 Scoping Study

The increase in the resource added significant value to the project, although this was lost again by the impact of the changes in the mining and haulage cost assumptions, which were likely too optimistic in the previous study. Processing cost assumption changes have returned a small amount of value, and a sizeable uplift has come from the increase in the gold price.

Comparing the 2021 Scoping Study to the 2024 Scoping Study:

- The enlarged resource at Eastern Ridge has seen an increase in tonnes from there;
- The changes in mining and haulage cost assumptions have seen significant tonnage at Steam Engine being no longer cashflow positive and move from ore to waste, shrinking the pit considerably and removing gold ounces from the profile. This ore is recouped in the owner plant scenario where the cut-off grade is lower; and
- While operating costs per tonne are higher, the gold revenue per ounce more than offsets this, seeing all of the revenue and cash flow parameters increase in the 2024 study.

The economics of the Steam Engine Gold Project have improved considerably from the 2021 Scoping Study to this 2024 Scoping Study. Even more significantly though, with the additional work that has been completed and the use of more conservative cost assumptions for mining and haulage, the likelihood of being able to successfully deliver the project in line with the study outcomes has increased significantly. The project is considered robust with the assumptions used for both the toll treatment and owner plant scenarios.

The owner plant scenario sees much higher ore mined and milled, and sees gold production of 89 koz, 62 % more than the toll treatment scenario. A significantly greater proportion of the mineral resource is utilised. The overall cashflow is considerably higher, despite the extra capital and operating costs that are incurred. Due to the longer project life and the upfront capital requirement, on a discounted basis the NPV of the owner plant operation remains better but is closer to that of the toll treatment option.

The owner plant scenario potentially has a very strong advantage if the Steam Engine deposits grow, or if other regional exploration targets move closer to production. If an established processing plant is available, then the economic prospects of any satellite deposits are improved considerably.

The bulk of the costs of the processing plant are in the crushing, grinding and tailings storage areas, hence any plant built at Steam Engine could also be utilised for sulphide minerals, although a copper porphyry (as targeted by Superior on other prospects) would likely see considerably higher throughput required.

In essence, the owner plant operation replaces around A$ 44 M of haulage costs and A$ 9 M of toll treatment profit margin with around $ 57 M of capital, and in doing so allows the mining of more ore and the production of more gold due to the lower cut-off grade – all for greater cash flow and a slight increase in NPV, but with increased complexity and risk.

The decision between toll treatment and owner plant is not needed immediately, drilling and other activities will continue and will help to further inform the decision, which will be highly dependent on the costs of haulage versus the costs of capital – any changes in these as studies progress will sway the benefit significantly. This decision is as much about corporate objectives and strategy as it is about physical and economic parameters.

The Steam Engine Gold Project has considerable scope to grow significantly in scale. This growth could arise from one or a combination of three mechanisms:

- An increase in ore tonnes as a result of further drilling – increasing the confidence and resource classification and extending the deposits along strike;

- The selection of a higher revenue factor pit shell as the basis for pit design, in the context that the project was brought into production during a period of forecast high gold price; and

- The discovery and addition of another lode similar to Steam Engine, either within the immediate project area adjacent to the deposit or on one of the other proximal Superior tenements.

Larger scale scenarios have been modelled for both the toll treatment and owner plant options, and the figures below show the potential increases in NPV and gold production that could be seen for the first two. The base gold price is A$ 3,250 per oz and the upside gold price is 8 % higher at A$ 3,500 per oz. The revenue factor 1.2 pit shell uses a 20 % higher gold price at A$ 3,900 per oz and includes the corresponding increase in ore tonnage and production that would be seen.

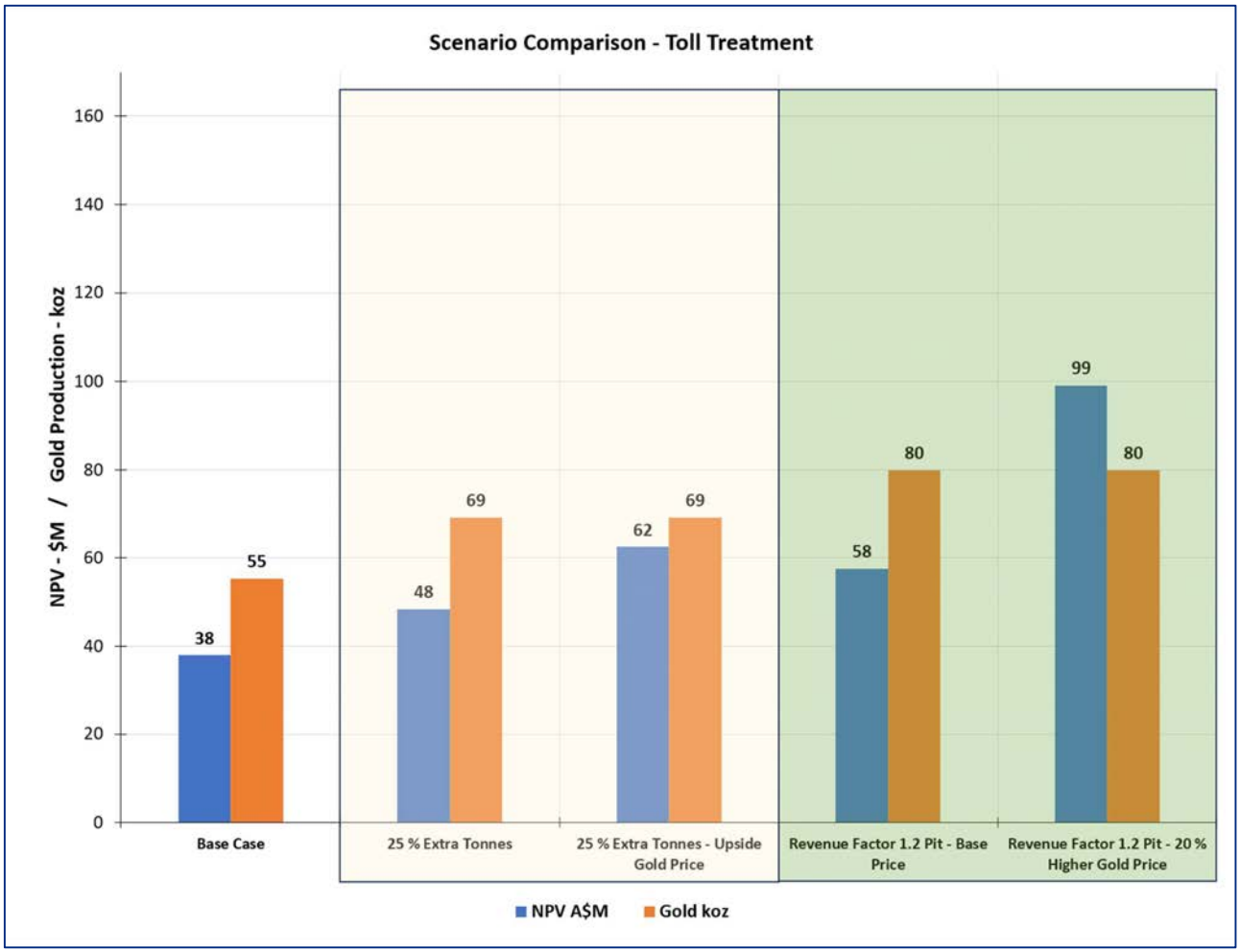


Figure 5: Larger Scale Scenarios - Toll Treatment

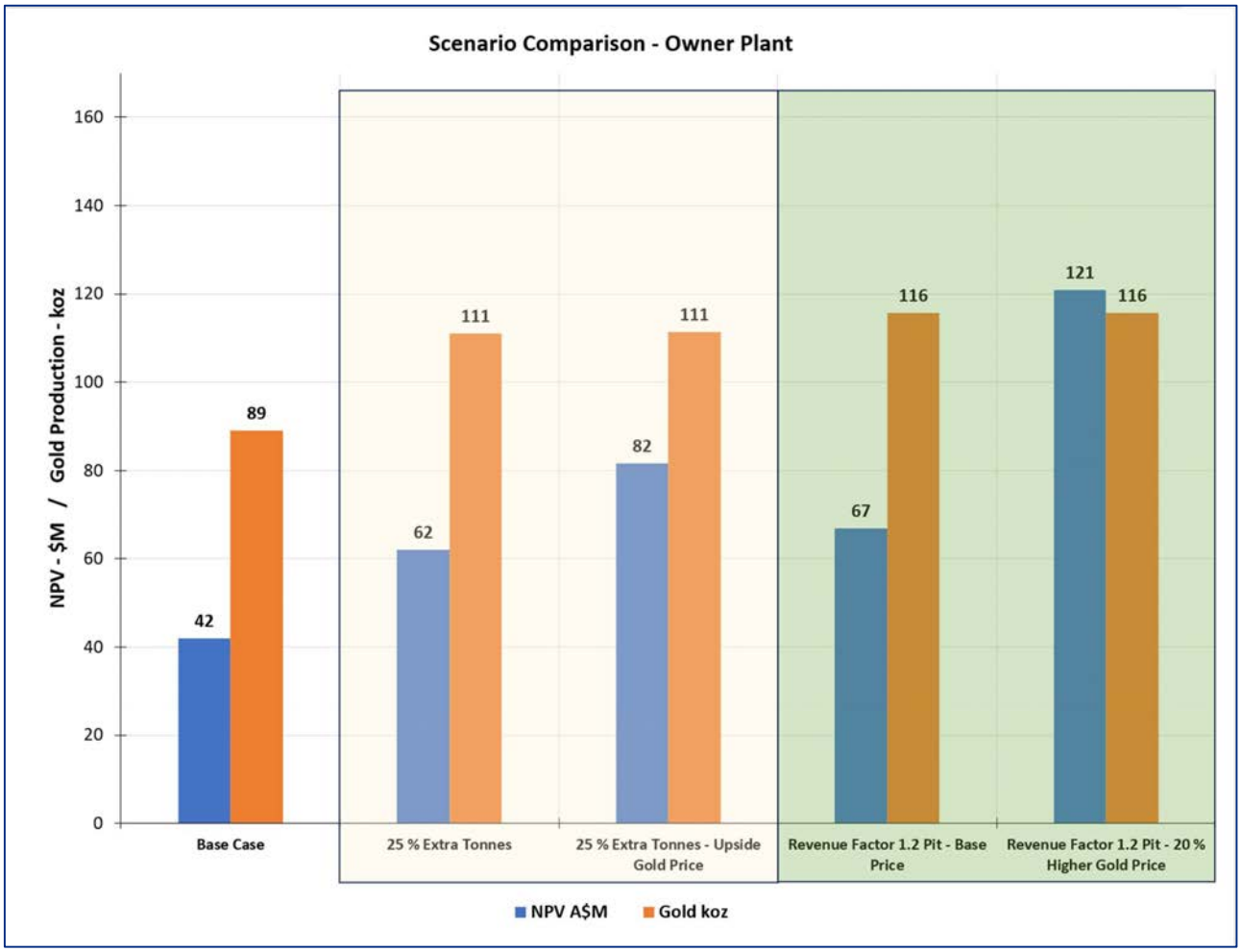


Figure 6: Larger Scale Scenarios – Owner Plant

Any increase in project scale has the potential to significantly impact the project in terms of production, cash flow and NPV. For the toll treatment option, the NPV has potential to grow from the base A$ 38 M to A$ 48 – 99 M, and the gold production has potential to increase from 55 koz to 69 – 80 koz. For the owner plant scenarios, the NPV could potentially grow from the base A$ 42 M to A$ 62 – 121 M, and the gold production could potentially increase from 89 koz to 111 – 116 koz.

This significant upside potential if the project can be grown in scale is the motivator for the ongoing drilling, which will bring another iteration of an update to the resource model and updates to pit optimisation and mining schedules. While this scale upside remains, the choice of the best project pathway to take forward to feasibility study and detailed design is difficult, the results of the next round of drilling will assist in refining the strategy further.

It is recommended that studies into the Steam Engine Gold Project continue – progressing both the toll treatment and owner plant options until such time as a decision between the two pathways can be made, which may not be until the scale of the project is able to be better quantified. Financial evaluation shows the project to have a positive and robust NPV through both options with the current assumptions used.

2 PROJECT LOCATION / BACKGROUND

2.1 PROJECT LOCATION

The Steam Engine Gold Project, the basis for this scoping study, lies around 30 km west of the township of Greenvale, which in turn is around 210 km from Townsville.

The Steam Engine Gold Project is one of a number of prospects within the broader Greenvale Project tenements held by Superior Resources Limited (SPQ), an ASX-listed junior Queensland focussed base metals, battery metals and gold explorer based in Brisbane. Steam Engine lies within Exploration Permit for Minerals (EPM) 26165 “Cockie South”.

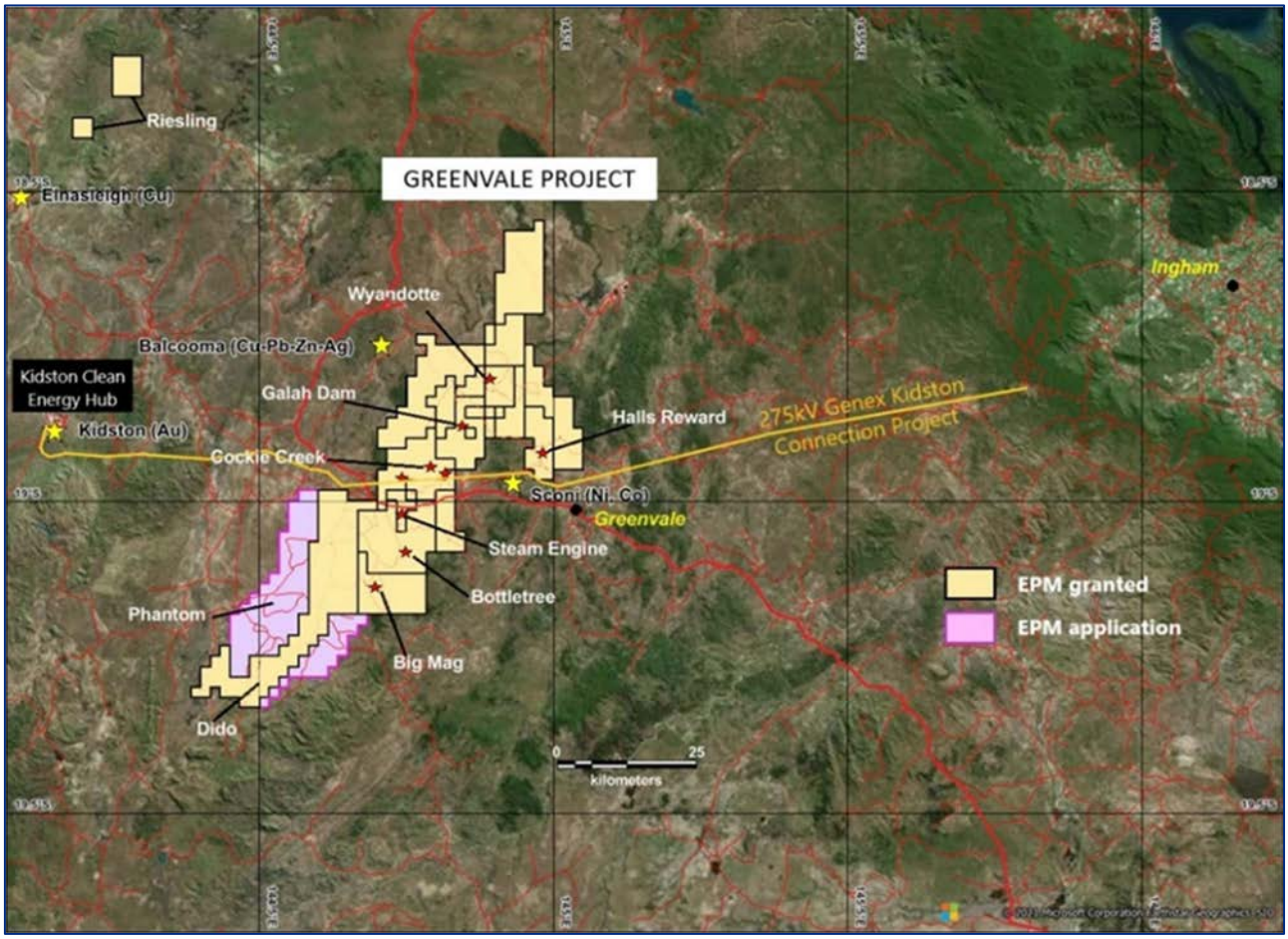


Figure 7: Greenvale Tenements and Prospects Including Steam Engine Gold Project

Previous exploration on and around the project site has been predominantly for Volcanogenic Massive Sulphides (VMS) style deposits which typically contain a range of base metals and gold. In recent years, some work has been completed on porphyry copper targets along with exploration work targeting other massive sulphide targets in the area.

Prior exploration on the project has been undertaken by a number of companies since the first tenement was granted in 1959 before Superior Resources Limited took over ownership in 2016 and since then have undertaken drilling programs during 2017 and 2020 to better delineate the resource, improve the confidence in the resource and extend the resource at the edges and at depth.

A Scoping Study was completed by Metcor Pty Ltd in April 2021 which was on the basis of mining ore at Steam Engine and toll treating the ore through a suitable processing plant to deliver revenue from gold sales. The study included preliminary evaluation of other options including constructing a processing plant on site rather than haulage and toll treating.

Superior continued with a further drilling program in 2021, aimed predominantly at further infill and extension of the existing mineral resources.

The mineral resource estimate was updated again in early 2022 to include all of the 2021 drilling results. Following this, pit optimisations were completed using the new resource in April 2022 and the new mining schedules were used to undertake a range of options assessments investigating toll treating Steam Engine ore through a number of potential processing plants as well as constructing a plant on site for processing of ore. The 2022 mineral resource estimate was completed on the basis of two different models, using different physical and economic assumptions, and hence differing cut off grades to allow exploration of these two alternate processing pathways further.

Work has progressed on the project on a number of fronts; conducting further geological and resource studies, engaging in discussions with potential partners for toll treating, evaluating available infrastructure and equipment that could be utilised as part of an owner plant, better understanding the cost drivers and logistics of an ore haulage operation, progressing metallurgical testwork programs and assessing other options for processing ore from Steam Engine.

It is now timely to update the 2021 Scoping Study to include the new mineral resource estimate based on significant additional drilling, the additional metallurgical testwork results, the progression of pit optimisation and mining schedule development, the improved understanding of costs for haulage and toll treating and the strong increase in gold price. This is the basis for this 2024 Scoping Study, an update which will in turn allow better understanding of the financial outcomes from different options and allow targeted work to proceed to keep the project progressing.

3 BASIS OF STUDY

This study is at a scoping level and covers all aspects of developing and operating an open pit mine, or a number of smaller open pits, to extract gold bearing ore from the Steam Engine project area and then processing that ore to produce gold doré.

Two options are assessed for the processing of ore:

Option 1 "Toll Treatment" is for the scenario where ore is hauled from the Steam Engine site to a candidate processing plant in the vicinity of the project for toll treatment through that facility. Gold production is reconciled, and payments are settled at the toll treatment site. Tailings are stored at the toll treatment site.

Option 2 "Owner Plant" is the scenario where a gold processing plant, including crushing, grinding, leaching, bullion production and an associated tailings storage facility, is constructed on the Steam Engine site and ore is processed through this facility, removing the need for haulage of ore and removing the profit margin of the toll treatment plant.

At a high level, option 1 has a much higher cut-off grade as the operating costs are higher – the ore haulage represents a significant cost to the project. This higher cut-off grade means that the pits are smaller and much less of the resource is mined. This option sees low capital as mining and haulage would be contracted and the ore processing is done at a pre-existing facility. Risks are relatively low, but upside is limited.

Option 2 has a lower cut-off grade as the operating costs are lower, this allows the ore inventory and pit sizes to increase considerably with more tonnes milled at a lower grade. This in turn results in increased gold production overall. This option requires significant capital and increases the project complexity with additional approvals required, construction and operation of a processing plant, associated tailings storage facility and additional infrastructure. Risks are increased in general, however there is significant upside in terms of the ability to bring additional ore production online to continue feeding the processing plant.

These two options are discussed side by side throughout the study.

4 GEOLOGY

The Greenvale Project lies within a belt of metamorphosed volcanic and sedimentary rocks of probable Cambro-Ordovician age. The units are broadly equivalent, but slightly younger than metavolcanic and metasedimentary rocks in the Balcooma area (Balcooma Metavolcanic Group) and the volcanic and sedimentary rocks south of Charters Towers (Mount Windsor Volcanics).

The area west of Greenvale township has traditionally been considered to be an easterly extension of the Cambro-Ordovician volcanic belt containing the Balcooma VMS deposit. However, it is now considered that the area differs considerably from Balcooma such that it should be considered as a separate domain (Lucky Creek Domain) of the Cambro-Ordovician belt.

The local geology of the Steam Engine Project generally comprises of north-northeast trending, metamorphosed mafic (basalts) to felsic (tonalites and diorites) intrusive and volcanic rocks and metasedimentary rocks (Figure 8).

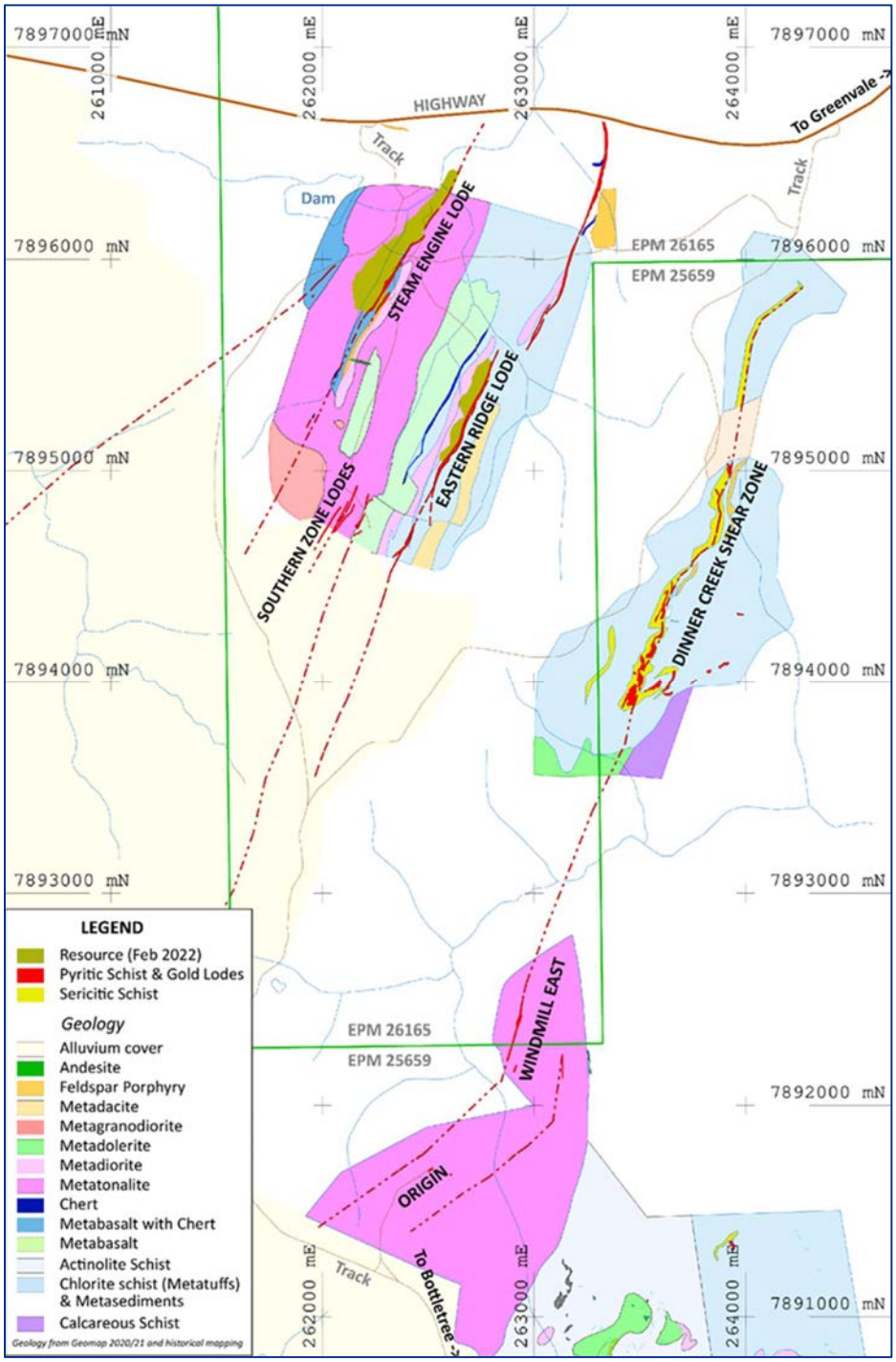


Figure 8: Interpreted Geology Plan – Steam Engine Area (MGA Grid)

Gold mineralisation occurs within several north-northeast trending, west dipping, pyritic quartz-sericite-carbonate schist lodes at the contact between basalts and tonalite in the Steam Engine ore body, and between a diorite and metasediment in the Eastern Ridge ore body. The observed occurrence of gold

mineralisation at contacts and in interpreted fold axes highlights the potential importance of the role of favourable structural conditions and rheological contrast in localising gold mineralisation.

The Steam Engine lode has a known surface strike length of approximately 600 metres and is open along strike and down dip. The recent drilling has significantly extended the known strike length of the Steam Engine lode. The Eastern Ridge lode is located some 500 metres eastwards of the Steam Engine lode. The Eastern Ridge lode has a known surface strike length of approximately 1,400 metres and is open along strike and down dip.

The gold bearing lode zones are located within sheared zones that show strong continuity and have persistent dips to the west. The Steam Engine lode typically dips around 50° to 60° to the west. The Eastern Ridge lode typically dips at around 40° to 50° to the west.

The lodes are typically interpreted as being of the mesothermal vein type. The lodes are essentially mineralised portions of the shear zones (i.e. shear hosted) comprised of pyritic quartz-sericite-carbonate schist within metabasalts, metasediment and / or metatonalite / metadiorites. An area of gold mineralisation occurs between and south of these two lodes and this is referred to as the Southern Zone.

Total drilling (excluding RAB) carried out on the Steam Engine Gold Project area to date totals 314 drill holes for 22,733 metres. This includes historical as well as recent drilling. This drilling has targeted several lode areas including Steam Engine, Eastern Ridge, Southern Zone, Dinner Creek and other regional drilling in the Steam Engine gold project area.

The recent drilling on the Steam Engine Gold Project (2020 to 2021) totals 198 holes for 14,478 metres. This has included drilling at the Steam Engine, Eastern Ridge and Southern Zone lodes as well as the Dinner Creek shear zone. The majority of these 2020 to 2021 holes (181 holes for 13,577 metres) have targeted the Steam Engine and Eastern Ridge lodes. These two lode zones (Steam Engine and Eastern Ridge) currently comprise the two areas of the gold mineral resource at the Steam Engine Gold Project.

The higher cut-off grade – Toll Treatment model resources estimate gave a total measured, indicated, and inferred resource of 2.72 million tonnes @ 2.0 g/t gold. This includes a measured and indicated resource of 1.61 million tonnes @ 2.2 g/t gold, and an inferred resource of 1.11 million tonnes @ 1.7 g/t gold (Table 3).

The lower cut-off grade – Owner Plant model resources estimate gave a total measured, indicated, and inferred resource of 4.18 million tonnes @ 1.5 g/t gold. This includes a measured and indicated resource of 2.22 million tonnes @ 1.7 g/t gold, and an inferred resource of 1.96 million tonnes @ 1.2 g/t gold (Table 4).

These Mineral Resources tonnages and grades were published in April 2022 and are the basis for this scoping study.

Table 3: Summary Mineral Resource – Higher Grade (Toll Treatment) Model

Classification	Cut-Off – g/t	Tonnes	Gold Grade – g/t	Gold Metal - oz
Steam Engine Lode				
Measured	1.0	490,000	2.7	42,000
Indicated	1.0	910,000	1.8	54,000
Inferred	1.0	950,000	1.6	49,000
Sub Total		**2,350,000**	**1.9**	**145,000**
Eastern Ridge Lode				
Measured	1.0	100,000	2.2	7,000
Indicated	1.0	110,000	2.3	8,000
Inferred	1.0	160,000	2.1	11,000
Sub Total		**370,000**	**2.2**	**26,000**
Overall Deposit				
Measured		590,000	2.6	49,000
Indicated		1,020,000	1.9	62,000
Inferred		1,110,000	1.7	60,000
Total		**2,720,000**	**2.0**	**171,000**

Table 4: Summary Mineral Resource – Lower Grade (Owner Plant) Model

Classification	Cut-Off – g/t	Tonnes	Gold Grade – g/t	Gold Metal - oz
Steam Engine Lode				
Measured	0.25	670,000	2.1	45,000
Indicated	0.25	1,260,000	1.5	59,000
Inferred	0.25	1,650,000	1.2	62,000
Sub Total		**3,580,000**	**1.5**	**166,000**
Eastern Ridge Lode				
Measured	0.25	130,000	1.9	8,000
Indicated	0.25	160,000	1.7	9,000
Inferred	0.25	310,000	1.3	13,000
Sub Total		**600,000**	**1.5**	**30,000**
Overall Deposit				
Measured		800,000	2.1	53,000
Indicated		1,420,000	1.5	68,000
Inferred		1,960,000	1.2	75,000
Total		**4,180,000**	**1.5**	**196,000**

Note: These summary tables show tonnes to the nearest 10,000; gold grade to 1 decimal place; and ounces to the nearest 1,000.

The block model for the higher grade gold mineralisation in the Steam Engine Gold Project is shown in Figure 9, in a three dimensional view looking South-Easterly from above to allow a good isometric view of both the Steam Engine and Eastern Ridge lodes.

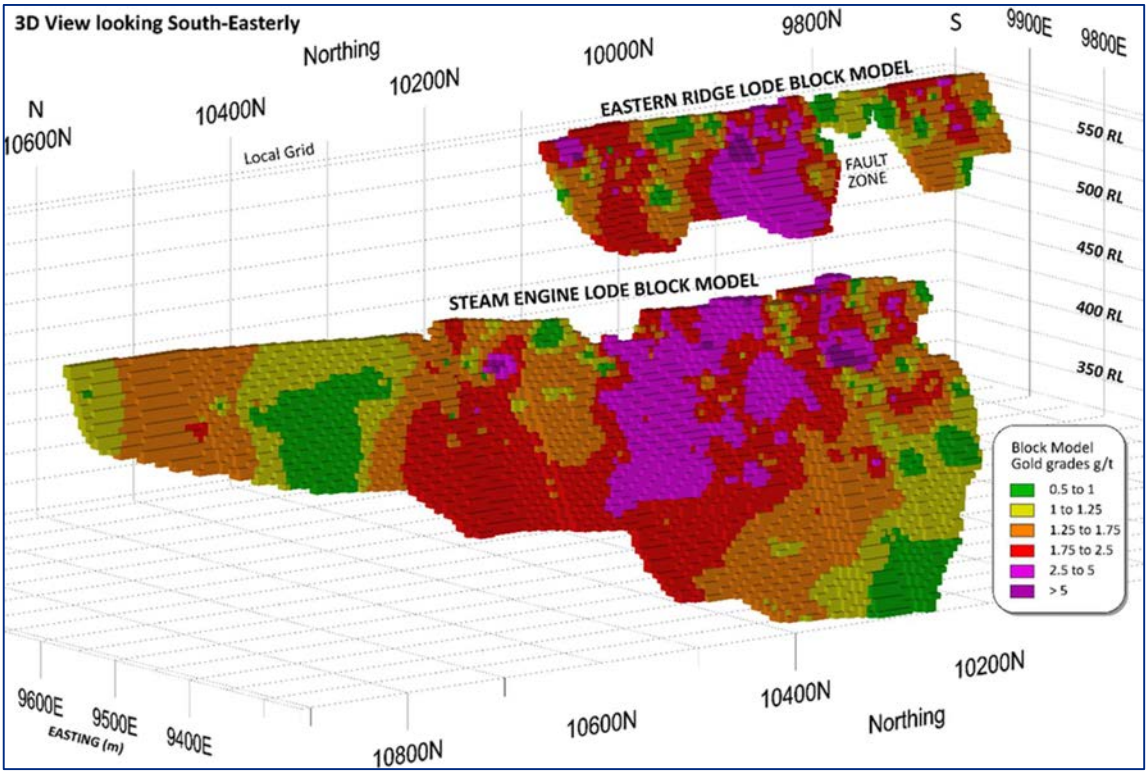


Figure 9: 3D View of Steam Engine and Eastern Ridge Block Models

4.1 POTENTIAL OF DEPOSIT

In its current state, the Steam Engine Gold Project can be described as under-explored in terms of its extents and in the potential for further high-grade gold shoots. The past work has concentrated on limited exploration areas, that have been targeted largely around the Steam Engine lode, along with a portion of the Eastern Ridge lode zone.

Modelling of the gold values from the current drilling at the Steam Engine lode shows the higher-grade portions of the lode zone to be plunging to the northwest at both the Steam Engine and Eastern Ridge lode zones. The concept of a northwest plunge is further reinforced by the highest-grade portions of the drilling intersections at the Eastern Ridge lode lying in a south easterly direction from the highest-grade portions at Steam Engine, adding weight to the concept that the two may share a common source zone.

The exploration model at the Steam Engine Gold Project is of an extensive mesothermal gold lode system that has the potential to contain significant high-grade gold shoots / gold mineralisation that may extend to significant depths. The historical gold soil sampling outlines significant anomalism centred along the Steam Engine and Eastern Ridge lode lines, as well as in additional sub-parallel and oblique lode structures.

Many of the areas to the west and southwest of Steam Engine are covered by shallow alluvium, that contains sporadic soil anomalism. It is planned to use ultrafine soil sampling in 2024 to help define new target zones in these areas. There are also additional gold soil anomalism targets located to the south of Steam Engine at the Windmill and Origin prospects (Figure 10). 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.

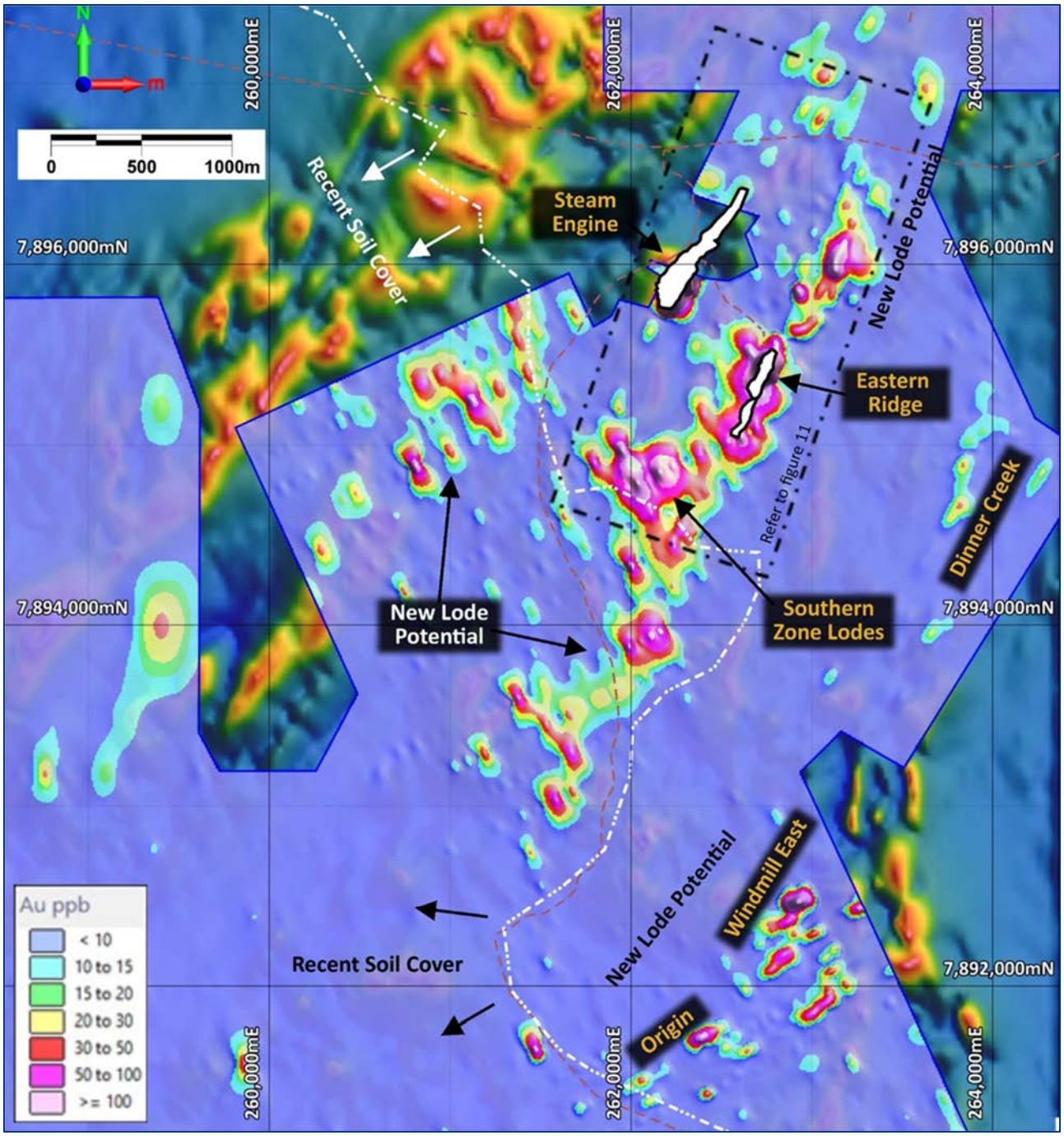


Figure 10: Plan Showing Gold Soil Geochemistry Over Background RTP Airborne Magnetics Data

Further drilling is planned at the Steam Engine Gold Project in 2024.

5 MINING

5.1 PIT DESIGN

In 2024 Australian Mine Design and Development (AMDAD) were engaged by Superior to develop optimised pit shells and a mining production schedule for the Steam Engine and Eastern Ridge deposits for both the toll treatment and owner plant processing pathways. This work used the most recent block model as its basis, and built on prior work by Auralia and AMDAD.

The block model covers the three known systems; Steam Engine Main, Steam Engine Footwall and Eastern Ridge. The Steam Engine Main and Steam Engine Footwall zones were targeted from the same pit while the Eastern Ridge zone had a standalone pit. Block sizes in the model were 5 x 5 x 5 metres.

The Whittle software program was used to develop a set of nested shells which show the shape of the optimal pit development sequence. Revenue factors are used in the generation of the pit shells to scale metal prices up or down in order to control what nested pit shells are produced for a given scenario. As the revenue factor increases, so too does the size of the pit that can be economically mined.

By examining the series of nested pit shells at different revenue factors, logical positions of pit stages or cutbacks can be determined and the shape of the pit at each stage can be shown. The sequential shells also highlight the areas of the resource of the highest value, hence where mining should be concentrated to maximise return.

A range of potential shells were developed and the shells that produced the highest discounted cashflow were identified as the optimum ultimate pit shape. For smaller pits shells which could be mined in a short period, the shells that produced the highest undiscounted cashflow were selected.

Three gold prices were used to show the sensitivity of the pit to the price, the base case used was A$ 3,250 per ounce, while an upside case at A$ 3,500 per ounce and a downside case at A$ 3,000 per ounce were also examined. Key assumptions used for the pit optimisation work are detailed in Table 5.

Table 5: Key Assumptions Used for Pit Optimisation

Parameter	Unit	Toll Treatment Scenario	Owner Plant Scenario
Mining			
Unit Cost	A$ / t mined	4.34	
Dilution	%	10	
Mining Recovery	%	95	
Overall Pit Slope	degrees	32 ° Weathered / 49 ° Fresh	
Processing			
Haulage Unit Cost	A$ / t milled / km	0.15	-
Processing Unit Cost	A$ / t milled	30.00	20.00
G & A Cost	A$ / t milled	4.80	6.70
Gold Recovery	%	82 % Steam Engine : 95 % Eastern Ridge	
Gold Royalty	%	5	
Payable Metal	%	99.5	

Using these input parameters, the cut off grades for the toll treatment scenario are calculated to be 1.12 g/t for Steam Engine and 0.97 g/t for Eastern Ridge. Similarly, the cut off grades for the owner plant scenario are 0.36 g/t and 0.31 g/t respectively for the two pits.

The significantly reduced cut-off grade for the owner plant scenario points to the immediate advantage that this scenario can have by removing the high cost for ore haulage and the profit margin for the toll treatment facility. This aspect is discussed in greater detail in subsequent sections of this study report, but the immediate outcome is that the owner plant pits will allow much more material to be classified as ore, and will therefore see much higher ore tonnages and larger pits, with lower resulting average ore grades. Conversely, the toll treatment scenarios will see small, high grade pits with higher strip ratios due to less of the material being classified as ore.

Plan views of the pit optimisation results are shown in Figure 11. Each successive pit shell is defined by a different colour. The pit shells range from small, high value per tonne (low revenue factor) shells shown in blue, to larger lower value per tonne (high revenue factor) shells shown in red. The maximum undiscounted cashflow, or revenue factor 1, pit crest is shown as a black dashed line. The scenarios shown are SE OP – Steam Engine Owner Plant, SE TT – Steam Engine Toll Treatment, ER OP – Eastern Ridge Owner Plant, ER TT Eastern Ridge Toll Treatment.

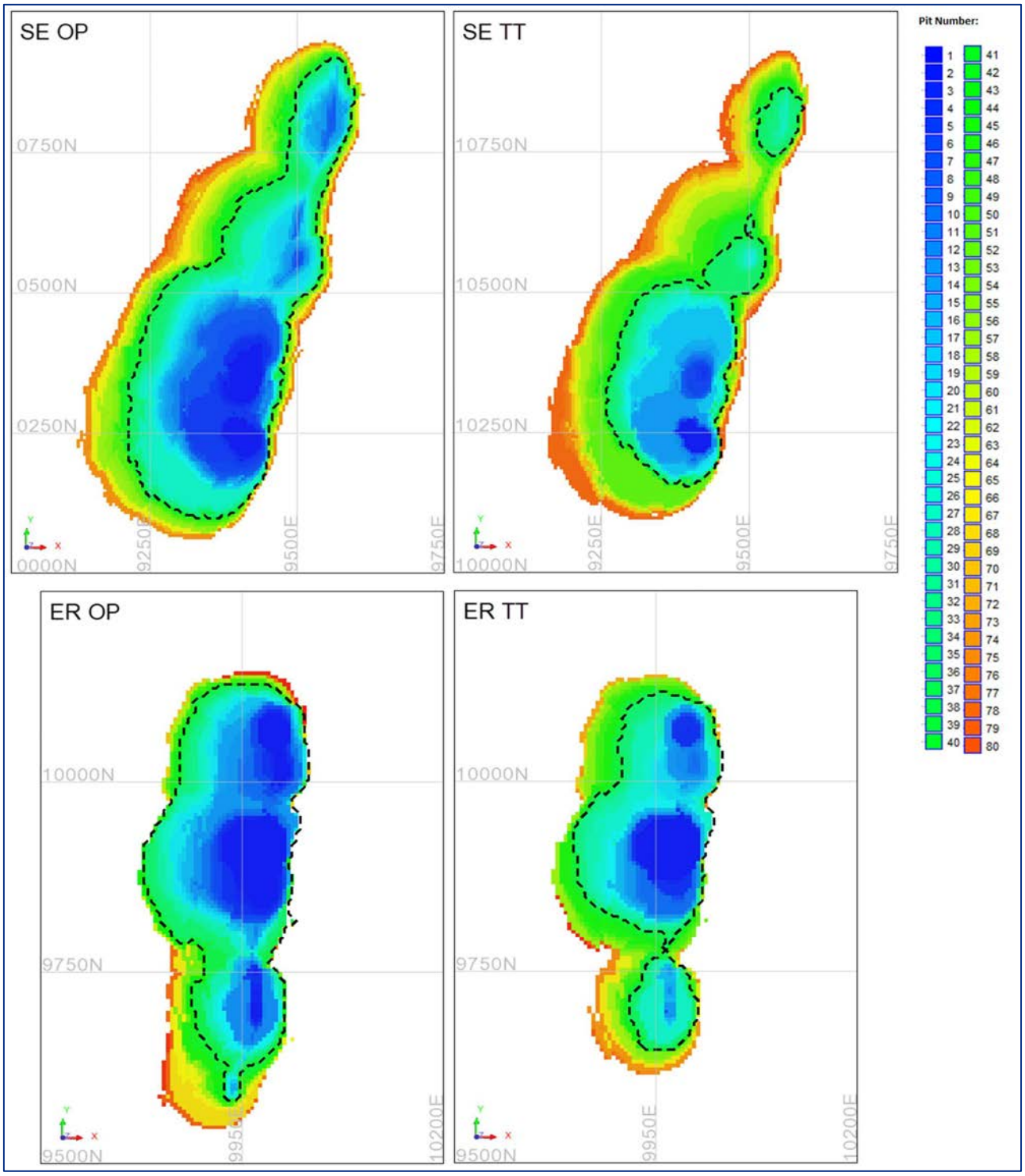


Figure 11: Plan Views of Pit Optimisation Results - Optimum Pits Are Shown by Black Dash Lines

For the toll treatment scenario, both the Steam Engine and Eastern Ridge lodes are mined as two smaller pits, while the owner plant scenario allows a single pit over each lode.

There may be potential to develop underground from the ultimate pits, however this has not been assessed in this scoping study due to a lack of deep drilling data.

No Ore Reserves have yet been developed; if this Scoping Study shows the project to be favourable, then that could be part of the future work program.

5.2 PRODUCTION SCHEDULE

A high level production schedule was generated using the optimal pit shells for the base A$3,250 price scenario. The mining rates are based on fleet that would be typically used for pits of this size. The schedules include pit design factors to take into account likely compromises to the ideal schedule, based on AMDAD experience for the changes that will be seen once realistic mining widths and shapes, including berms, batters and ramps, are applied in a pit design.

The initial quarter of each schedule allows for a ramping up of mining activity which effectively reduces available mill feed material in that quarter. Stockpiling has been used in the Steam Engine schedules to allow for a more consistent milling rate. The pit optimisations and the resulting mining schedules include inferred classification of resource material. This is typical for a scoping study, however inferred material would generally not be included in quoted ore reserves, or used in pit designs that support a feasibility level study.

Schedules were developed independently for each of the two pits, then these were modelled in a range of methods:

- Steam Engine pit mined first, followed by Eastern Ridge; and
- Eastern Ridge mined first, followed by Steam Engine.

The scenario that sees the most value and retains the most flexibility for the operation is to mine the Eastern Ridge pit first, so this has been selected as the basis for further evaluation. The reasons for this are:

- The Eastern Ridge ore has better metallurgical performance, being clean oxide material (this is discussed in more detail in later report sections). Treating this better performing material first allows easier commencement of processing whether it be toll treatment or in an owner plant;

- The Eastern Ridge pit will be smaller, mining it first could make a void that would be suitable for filling with waste rock or tailings from Steam Engine ore, potentially reducing the volume needed for surface stockpiles or a tailings storage facility; and

- Mining the smaller pit first will allow more of a ramp up in mining equipment, so that by the time bulk mining is happening in the Steam Engine pit all equipment is on site and hopefully performing well.

The schedules for the two pits have been overlapped by one quarter, with Steam Engine mining commencing one quarter before mining at Eastern Ridge finishes. This allows the larger equipment to remain utilised while smaller scale mining is being finalised in the narrow base of the Eastern Ridge pit. Without this overlap there is a gap in ore delivery and hence cash flow.

5.2.1 Toll Treatment Production Schedule

Pit design shapes for the toll treatment scenario are shown in Figure 12 and Figure 13 for Eastern Ridge and Steam Engine respectively.

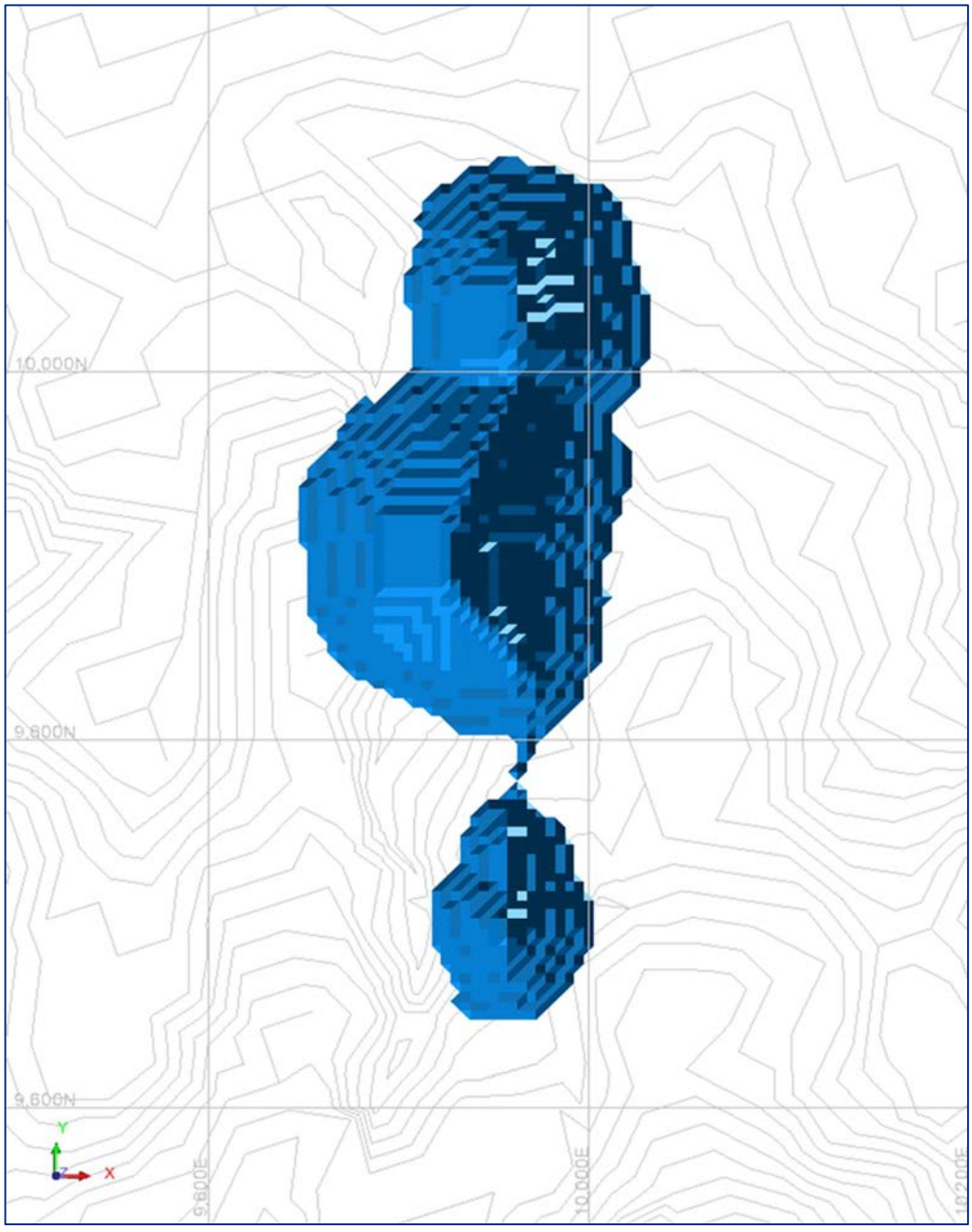


Figure 12: Eastern Ridge Toll Treatment Pit Plan

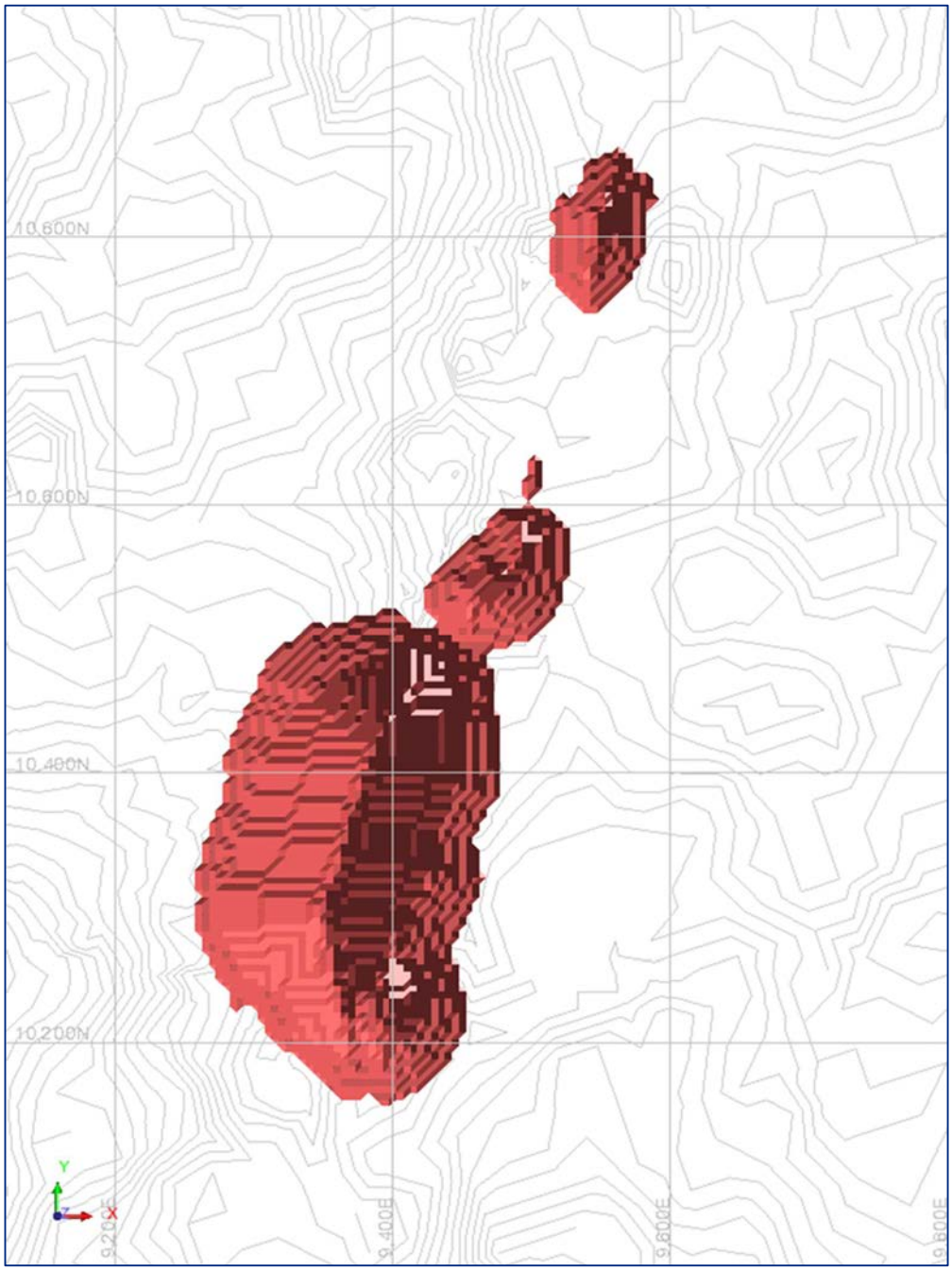


Figure 13: Steam Engine Toll Treatment Pit Plan

The quarterly material movement schedule for the toll treatment scenario, with Eastern Ridge pit mined first, is shown below.

Table 6: Mining Production Schedule for the Toll Treatment Scenario

Parameter	Unit	Total	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 5	Qtr 6	Qtr 7	Qtr 8	Qtr 9	Qtr 10	Qtr 11	Qtr 12	Qtr 13	Qtr 14	Qtr 15	Qtr 16	Qtr 17
Eastern Ridge - Strip Ratio 12.6																			
Waste Mined	kt	**2,933**	1,151	1,330	451														
Ore Mined	kt	**232**	52	90	90														
Ore Grade	g/t	**2.23**	1.86	2.41	2.27														
Gold In Feed	koz	**16.6**	3.1	7.0	6.6														
Steam Engine - Strip Ratio 9.1																			
Waste Mined	kt	**5,739**			1,047	1,358	1,098	877	577	548	233								
Ore Mined	kt	**631**			47	83	100	100	74	100	126								
Ore Grade	g/t	**2.38**			2.54	2.28	2.02	2.08	2.52	2.83	2.44								
Gold In Feed	koz	**48.2**			3.9	6.1	6.5	6.7	6.0	9.1	9.9								
Total - Strip Ratio 10.0																			
Waste Mined	kt	**8,671**	1,151	1,330	1,498	1,358	1,098	877	577	548	233								
Ore Mined	kt	**863**	52	90	137	83	100	100	74	100	126								
Ore Grade	g/t	**2.34**	1.86	2.41	2.36	2.28	2.02	2.08	2.52	2.83	2.44								
Gold In Feed	koz	**64.9**	3.1	7.0	10.4	6.1	6.5	6.7	6.0	9.1	9.9								

This mining schedule shows total ore mined of 863 kt at an average gold grade of 2.34 g/t. The average strip ratio of the Eastern Ridge pit is 12.6 and that of the Steam Engine pit is 9.1.

5.2.2 Owner Plant Production Schedule

Pit design shapes for the owner plant scenario are shown in Figure 14 and Figure 15 for Eastern Ridge and Steam Engine respectively. With the lower cut-off grade, the pits are considerably larger, and Steam Engine is shown as being mined in two stages. The first stage pit is shown in blue and then the second stage pit is in yellow. This stage mining accelerates access to high grade ore.

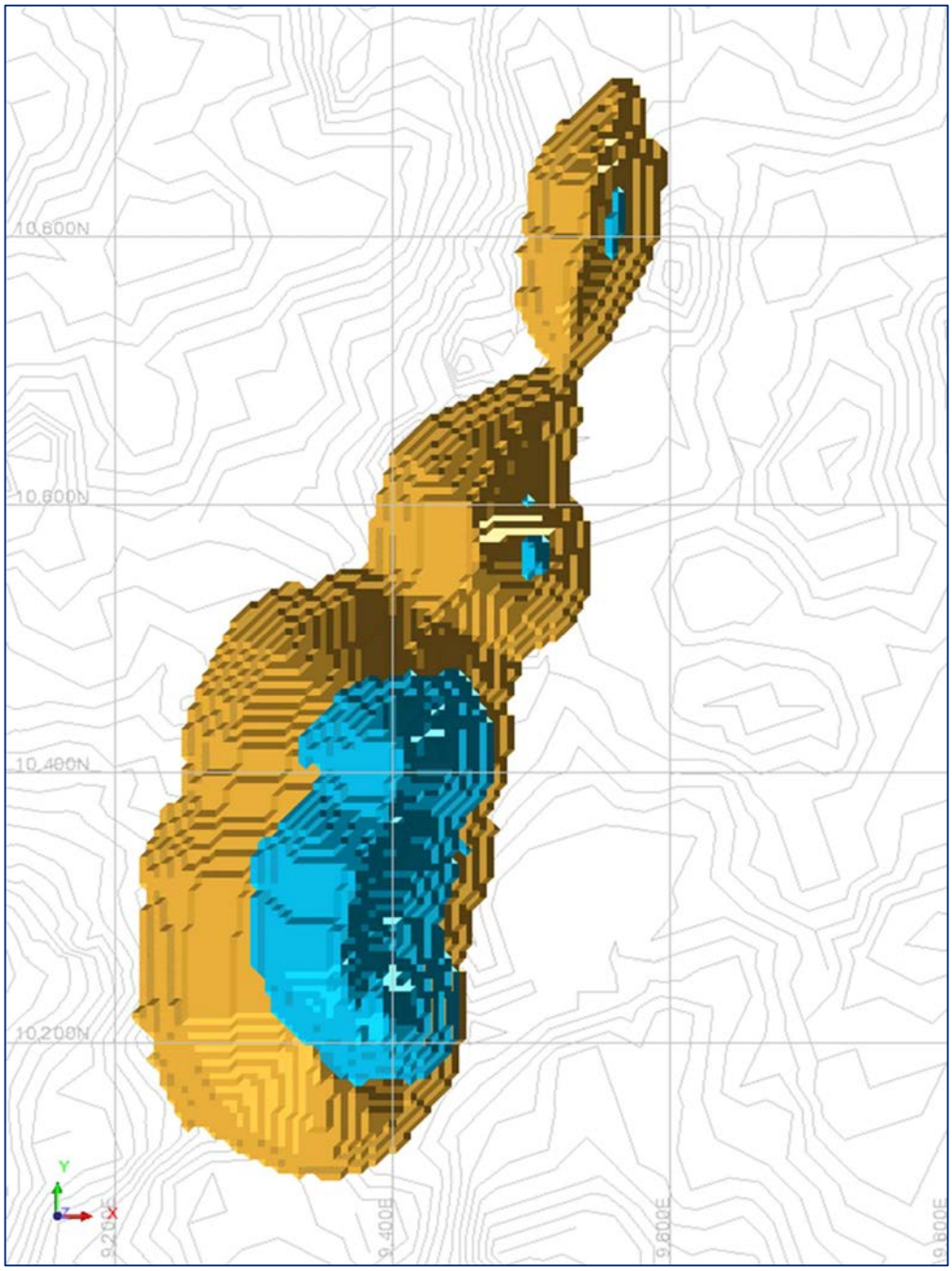


Figure 14: Steam Engine Owner Plant Pit Plan Showing Potential First and Second Stage Pits

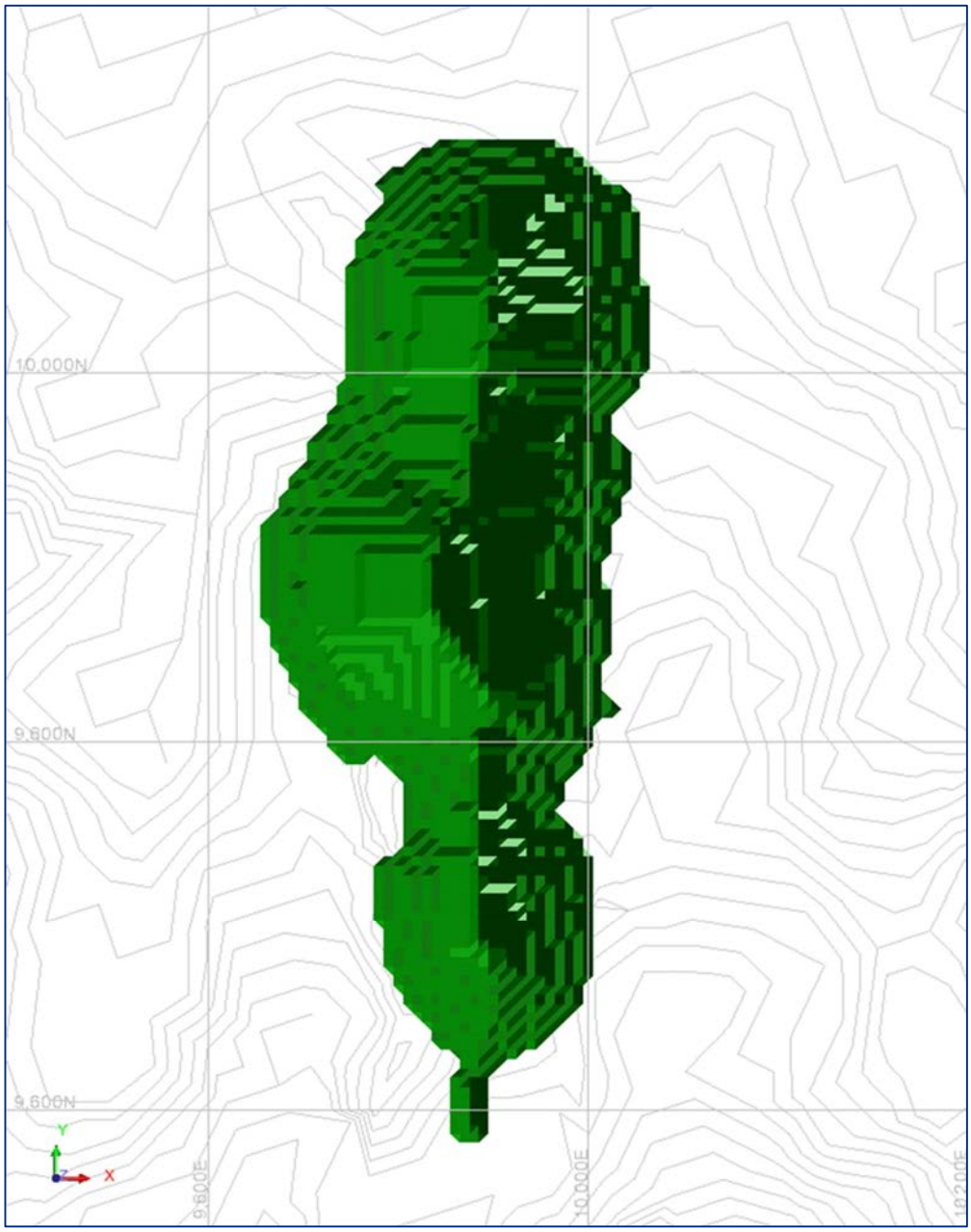


Figure 15: Eastern Ridge Owner Plant Pit Plan

The quarterly material movement schedule for the owner plant scenario, with the Eastern Ridge pit mined first, is shown below.

Table 7: Mining Production Schedule for the Owner Plant Scenario

Parameter	Unit	Total	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 5	Qtr 6	Qtr 7	Qtr 8	Qtr 9	Qtr 10	Qtr 11	Qtr 12	Qtr 13	Qtr 14	Qtr 15	Qtr 16	Qtr 17
Eastern Ridge - Strip Ratio 11.7																			
Waste Mined	kt	**5,195**	1,034	1,458	1,421	1,085	196												
Ore Mined	kt	**443**	59	73	106	125	80												
Ore Grade	g/t	**1.61**	1.25	1.50	1.72	1.66	1.79												
Gold In Feed	koz	**23.0**	2.4	3.5	5.8	6.7	4.6												
Steam Engine - Strip Ratio 8.0																			
Waste Mined	kt	**13,529**					665	898	1,309	1,566	1,674	1,711	1,685	1,647	851	570	536	289	127
Ore Mined	kt	**1,689**					94	180	157	124	76	93	115	150	124	129	160	135	154
Ore Grade	g/t	**1.51**					1.72	1.79	1.80	2.07	0.88	0.94	1.04	1.05	1.37	1.51	1.65	1.67	1.62
Gold In Feed	koz	**82.0**					5.2	10.3	9.1	8.3	2.2	2.8	3.9	5.0	5.4	6.3	8.4	7.2	8.0
Total - Strip Ratio 8.8																			
Waste Mined	kt	**18,723**	1,034	1,458	1,421	1,085	861	898	1,309	1,566	1,674	1,711	1,685	1,647	851	570	536	289	127
Ore Mined	kt	**2,133**	59	73	106	125	174	180	157	124	76	93	115	150	124	129	160	135	154
Ore Grade	g/t	**1.53**	1.25	1.50	1.72	1.66	1.75	1.79	1.80	2.07	0.88	0.94	1.04	1.05	1.37	1.51	1.65	1.67	1.62
Gold In Feed	koz	**105.0**	2.4	3.5	5.8	6.7	9.8	10.3	9.1	8.3	2.2	2.8	3.9	5.0	5.4	6.3	8.4	7.2	8.0

The larger pits in the owner plant scenario show total ore mined of 2,133 kt at an average gold grade of 1.53 g/t. The average strip ratio of the Eastern Ridge pit is 11.7 and that of the Steam Engine pit is 8.0. While the stage mining of Steam Engine improves access to high grade ore, it does result in a drop in ore production (ore tonnes and grade) between stage 1 and stage 2, while the stage 2 cutback is being prepared – this can be seen in quarters 9 and 10 in the schedule above. At this stage of study, this production dip is left in the schedule – in further studies efforts may be made to address this to smooth the production profile.

It is assumed for the purposes of the scoping study that mining would be undertaken by a contractor due to the relatively short duration of mining.

6 PROCESSING

6.1 METALLURGICAL TESTWORK

A number of stages of metallurgical testwork have been undertaken on the Steam Engine and Eastern Ridge lodes.

6.1.1 INITIAL TESTING – PART OF PRIOR SCOPING STUDY

Leach testwork was first undertaken in October and November 2020 to confirm the amenability of the ore to conventional CIP / CIL leaching. Six sample composites were generated from drill holes from the early 2020 drilling program, these samples were of ore grade and considered representative of the resource as declared in May 2020. Two samples of each of the three main ore zones were collected.

These samples were sent to ALS Laboratories for leach testwork. The first stage of the testwork was to undertake a grind establishment – to determine the time that the ore took to grind to the target grind size. This was undertaken using sample ID 5223044 from the main Steam Engine lode. This grinding time was then used for all of the other samples. The target grind size selected for the testwork was an eighty percent passing size (P80) of 75 microns.

The leach test conditions were as follows:

- Grind size (P80) 75 microns
- Sodium Cyanide Dosage 1.5 kg/t
- Density 40 % solids
- pH 10 – 10.5
- Dissolved Oxygen 15 – 20 ppm

These conditions are typical of CIP / CIL leach circuits. The leach tests were run for 48 hours with a sample taken after 24 hours to assist in understanding the leach kinetics.

The tests showed excellent recoveries for the Eastern Ridge samples and somewhat lower recoveries for the Steam Engine samples. In general, the Steam Engine lode has higher sulphur grades than the Eastern Ridge lode.

Recovery of the Steam Engine Samples reduced with arsenic grade of the sample, indicating that a component of the gold present in this lode may be associated with arsenic bearing minerals, most likely arsenopyrite.

Petrographic observations of similar samples in 2020 confirmed the conclusions that a portion of the gold in the Steam Engine deposit is associated with arsenopyrite. This is usually described as some of the gold being in solid solution – within the crystal lattice – of the arsenopyrite and therefore refractory in nature and not fully amenable to recovery by traditional cyanide leaching. Options to increase recovery on refractory ores are to utilise a process that breaks down the pyrite and arsenopyrite further, by ultra fine grinding or by roasting or pressure oxidising the ore.

6.1.2 SUBSEQUENT TESTING

Following the Initial Scoping Study in 2021, additional metallurgical testwork was undertaken to gain more insight into the expected recoveries across the lodes, and the potential variation in these recoveries. In particular the relationship between arsenic grade and gold recovery was explored further.

A second batch of nine samples was tested in July 2021, using the same leach test procedure described above. These samples were from the early 2021 drill program. The worst performing sample of this batch

then underwent more intensive leaching in October 2021– first using higher cyanide dosage, then with a finer grind and then with both a finer grind and higher cyanide dosage.

A further batch of sixteen samples was collected during later drilling in 2021 and sent for testing in January 2022. These provided a greater cross section of the deposit, particularly in some of the northern extensions to the lodes, which had been added since the first scoping study. Again, the same standard leach test procedure was used for these samples.

Details of all of these samples and the key results from the testwork are summarised in the following table.

Table 8: Metallurgical Samples and Results of Leach Testwork

Description								Head Assays		Leach Results		Reagents kg/t	
Testwork Phase / Results Received	Sample ID	ALS Test Number	Drill Hole	From (m)	To (m)	Zone	Description	Au g/t	As ppm	Au Rec % 24 hr	Au Rec % 48 hr	NaCN	Lime
Batch 1 Nov 20	5223041	BK14600	SRC019	27	33	SE		3.60	12,800	63.2	67.4	0.67	0.70
	5223042	BK14601	SRC031	22	26	SE FW		1.40	4,600	70.3	79.8	0.63	0.64
	5223043	BK14602	SRC032	40	43	SE FW		2.50	8,200	71.6	73.1	0.63	0.56
	5223044	BK14603	SRC035	24	30	SE		2.20	3,900	83.5	82.0	0.70	0.79
	5223045	BK14604	SRC039	19	25	ER		0.90	230	97.2	97.2	0.48	0.82
	5223046	BK14605	SRC043	11	19	ER		3.60	1,100	96.1	97.5	0.52	1.31
Batch 2 Jul 21	5223050	BK16016	SRC067	17	22	SE	Partially Oxidised Low As	1.90	1,208	97.4	98.1	0.55	1.60
	5223051	BK16017	SRC071	36	46	SE FW	Sulphide Moderate - High As	2.00	5,259	61.1	60.8	0.52	0.40
	5223052	BK16018	SRC079	50	61	SE	Sulphide Moderate As	2.17	5,214	73.8	74.2	0.52	0.42
	5223053	BK16019	SRC080	60	72	SE	Sulphide High As	5.18	10,506	81.7	82.1	0.60	0.41
	5223054	BK16020	SRC082	66	72	SE	Sulphide Low As	1.50	1,898	79.3	80.6	0.48	0.47
	5223055	BK16021	SRC084	66	71	SE	Sulphide Moderate - High As	3.93	6,685	79.5	80.3	0.48	0.45
	5223056	BK16022	SRC094	40	45	SE N	Sulphide Low - Moderate As	1.85	2,689	75.2	76.5	0.45	0.46
	5223057	BK16023	SRC096	16	20	SE N	Partially Oxidised Low - Moderate As	1.82	2,313	90.3	91.0	0.60	1.79
	5223058	BK16024	SRC104	0	10	ER	Partially Oxidised Low As	2.15	641	96.8	96.8	0.63	0.95
High Intensity Oct 21	5223051	BK16280	SRC071	36	46	SE FW	Repeat of BK16017 With High Cyanide	2.00	5,259	56.0	56.3	0.86	0.42
	5223051	BK16281	SRC071	36	46	SE FW	Repeat of BK16017 With Finer Grind	2.00	5,259	56.6	57.3	1.05	0.44
	5223051	BK16282	SRC071	36	46	SE FW	Repeat of BK16017 With High Cyanide & Finer Grind	2.00	5,259	58.8	59.2	0.96	0.41
Batch 3 Jan 22	6914561	BK16642	SRC105	58	68	SE	Sulphide - Very Low As	2.85	319	95.2	95.2	0.37	0.56
	6914562	BK16643	SRC119	72	86	SE	Sulphide - Low As	1.04	1,480	74.6	76.3	0.37	0.40
	6914563	BK16644	SRC123	75	81	SE	Sulphide - Moderate As	2.52	4,044	69.5	70.6	0.62	0.62
	6914564	BK16645	SRC125	119	127	SE	Sulphide	2.42	3,794	84.1	83.5	0.38	0.49
	6914565	BK16646	SRC126	94	101	SE	Sulphide	3.73	5,579	77.4	77.1	0.55	0.48
	6914566	BK16647	SRC132	40	45	SE	Sulphide	2.24	2,102	83.7	83.0	0.48	0.48
	6914567	BK16648	SRC136	19	27	SE FW	Shallow Partially Oxidised - Moderate As	6.29	4,277	80.9	81.8	0.71	1.46
	6914568	BK16649	SRC138	20	25	SE	Sulphide - Low As - Shallow	1.10	481	88.8	87.8	0.33	0.61
	6914569	BK16650	SRC139	70	76	SE	Sulphide - Low / Moderate As - Deeper	2.55	3,196	78.6	79.2	0.45	0.65
	6914570	BK16651	SRC147	17	22	SE	Sulphide / Partially Oxidised	2.40	2,288	78.2	79.0	0.60	1.25
	6914571	BK16652	SRC158	50	57	ER	Sulphide - Low As - Deeper Sample	2.13	1,187	87.9	87.9	0.40	0.68
	6914572	BK16653	SRC159	29	39	ER	Sulphide	2.17	213	89.8	89.8	0.40	0.77
	6914573	BK16654	SRC164	30	36	ER	Sulphide - Low As	3.03	1,890	85.0	86.2	0.55	0.76
	6914574	BK16655	SRC166	12	19	ER	Oxide	2.08	249	95.6	96.9	0.45	1.72
	6914575	BK16656	SDD004	43	50	SE	Sulphide - High As	3.78	8,548	72.9	73.2	0.47	0.92
	6914576	BK16657	SDD006	29	39	SE	Sulphide - High As	3.29	9,443	65.4	66.5	0.59	0.58

(Note that the calculated extraction for several of the samples drops from 24 to 48 hours, this is due to the 48 hour solution assay being slightly lower than the 24 hour solution assay. This is just a discrepancy within the accuracy limits of the sampling and assaying. It can be concluded that no additional gold was extracted from 24 to 48 hours and the reported extraction should be the same).

The results for the Eastern Ridge samples were excellent, particularly in the first and second batches with recoveries of 97, 98, 97 and 97 % for the four shallow oxidised samples. Deeper samples at Eastern Ridge with higher proportions of sulphide mineralisation saw somewhat lower recoveries, these three samples showed recoveries of 88, 90 and 86 %. There is little difference between the 24 hour extraction rates and the 48 hour extraction rates indicating rapid leaching of this ore.

The gold extraction results for the Steam Engine lode are generally not as good as for Eastern Ridge. A trend can be observed that the higher the arsenic grade of the sample, the lower the gold extraction typically is. There is also a trend that higher gold grades are associated with higher arsenic grades. Some of the samples from Steam Engine in the second and third batches did see high recoveries, with the three best samples returning gold extractions of 91, 95 and 98 %.

These samples show significant improvement from the first batch of testing and indicate that parts of the Steam Engine lode where arsenic mineralisation is less pronounced may see high gold recoveries. Some sections of the ore body are at least partially refractory in nature. Only three samples showed recoveries less than 70 %, these were 5223041 from the Steam Engine lode, with 3.6 g/t gold and 12,800 ppm arsenic, and which returned 67 % recovery, 5223051 from the Steam Engine Footwall zone, with 2.00 g/t gold and 5,259 ppm arsenic, which had a 61 % gold recovery and 6924576 from the Steam Engine lode which had 3.29 g/t gold and 9,443 ppm arsenic and returned 67 % gold recovery.

As with the Eastern Ridge samples – there was very little gain in gold recovery from 24 hours of leaching to 48 hours of leaching, even when extraction was lower. This indicates that any of the leachable gold leaches rapidly.

Sample 5223051 – that with the lowest gold recovery – was tested with more intense leach conditions to explore whether optimisation of leach alone was sufficient to increase gold recovery. The leach test was repeated with higher cyanide dosage (BK16280) of 3.0 kg/t rather than the 1.5 kg/t target from the other tests. The next test targeted a finer grind size (BK16281) of 53 microns rather than 75 microns and the third test had both changes together (BK16282). The leach duration was also extended from 48 hours to 72 hours. None of these three tests showed improved extraction of gold, leading to the conclusion that neither finer grind (in the range tested), nor increased cyanide addition, nor longer leach time would assist in improving recoveries of the poorly leaching samples. This further supports that these samples have a refractory component of gold and that without either ultra fine grinding or oxidation of the material, recovery of this component of material will likely remain low.

The following series of graphs show various plots of the testwork results – including all batches but not including the intensive leach tests conducted on the same sample.

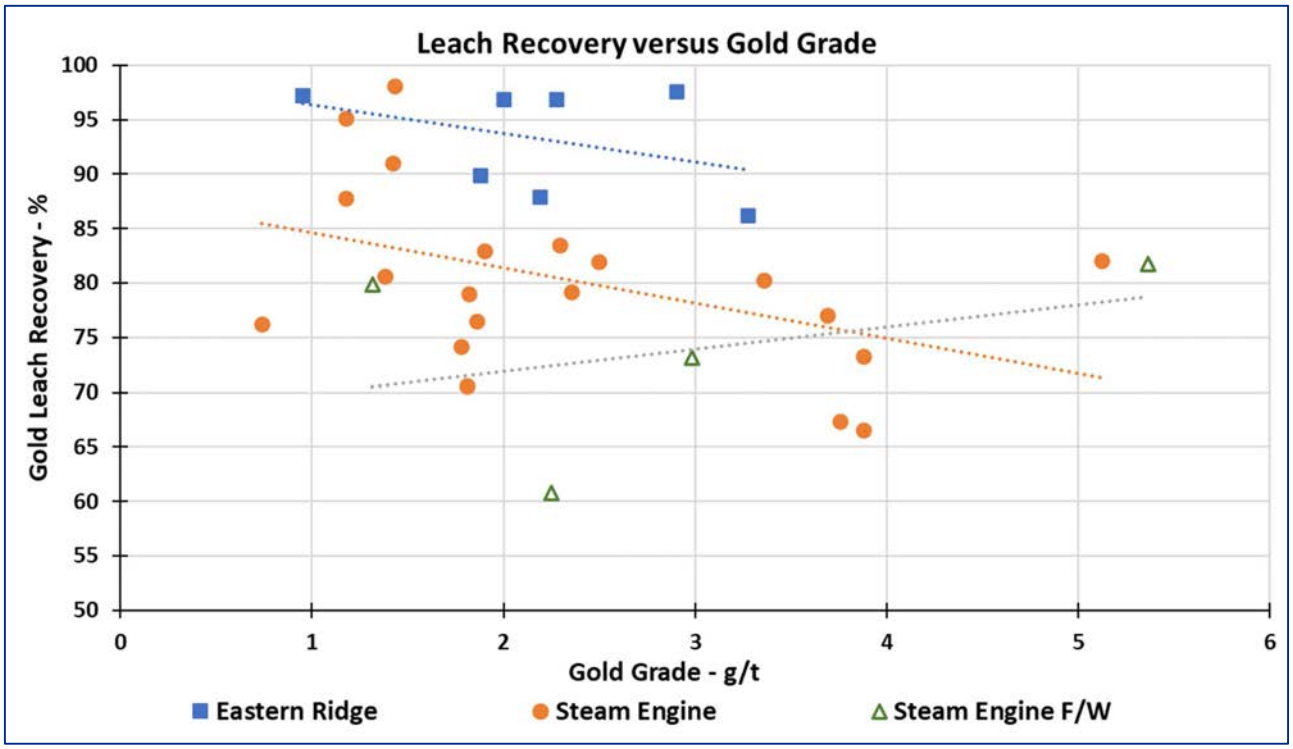


Figure 16: Leach Recovery versus Gold Grade

The leach recovery appears to have an inverse relationship with gold grade, particularly of the Steam Engine lode – which is unusual and slightly counter intuitive.

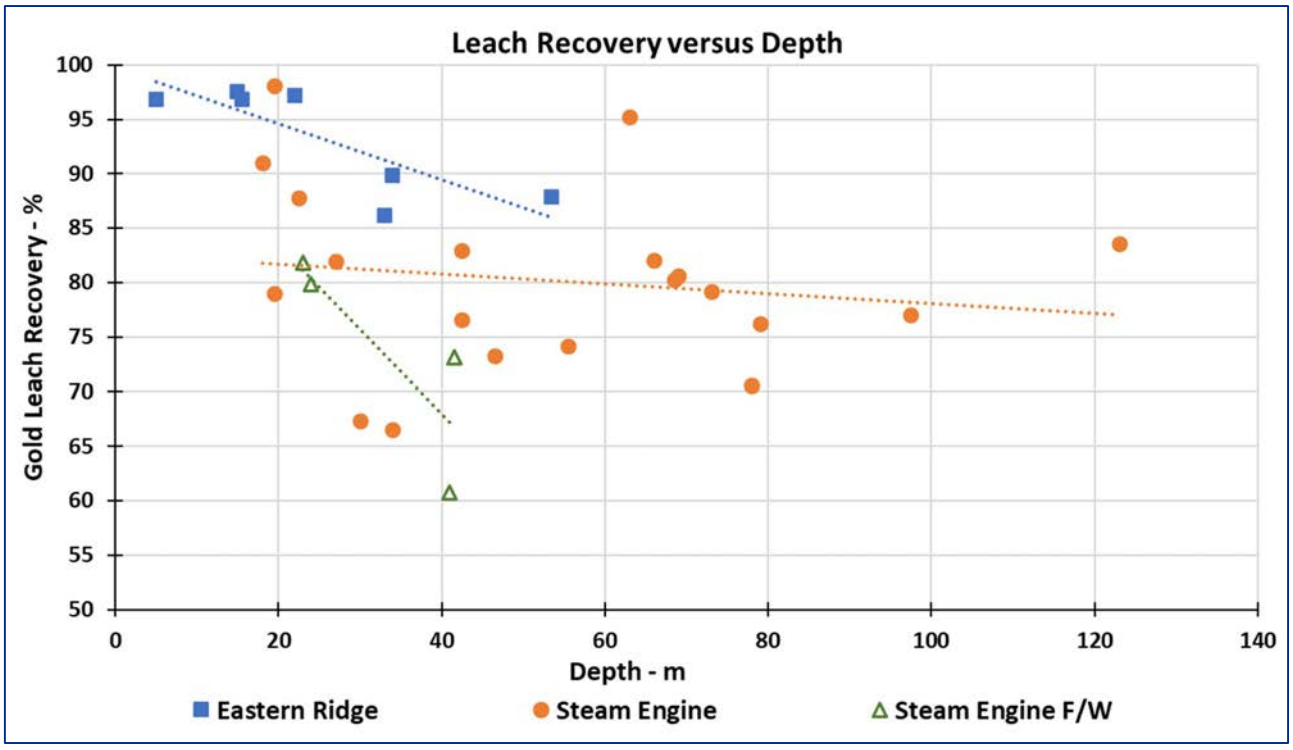


Figure 17: Leach Recovery versus Depth

There is little relationship between leach recovery and depth in the Steam Engine lode, but there is in the Eastern Ridge and Steam Engine Footwall zones where the recovery does appear to reduce with depth. This relationship is not unexpected as leach recovery is typically highest when the ore is most oxidised, and reduces if the ore is fresh, particularly in the presence of sulphide mineralisation.

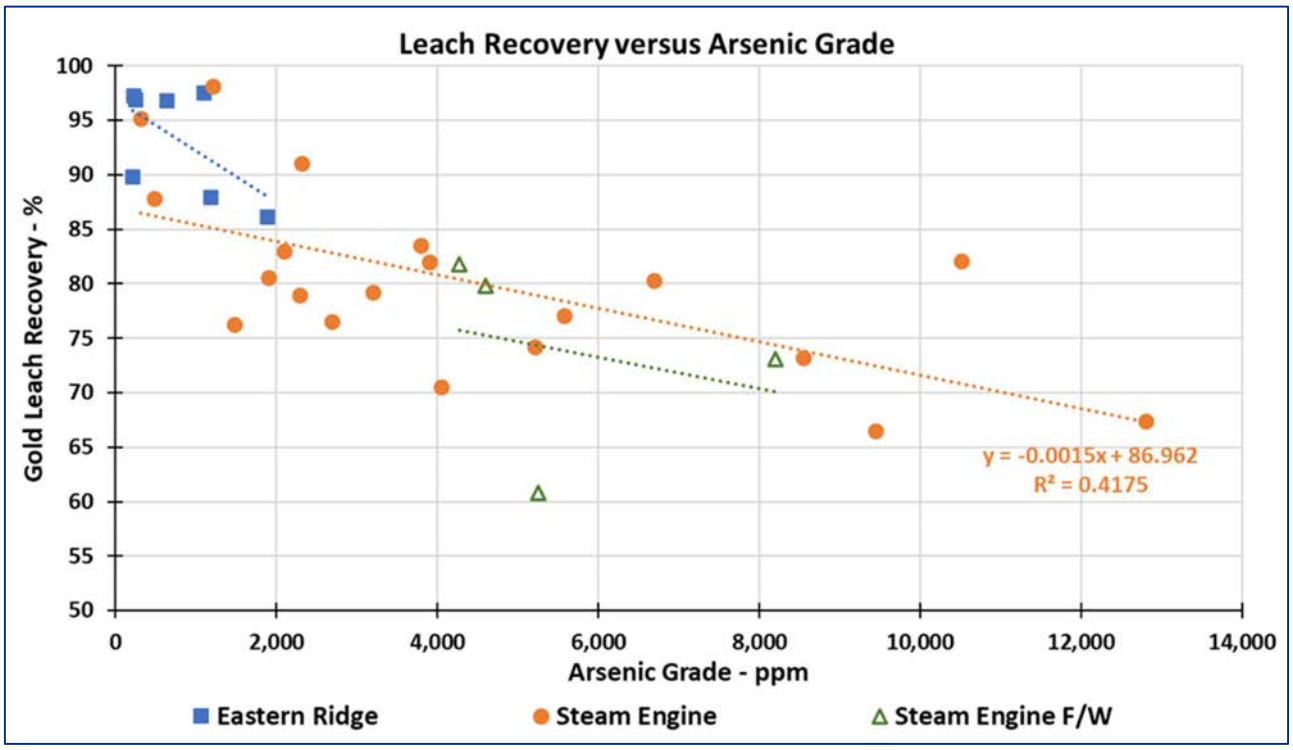


Figure 18: Leach Recovery versus Arsenic Grade

There is a strong relationship with leach recovery and arsenic grade, where recovery drops with increasing arsenic content. This again supports the assumption that where arsenic is present it is as arsenopyrite and is associated with a component of the gold, a component which is refractory in nature and has low leach recovery.

6.2 Recovery Estimates

On the basis of the testwork to date, the recovery predictions for Steam Engine ore and Eastern Ridge ore respectively (as used in the subsequent financial evaluations) are 82 and 95 percent. Attempts were made to build a relationship between recovery and depth in the deposit, but, as can be seen from the data and earlier figures, this relationship was not strong. The biggest impact to the recovery is the arsenic grade and future work may see a recovery model built on this basis. For this level of study, the single average recovery value suffices, and the values chosen should have a similar amount of upside as downside within the pit outlines used.

6.3 HAULAGE AND PROCESSING – TOLL TREATMENT SCENARIO

6.3.1 ORE HAULAGE

For the toll treatment scenario, the ore would be hauled from the Steam Engine project site to a suitable processing plant for toll treatment. A haulage contractor would be utilised for this work. The average ore haulage rate has been set at 30,000 tonnes per month as this is believed to be the logistical limit for the size of the trucking fleet that would be required. The largest capacity trucks that could be used on the route chosen would be selected, it has been assumed that these would be Type 2 road trains with three trailers and ore capacity of around 75 tonnes.

In the initial scoping study in 2021, an assumed cost of $0.12 per tonne per kilometre for haulage was used, but this had been difficult to quantify due to the limited number of long distance ore haulage operations in Queensland. For this updated study, a number of comparative cases were investigated which all supported the fact that the cost would fall between $0.12 and $0.18 per tonne per kilometre. To give increased confidence in this figure, a full haulage cost calculator was developed which takes into account all of the costs associated with operating an ore haulage business. A summary of the inputs and outputs of the haulage model are shown in the tables and pie charts below. A baseline case was used and then an upside case was used to give an indication of the sensitivity of the cost to higher inputs.

These costs are on the basis that haulage is via a fair condition sealed road along the full length.

Table 9: Inputs for Haulage Cost Model

High Level Parameters	Base	Upside	Unit
Haulage rate	30,000	30,000	dtpm
Ore moisture	5	5	%
Distance	320	320	km
Payload	75	75	t
Load time	20	30	mins
Unload time	15	20	mins
Average speed	70	60	km/h
Labour Cost			
Drivers per truck	3	3	1 Day Shift, 1 Night Shift, 1 Break
Supervisors	3	3	1 Day Shift, 1 Night Shift, 1 Break
Managers	1	1	Number
Admin	1	1	Number
Major Operating Costs			
Fuel burn per km	1	1	l/km
Cost of fuel - post mining rebate	1.85	1.95	$/l
AdBlue burn	5	5	l/100l diesel
AdBlue cost	1.85	1.95	$/l
Number of tyres per truck	74	74	tyres
Life of tyre	100,000	100,000	km
Cost per tyre	700	700	$
Maintenance Costs			
Service cost	1,000	1,000	per service
Service interval	20,000	20,000	km
General maintenance cost	3,000	3,000	per truck per interval
General maintenance interval	20,000	20,000	km
Other Costs			
Insurance per year / truck	32,000	40,000	$/year
Rego per year / per truck	22,000	25,000	$/year
Miscellaneous Costs	20,000	40,000	$/month
Depot cost per month	10,000	20,000	$/month
Capital Costs			
Costs per truck	420,000	450,000	$
Life of Truck	12	12	years
Cost per trailer	180,000	200,000	$
Life of Trailer	12	12	years
Cost of Finance	10	10	%

Table 10: Haulage Cost Calculations

Cycles			
Haulage rate	31,579	31,579	wtpm
Cycle Time	9.7	11.5	hrs
Loads per day per truck	2	2	per 24 hrs
Number of cycles required per month	421	421	trips
Truck Fleet Needed			
Trucks required	7.0	7.0	exact
Trucks needed	8	8	incl spare
Capital Cost of Fleet			
Total costs of trucks	3,360,000	3,600,000	$
Total costs of trailers	4,320,000	4,800,000	$
Finance costs of fleet	64,000	70,000	$/month
Total Fleet Costs per Month	**117,333**	**128,333**	**$/month**
Labour Costs			
Total Labour Costs per Month	**272,300**	**317,035**	**$/month**
Fuel Costs			
Kilometres travelled per month	269,474	269,474	km/month
Fuel burn	269,474	269,474	l/month
AdBlue burn	13,474	13,474	l/month
Total Fuel Costs per Month	**523,453**	**551,747**	**$/month**
Tyre Costs			
Total Tyre Costs per Month	**139,587**	**139,587**	**$/month**
Maintenance Costs			
Total Maintenance Costs per Month	**53,895**	**53,895**	**$/month**
Other Costs			
Insurance cost	21,333	26,667	$/month
Registration cost	14,667	16,667	$/month
Miscellaneous costs	20,000	40,000	$/month
Depot cost	10,000	20,000	$/month
Total Other Costs per Month	**66,000**	**103,333**	**$/month**
Total Costs			
Total costs per month	1,172,568	1,293,931	$/month
Profit margin	117,257	194,090	$/month
Total Haulage Costs per Month	**1,289,825**	**1,488,021**	**$/month**
Unit Costs			
Unit cost per tonne	42.99	49.60	$/t
Unit cost per tonne kilometre	0.134	0.155	$/t/km

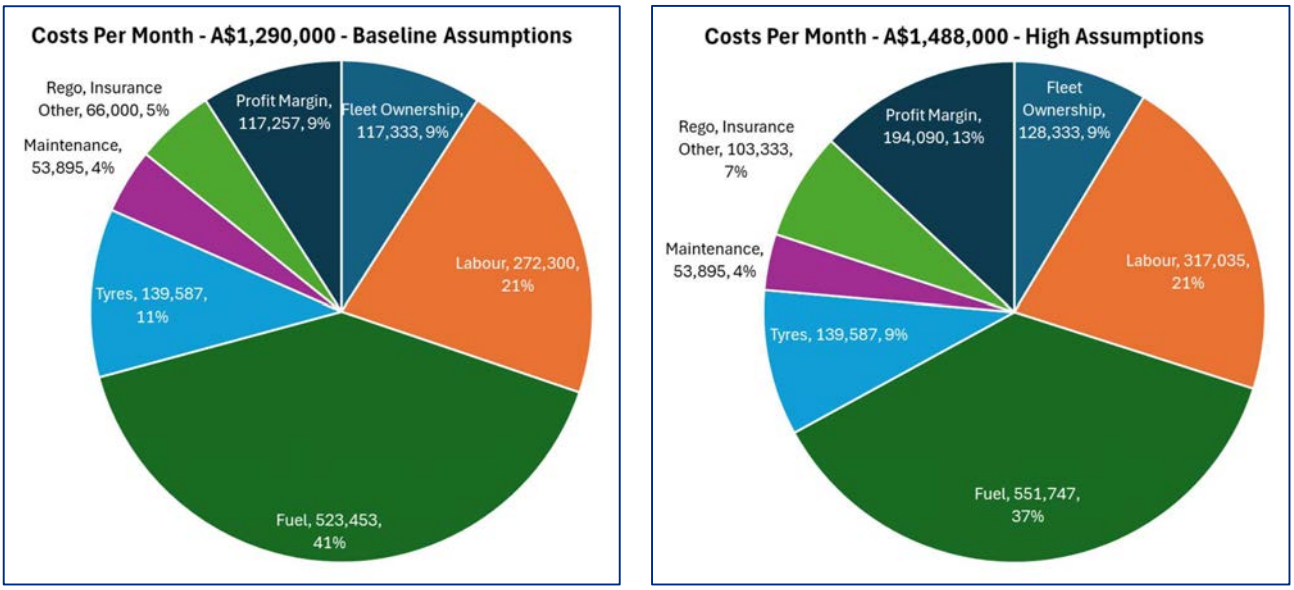


Figure 19: Breakdown of Haulage Costs

Based on this exercise – the cost of haulage that is used in the financial model is $0.15 per tonne per kilometre, which should provide a realistic estimate. With this cost estimate, fuel, tyres and maintenance represent around half of the total haulage cost, while labour and the costs of owning and operating the truck fleet, including profit margin of the haulage contractor, make up the other half.

6.3.2 Toll Treatment

A number of potential toll treatment plants exist in Queensland that could accept ore from the Steam Engine project. General criteria for selection of a suitable plant is:

- Gold processing plants utilising traditional CIP / CIL to leach gold;
- A flowsheet that includes gravity gold recovery equipment would be an advantage;
- Capacity to treat 30,000 tonnes per month or more of additional ore;
- Gold grade of usual ore lower than the gold grade of the Steam Engine ore to provide incentive to preferentially treat Steam Engine ore; and
- Within trucking distance of the project and with suitable existing road linkage.

A number of processing plants have been identified that meet these criteria and those with the greatest potential have been short listed.

6.3.3 Tailings Management – Toll Treatment

Tailings management would be the responsibility of the toll treatment plant, and the costs to manage and store tailings produced from the Steam Engine ore would be included in the processing charges.

6.4 Processing – Owner Plant Scenario

6.4.1 Ore Haulage

For the owner plant scenario, there is no requirement for ore haulage, removing a significant cost for the project.

6.4.2 Processing

The owner plant scenario assumes that a dedicated processing plant is constructed on or adjacent to the Steam Engine Site. For the purposes of this study, it is assumed that the plant constructed would include:

- Capacity of around 500,000 tonnes per annum – sized to suit the likely production rate from the open pits;
- Crushing and grinding circuits capable of grinding to an eighty percent passing size (P_{80}) of around 75 microns;
- Leaching circuit utilising CIP or CIL;
- Gold recovery and production facilities to produce doré;
- A Tailings Storage Facility (TSF) to store tailings and assist in managing site water;
- Power connection to the nearby grid and installation of the necessary transformers, switching gear and electrical control facilities to supply the plant; and
- Associated offices, workshops and infrastructure.

The plant could be constructed using new equipment or using suitable second hand equipment. Given the relatively short project life, capital costs would need to be minimised and so second hand equipment or the purchase and relocation of an existing plant could be advantageous. Other ways to reduce the costs may be to utilise modular plant where possible, for example mobile crushing plant rather than fixed crushers or a modular gold production facility.

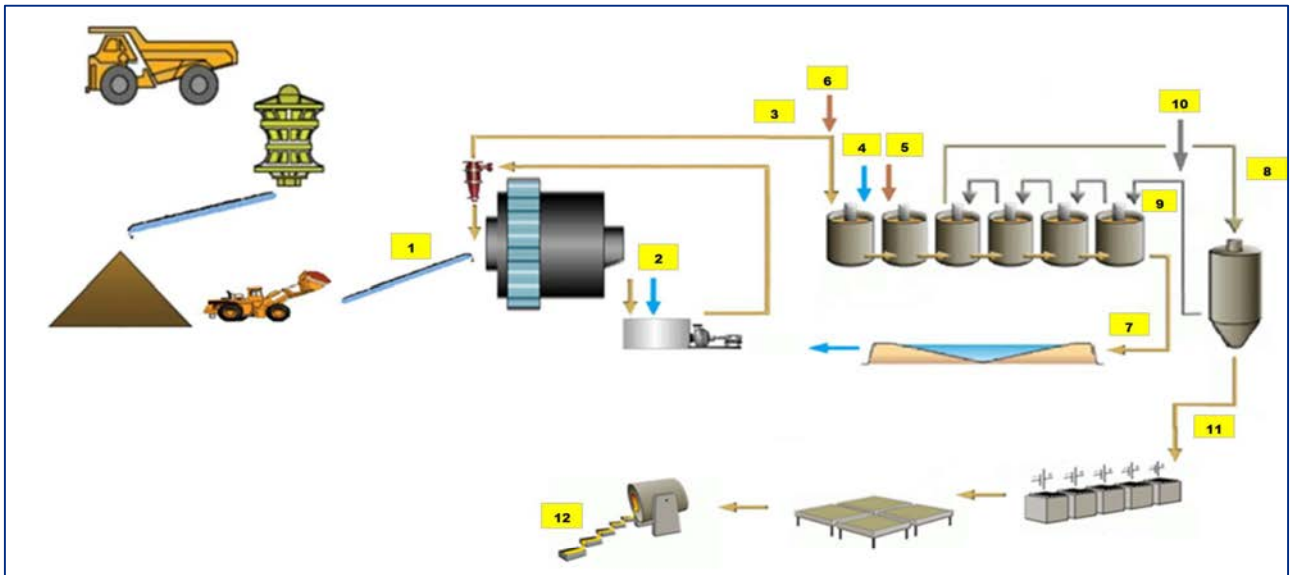
There may be the ability to sell some or all of the plant at the end of the project life and recoup some of the costs. Alternatively, the plant may well be used for other satellite deposits either owned by Superior or owned by others, and the crushing and grinding facilities may be able to be adopted for use with a flotation circuit to treat sulphide deposits.

6.4.3 Tailings Management – Owner Plant

Tailings management would be a necessary component of the owner plant scenario, adding cost and complexity in approvals, operation and closure. At this level of study, the design, construction method and closure plans for the TSF are not detailed, but the facility would likely be a conventional paddock style facility using constructed embankments and allowing water recovery. The processing facility (as with all modern gold processing plants) would include a cyanide destruction circuit.

6.4.4 Process Flow Diagram – Owner Plant

The high level flowsheet and mass balance for the owner plant scenario are shown in Figure 20.



		Stream												
		1	2	3	4	5	6	7		8	9	10	11	12
Stream Name		Plant Feed	Mill Sump Water	Leach Feed	Leach Water	Cyanide Addition	Lime Addition	Leach Tail		Loaded Carbon	Stripped Carbon	New Carbon	Pregnant Solution	Bullion
Tonnes Solids	t/h	63.2	0.0	63.2	0	0	0.08	63.3	g/h	27,773	27,773	13	0	84.3
Gold Grade	g/t	1.5	0.0	1.5	0	0	0	0.232	g/t	3000	40	0		97.5%
Contained Gold	g/h	96.9	0.0	96.9	0.0	0.0	0.0	14.7	g/h	83.3	1.1	0.0	82.2	82.2
Percent Solids	%	92.0	0.0	35	0	0	20	30	%	95	100	100	0	100
Tonnes Water	t/h	5.5	112.0	117.5	29.7	0.32	0.30	147.75	g/h	1,462	0	0	1,462	0
Total Tonnes	t/h	68.7	112.0	180.7	29.7	0.32	0.38	211.1	g/h	29,235	27,773	13	1,462	84.3
Slurry Flowrate	m^3/hr	28.9	112.0	140.9	29.7	0.32	0.35	171.2	l/h	27.24	12.62	0.01	1,462	0.004

Figure 20: Steam Engine Owner Plant Process Flow Diagram

Potential alterations to this simple leach circuit which may be adopted based on further testwork results are:

- To include a gravity concentrator in the grinding circuit, with intensive leach of the gravity concentrate;
- Exploration of coarser grind sizes to see if there is a need to grind as fine as 75 microns; and

- Inclusion of a flotation step prior to the leach feed, with the flotation concentrate (being predominantly sulphide minerals) being ultra finely ground prior to leaching to improve gold recovery from this more refractory ore.

7 INFRASTRUCTURE AND FACILITIES

A proposed site layout with the required site infrastructure has been developed and is shown below. Details of traffic management, water management, communications, power supply, safety and emergency facilities, environmental monitoring and closure plans are included in the full Scoping Study document.

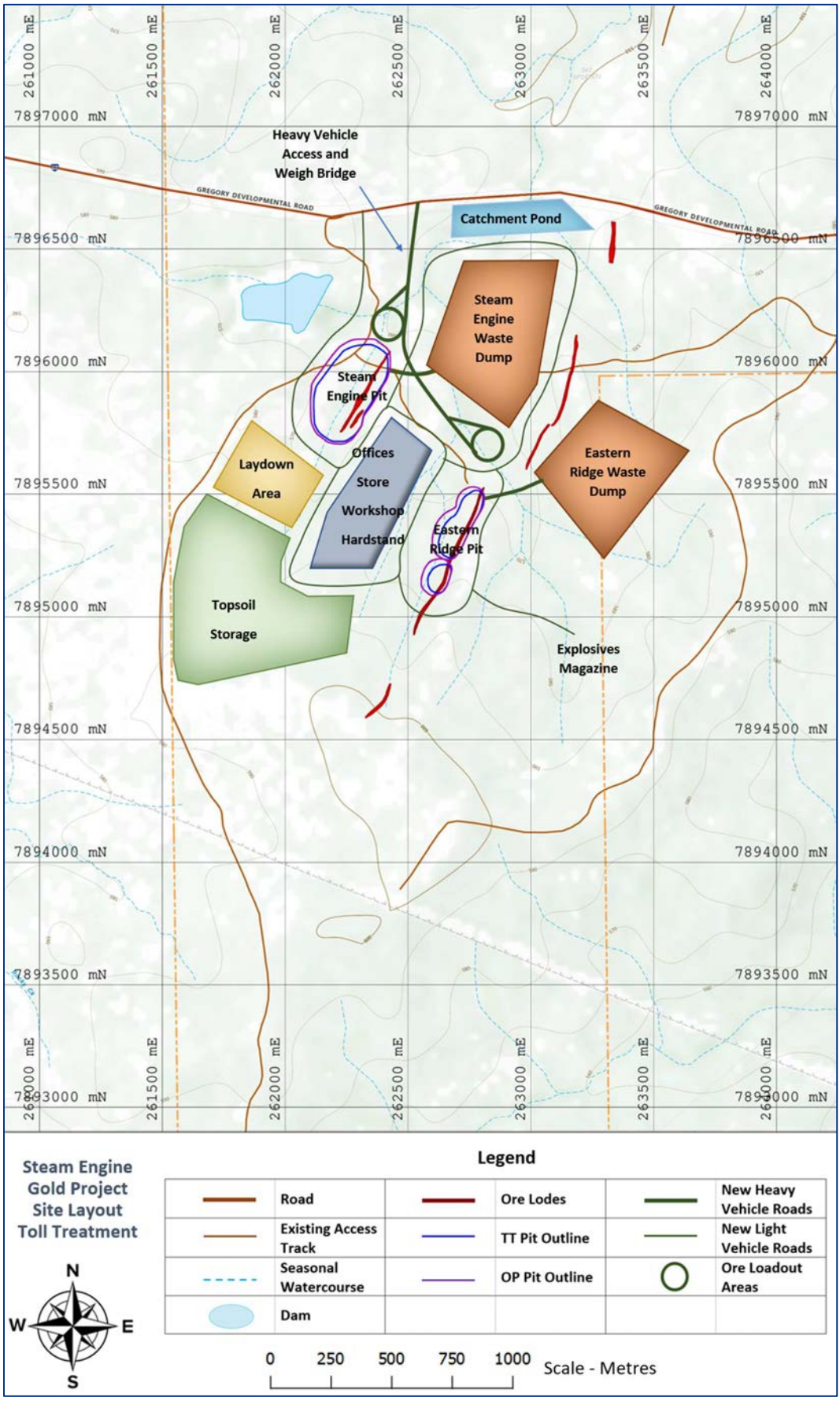


Figure 21: Steam Engine Project Site Layout – Toll Treatment Option

Figure 22: Steam Engine Project Site Layout – Owner Plant Option

8 PROJECT APPROVALS

Details of the project approvals processes and the current status for the required mining lease application, landholder compensation agreement access, native title approval, environmental authority application and cultural heritage clearances are included in the full scoping study.

9 CAPITAL COSTS

A capital cost estimate to develop the project until the point of ore production has been completed at an accuracy level of ± 30 %, generally in line with an AACE Class 5 Estimate Category (Guidelines developed by the Association for the Advancement of Cost Engineering).

The capital costs have been developed based on estimates obtained for this or prior projects.

The following items are excluded from the cost estimate:

- Sunk costs and costs associated with this and prior studies;
- Cost of pre-feasibility and feasibility studies and associated testwork; and
- Costs for gaining project approvals, these are sunk costs at the time of commencing the project development.

9.1 GROWTH AND CONTINGENCY

Growth and contingency have been applied in line with guidelines for studies of this nature. As this project is at scoping level with a relatively short construction and ramp up duration the cost estimate includes a contingency allowance of 25 %.

9.2 CAPITAL COST SUMMARIES

The cost estimate summary by discipline for the toll treatment and owner plant options is shown in

Table 11 and Table 12.

Table 11: Capital Cost Estimate Summarised by Discipline – Toll Treatment

Discipline		Materials A$	Labour Cost A$	Growth A$	Freight A$	Total A$
Direct Costs	Civil works	65,400	324,045	77,889	1,460	**468,794**
	Earthworks	19,000	1,035,431	210,886	400	**1,265,717**
	Mechanical Equipment	614,000	44,000	131,600	10,600	**800,200**
	Electrical Installations	148,900	20,740	33,928	378	**203,946**
	Piping	92,200	95,370	37,514	2,510	**227,594**
	Buildings	200,000	41,600	48,320	68,200	**358,120**
	Total Direct Costs	**1,139,500**	**1,561,186**	**540,137**	**83,548**	**3,324,371**
Indirect Costs	Project Management	0	37,500	7,500	0	**45,000**
	Owners Costs	487,048	677,750	223,726	500	**1,389,024**
	Spares	38,164	0	7,633	0	**45,796**
	Total Indirect Costs	**525,212**	**715,250**	**238,859**	**500**	**1,479,821**
Sub Total Direct and Indirect Costs		**1,664,712**	**2,276,436**	**778,996**	**84,048**	**4,804,192**
Contingency @ 25 %						**1,201,048**
Total		**1,664,712**	**2,276,436**	**778,996**	**84,048**	**6,005,240**

Table 12: Capital Cost Estimate Summarised by Discipline – Owner Plant

Discipline		Materials A$	Labour Cost A$	Growth A$	Freight A$	Total A$
Direct Costs	Civil works	897,166	938,022	367,038	83,357	**2,285,582**
	Earthworks	495,143	1,776,851	454,399	48,014	**2,774,407**
	Mechanical Equipment	6,259,150	3,807,433	2,013,317	575,115	**12,655,014**
	Electrical Installations	3,706,639	2,392,566	1,219,841	356,152	**7,675,199**
	Piping	2,118,664	1,446,346	713,002	205,156	**4,483,168**
	Platework	1,881,717	1,254,478	627,239	188,172	**3,951,605**
	Structural Steel	1,592,222	1,061,481	530,741	159,222	**3,343,666**
	Buildings	580,914	295,543	175,291	106,291	**1,158,040**
	Total Direct Costs	**17,531,614**	**12,972,721**	**6,100,867**	**1,721,479**	**38,326,681**
Indirect Costs	Project Management	0	37,500	7,500	0	**45,000**
	Owners Costs	647,896	5,843,393	889,024	500	**7,380,813**
	Spares	836,076	317,429	230,701	79,357	**1,463,563**
	Total Indirect Costs	**1,674,429**	**6,960,150**	**1,317,683**	**98,903**	**10,051,165**
Sub Total Direct and Indirect Costs		**19,206,044**	**19,932,871**	**7,418,550**	**1,820,382**	**48,377,846**
Contingency @ 25 %						**12,094,462**
Total		**19,206,044**	**19,932,871**	**7,418,550**	**1,820,382**	**60,472,308**

10 Operating Costs

The total operating costs over the life of the project have been estimated, with ± 30 % accuracy. All costs are in Australian dollars.

10.1 Key Operating Cost Assumptions

The key operating cost assumptions are shown in Table 13.

Table 13: Operating Cost Key Assumptions

Assumption	Unit	Toll Treatment	Owner Plant	Source
Physical Assumptions				
Haulage / Processing Capacity	dtpm	30,000	41,668	Basis
Operating Time of Plant	%	n/a	90 %	Estimate
Moisture Content of Ore	%	5	5	Estimate
Ore Haulage Distance	km	320	-	Measured
Cost Assumptions				
Mining				
Mining Unit Cost	A$ / t mined	4.34	4.34	AMDAD
Ore Haulage				
Cost to Load Trucks at Steam Engine	A$ / wmt	0.50	0.50	Estimate
Haulage Unit Cost[1]	A$ / wmt / km	0.15	-	Estimate
General And Administration				
Monthly Site Overheads	A$ / month	40,000	120,000	Estimate
Monthly Corporate Cost	A4 / month	15,000	30,000	Estimate
Compensation Costs	A$ / month	20,000	25,000	Estimate
Processing				
Direct Cost of Processing	A$ / t milled	21.04	23.52	Estimate
Cost of Power	A$ / kWh	n/a	0.20	Estimate
Margin	A$ / t milled	10.00	-	Estimate
Sustaining Capital				
Sustaining Capital[2]	A$ / month	2,000	44,000	Estimate

Notes:

1 – The full breakdown of the haulage unit cost is shown in section 6.3.1.

2 – The sustaining capital estimate is based on 1.25 % of major equipment purchase costs.

Owner's costs and corporate overheads are estimated based on the project size.

The mining costs are on the basis of dry tonnes, as are the processing costs, while the haulage tonnes are on the basis of wet tonnes as this is how the payments would be calculated.

10.2 Owner Plant Processing Unit Cost

The owner plant processing unit costs are made up of power costs, employee costs and parts and consumables. The breakdown of these costs is shown in the following tables.

Table 14: Overall Processing Cost

Personnel	Unit	Total Salary	Basis
Power			
Average Power Usage	kW	2,059	Calculation
Operating hours	hrs	7,906	Calculation
Unit Cost of Power	A$/kWhr	0.20	Metcor
Average cost of power	**A$**	**3,256,250**	**Calculation**
Personnel			
Total Salaries	**A$**	**5,120,000**	**Calculation**
Consumables			
Mill Liners	A$	200,000	Calculation
Carbon	A$	100,000	Calculation
Assaying	A$	50,000	Estimate
Parts and supplies	A$	800,000	Estimate
Mobile Equipment Costs	A$	200,000	Estimate
Grinding Media	A$	45,000	Calculation
Lime	A$	240,000	Calculation
Cyanide	A$	1,750,000	Calculation
Total Consumables	**A$**	**3,385,000**	**Calculation**
Total			
Total Annual Operating Cost	**A$**	**11,761,250**	**Calculation**
Unit Operating Cost	**A$ / t**	**23.52**	**Calculation**

10.3 Offsite Costs

The offsite costs of doré transport, refining and royalties have been calculated based on the following assumptions. Actual offsite cost terms will be defined by the contracts in place between the toll treatment plant and the refiner, or those established for the owner plant.

Table 15: Offsite Cost Key Assumptions

Assumption	Unit	Value	Source
Percent Payable Gold	%	99.5	Estimate
Refining Charge	A$ / oz	0.50	Estimate
Disposal Cost (Non Precious Content)	A$ / kg	50	Estimate
Queensland Government Gold Royalty	%	5	DNRME
Queensland Government Royalty Free threshold	A$ per FY	100,000	DNRME
Doré Transport Costs	A$ / month	2,000	Estimate

11 Financial Evaluation

The capital and operating cost estimates have been combined with the mining schedule to develop a full production, cost and revenue model for the project. This model takes into consideration all of the estimates and assumptions detailed in the prior sections to develop a physicals schedule for the mining, stockpiling, haulage and processing of ore as well as detail of all on and off site costs and revenue streams for the project.

11.1 Key Assumptions

Key assumptions that have been used in the development of the model for the project are detailed in Table 16.

Table 16: Financial Evaluation Key Assumptions

Assumption	Unit	Value	Source
Economic Assumptions			
Gold Price	A$ / oz	3,250	Superior
Discount Rate	%	7	Superior
Physical Assumptions			
Grind P80	microns	75	Estimate
Leach Residence Time	hours	24	Estimate
Gold Recovery from Steam Engine Ore	%	82	Testwork
Gold Recovery from Eastern Ridge Ore	%	95	Testwork
Doré Gold Grade	%	97.5	Estimate

11.2 Basis of NPV

The financial evaluations undertaken use the Net Present Value or NPV as the key output. The NPV is the sum of the discounted cashflows over the life of the project. The NPV shown is with reference to the value on the first day of physical project activity, when the capital expenditure commences. This is taken to be the day after the completion of studies and the granting of all project approvals. The NPV uses a discount rate of 7 % as shown in Table 16, this is selected based on the relatively short time frame of the project and the relatively low sovereign, political, regulatory and operational risks associated with the project. All NPV's quoted are based on pre tax cash flows.

11.3 Results of Evaluation

The summary of the financial results evaluation is shown in the Full Scoping Study Report, and key outcomes are shown in this report's Executive Summary.

12 Comparison to 2021 Scoping Study

The high level comparison of this 2024 Scoping Study with the 2021 Scoping Study is shown in the Full Scoping Study Report, and key outcomes are shown in this report's Executive Summary..

13 SENSITIVITIES

A full sensitivity analysis has been undertaken. The results are shown in the Full Scoping Study Report, and key outcomes are shown in this report's Executive Summary..

14 RISKS AND OPPORTUNITIES

A number of risks and opportunities exist with the Steam Engine Gold Project, as would be the case with other projects of this type. If the outcomes of the financial evaluation fit with corporate objectives and the project is progressed, then these risks should be mitigated in the course of further studies and design, and the opportunities should be assessed and adopted where appropriate.

No risks are considered to be fatal flaws at the Scoping Study stage. A complete discussion of the risks and opportunities identified is included in the full Scoping Study report, these include:

14.1 RISKS

Risks include:

- Schedule Delays;
- Geotechnical Issues;
- Reduced Gold Recovery; and
- Building and Operating the Owner Plant

14.2 OPPORTUNITIES

Opportunities include:

- Increased Resource Size;
- Improved Timing of Cash Flow;
- Steeper Pit Slopes;
- Reduction in Capital;
- Beneficiation of Marginal or All Ore,
- Flotation and fine grinding of sulphide minerals; and
- Eastern Ridge pit void.

14.3 ASPECTS THAT PRESENT BOTH RISKS AND OPPORTUNITIES

Several risks exist for which there is a directly converse opportunity, these include:

- Higher or Lower Gold Price;
- Higher or Lower Gold Grade; and

- Higher or Lower Operating Costs.

The impact of these is reflected in the sensitivities. Strategies to manage the risks and opportunities are discussed in the full Scoping Study.

15 SUMMARY

The economics of the Steam Engine Gold Project have improved considerably from the 2021 Scoping Study to this 2024 Scoping Study. Even more significantly though, with the additional work that has been completed and the use of more conservative cost assumptions for mining and haulage, the likelihood of being able to successfully deliver the project in line with the study outcomes has increased significantly.

A summary of the physical and financial evaluation of the two options studied are shown in the tables below.

Table 17: Summary of Evaluation Physicals

Parameter	Unit	Toll Treatment	Owner Plant
Total Material Mined	kt	9,535	20,856
Ore Milled	kt	863	2,133
Ore Gold Grade	g/t	2.34	1.53
Gold Produced	koz	55	89
Processing Period	months	31	55

Table 18: Summary of Evaluation Financials – Pre-Tax

Parameter	Unit	Toll Treatment	Owner Plant
Total Capital	A$ M	6.1	63.0
Pre-Tax Overall Cash Flow	A$ M	45.9	70.6
Payback Period	Months	18	51
Pre-Tax NPV	A$ M	37.9	41.7
Return on Capital	%	764	119
Funding Required	A$ M	13	61
Return on Funding	%	353	116

The project is robust with the assumptions used for both the toll treatment and owner plant scenarios.

The owner plant scenario sees much higher ore mined and milled, and sees gold production of 89 koz, 62 % more than the toll treatment scenario, and a significantly greater proportion of the mineral resource utilised. The overall cashflow is considerably higher, despite the extra capital and operating costs that are incurred. Due to the longer project life and the upfront capital requirement, on a discounted basis the NPV of the owner plant operation remains better but is close to that of the toll treatment option.

The owner plant scenario potentially has a very strong advantage if the Steam Engine deposits grow, or if other regional exploration targets move closer to production. If an established processing plant is available, then the economic prospects of any satellite deposits are improved considerably. If Steam Engine ore is processed by toll treatment though, with the associated sterilisation of part of the Steam Engine resource, then it will be difficult to ever justify and build a gold plant in this region, and any future deposits are effectively committed to a toll treatment pathway as well.

The bulk of the cost of the processing plant are in the crushing, grinding and tailings storage areas, hence any plant built at Steam Engine could also be utilised for sulphide minerals, although a copper porphyry (as targeted by Superior on other prospects) would likely see considerably higher throughput required.

In essence, the owner plant operation replaces around A$ 44 M of haulage costs and A$ 9 M of toll treatment profit margin with around $ 57 M of capital, and in doing so allows the mining of more ore and the production of more gold due to the lower cut-off grade – all for a slightly higher NPV but with increased complexity and risk.

The low up front investment and therefore the much higher returns on investment of the toll treatment option make it more attractive, while the increased gold production and the optionality that owning a processing plant in this area brings could make the owner plant option more appealing.

The ultimate choice of pathway is likely to be driven by how key inputs move as more detailed studies progress. For example, if haulage costs increase then very quickly the owner plant option becomes more attractive. Similarly, if tonnes in the deposits or gold price increases, then the owner plant option becomes more attractive. Conversely, if the capital cost to build a plant increases or approvals become harder, then the toll treatment plant becomes more favourable.

Equally important in the ultimate decision is the preferred strategy of the company. If near term cash flow is the prime objective, then toll treatment has strong merit. If becoming an operating mining company with assets, a strong regional presence and the ability to grow with future opportunities fits with corporate objectives, then the owner plant strategy could come to the fore.

The decision between toll treatment and owner plant is not needed immediately, drilling and other activities will continue and will help to further inform the decision.

16 FUTURE WORK

If the project progresses, additional work will be required in a number of areas, typical of a project of this nature moving from scoping towards feasibility. Key work packages will likely include:

- Additional drilling to increase the size of and confidence in the Mineral Resource Estimate;
- Further testwork to test alternates to the flowsheet and to develop crushing and grinding work indices;
- Testwork to determine if beneficiation is viable and if there is sufficient upgrade to offset any gold losses;
- Geotechnical investigation to determine pit wall angles that are likely to be achieved and identify any potential geotechnical issues;
- Geochemical classification of waste to identify waste types that are potentially acid forming versus non acid forming and to help develop strategies for waste dump construction and management;
- Detailed pit design and waste dump design – incorporating the additional drilling data being obtained and updates to the resource model and thus better defining pit sizes, strip ratios and ramp locations;
- Reporting of an Ore Reserve. Once the resource model is updated, with more material moved from inferred classification to measured or indicated, as designs progress, and if project economics remain favourable, then an Ore Reserve can be developed and published, this will better inform the production schedules and increase confidence in project outcomes;
- Sterilisation drilling. This will allow the site layout to be finalised, confirming locations of waste rock dumps and topsoil stockpiles as well as the general site facilities and infrastructure; and
- Hydrology assessment to quantify the groundwater inflow and to better understand site water management and the need, if any, for supplementary water bores.

17 RECOMMENDATIONS

It is recommended that studies into the Steam Engine Gold Project continue – progressing both the toll treatment and owner plant options until such time as a decision between the two pathways can be made, which may not be until the scale of the project is able to be better quantified. Financial evaluation shows the project to have a positive and robust NPV through both options with the current assumptions used.

APPENDIX 2

Reasonable basis for forward-looking statements

The information in this announcement that relates to the Steam Engine Gold Project Mineral Resource is based on information that has been previously disclosed on the ASX Market Announcements Platform in ASX announcement dated 11 April 2022, "*Material upgrade in Steam Engine Resource to 196,000 oz Au with 80.6% increase to Measured and Indicated categories*". The Company confirms that it is not aware of any new information as at the date of this release that materially affects the information included in this release and that all material assumptions and technical parameters underpinning the previously released Mineral Resource Estimate continue to apply and have not materially changed.

Competent Person's Statement: Information contained in this report that relates to Mineral Resources is based on information compiled by Mr Kevin Richter, a full-time employee of Superior Resources Limited, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Richter 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 Richter consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

JORC (2012) Table 1 – Section 4

Estimation and Reporting of Ore Reserves as modified for reporting of a Scoping Study that includes an approximate Production Target and/or Forecast Financial Information.

The following Table sourced from the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition)* (JORC (2012)) presents the assumptions on which this Study is based. This Table is not being used to report Ore Reserves. The Company does not believe that it (yet) has sufficient understanding of the relevant modifying factors at this time to define an Ore Reserve and has not done so in this announcement. The mineral deposits to which the following Table refers have not yet been subjected to a sufficiently rigorous feasibility or pre-feasibility study and are therefore not yet demonstrated to be economically extractable. The reported outcomes should be considered indicative and conceptual in nature at this time. Instead, as per the *ASX Interim Guidance: Reporting Scoping Studies* dated November 2016, this Table is being used as a framework to disclose underlying study assumptions. This Scoping Study was undertaken as part of the Company's ongoing assessment of its Steam Engine Gold Project and should be read in that context, with the associated level of confidence applied to all modifying factors.

The following Table only relates to Section 4 of JORC (2012) Table 1. Sections 1, 2 and 3 of JORC (2012) Table 1 are set out in previously released ASX announcement dated 11 April 2022.

Consideration of Modifying Factors (adopting Section 4 (Estimation and Reporting of Ore Reserves) of JORC (2012) Table 1)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• No Ore Reserve modelling has been conducted as part of the Scoping Study. • The Scoping Study is based on the Mineral Resource Estimate (**MRE**) as published on the ASX Market Announcements Platform on 11 April 2022. The MRE has been established on the basis of gold mineralisation contained within the Steam Engine Lode and the Eastern Ridge Lode. • The MRE as published, comprises two MREs of the Steam Engine Project deposit based on different minimum mineralisation cut-off grades. A MRE for a Toll Treatment operational scenario used a cut-off grade of 1.0g/t Au, which was considered appropriate, giving consideration to the form and geological attributes of the deposit as well as the distance to a potential third-party processing facility. A MRE for a Stand-Alone Processing operational scenario used a cut-off grade of 0.25g/t Au, which was considered generally applicable for such an operation. • Gold mineralisation at the Project is developed as steeply-dipping gold lodes that exhibit good continuity, with variable thickness and grades along the lodes. Significantly-sized high grade zones are present within the lodes. • A summary of the two MREs is set out in the table below. • Full details and analysis of the MREs are available in the original ASX announcement dated 11 April 2022.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Model</th><th>Classification</th><th>Tonnes</th><th>Grade (g/t Au)</th><th>Ounces (Au)</th></tr>
<tr><td rowspan="3">OWNER OPERATOR MODEL
(0.25 g/t Au block grade cut-off)</td><td>MEASURED</td><td>800,000</td><td>2.1</td><td>53,000</td></tr>
<tr><td>INDICATED</td><td>1,420,000</td><td>1.5</td><td>68,000</td></tr>
<tr><td>INFERRED</td><td>1,960,000</td><td>1.2</td><td>75,000</td></tr>
<tr><td colspan="2">TOTAL</td><td>4,180,000</td><td>1.5</td><td>196,000</td></tr>
<tr><td rowspan="3">TOLL TREATMENT MODEL
(1.0 g/t Au block grade cut-off)</td><td>MEASURED</td><td>590,000</td><td>2.6</td><td>49,000</td></tr>
<tr><td>INDICATED</td><td>1,020,000</td><td>1.9</td><td>62,000</td></tr>
<tr><td>INFERRED</td><td>1,110,000</td><td>1.7</td><td>60,000</td></tr>
<tr><td colspan="2">TOTAL</td><td>2,720,000</td><td>2.0</td><td>171,000</td></tr>
</table>
</td></tr>
<tr><td>Site visits</td><td>• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.
• If no site visits have been undertaken indicate why this is the case.</td><td>• No Ore Reserve modelling has been conducted as part of the Scoping Study.
• The Scoping Study is based on the MRE as published on the ASX Market Announcements Platform on 11 April 2022. The Competent Person for the MRE conducted visits to site at various times prior to and during the main drilling programs that resulted in the establishment of mineralisation and geological information that was used for the purposes of establishing the MRE.</td></tr>
<tr><td>Study status</td><td>• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.
• The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</td><td>• No Ore Reserve modelling has been conducted as part of the Scoping Study.
• No Pre-Feasibility Study has yet been undertaken. The Scoping Study used several pit optimisations of the MRE to examine both Toll Treatment and Stand-Alone Processing scenarios using modifying factors that are based on the existing information to examine the potential economic viability of the Project.
• The study the subject of this report is presented as a Scoping Study. The Company does not believe it has a sufficiently rigorous understanding of the relevant modifying factors to complete a study to Pre-Feasibility Study levels of accuracy and as a result, in line with the requirements of the JORC Code (2012), has not attempted to define an Ore Reserve for the purposes of this study.</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Cut-off parameters</td><td>• The basis of the cut-off grade(s) or quality parameters applied.</td><td>• The cut-off grades for two processing pathways, Toll Treatment and Stand-Alone Processing, have been developed based on the input assumptions for the pit optimisations – refer Section 5 of Appendix 1 for more information.</td></tr>
<tr><td>Mining factors or assumptions</td><td>• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).
• The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.
• The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.
• The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).
• The mining dilution factors used.
• The mining recovery factors used.
• Any minimum mining widths used.
• The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
• The infrastructure requirements of the selected mining methods.</td><td>• As no Ore Reserve has been reported and the Project is represented by a Scoping Study, simplified mining schedules are used based on the results of the pit optimisation. Detailed pit design including access ramps etc. has not been undertaken at this level of study.
• See Section 5 of Appendix 1 for more information.
• The relative proportion of Inferred category Mineral Resources that have been relied on by the Scoping Study is considered to be minimal in the context of a scoping level of study. A breakdown of the confidence classifications comprising the Mineral Resource as modelled under the Scoping Study is set out below and discussed on page 11 of this report.
<table>
<tr><th rowspan="2">Scenario</th><th colspan="3">Production Ounces – Mineral Resource Confidence Category</th></tr>
<tr><th>Measured</th><th>Indicated</th><th>Inferred</th></tr>
<tr><td>Toll Treatment</td><td>68%</td><td>25%</td><td>7%</td></tr>
<tr><td>Stand-Alone Processing</td><td>47%</td><td>41%</td><td>12%</td></tr>
</table>
• The infrastructure requirements and assumptions for each of the Toll Treatment and Stand-Alone Processing scenarios were established on the basis of the Project site setting and are otherwise considered to be standard for each of the scenarios.</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.
• Whether the metallurgical process is well-tested technology or novel in nature.</td><td>• Gold recoveries are based on laboratory test work on a range of samples representative of the ore lodes.
• The processing route would be conventional crushing, grinding, leaching using CIP or CIL and gold bullion production, either at an existing proximal processing facility under</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	a toll treatment arrangement or in a purpose-built processing plant on site (both options are considered in the Scoping Study). • No deleterious elements have been identified. • No bulk sample or pilot scale test work has been undertaken. • See Section 6 of Appendix 1 for more information.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• The Project is at an early stage. An initial high level environmental study has been completed. No materially adverse environmental impacts have been identified. • Site planning undertaken for the Scoping Study is preliminary and subject to change in future studies. Waste rock characterisation is also planned as part of the future studies.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• See Section 7 of Appendix 1 for more information. • Land for infrastructure development is readily available, subject to the negotiation of a compensation agreement with the relevant landholder. • Road infrastructure is readily accessible as the Project is located 600 metres south of a regional highway (Gregory Development Road). • A 100% renewable energy power transmission corridor located about 2 kilometres to the north of the Project is currently being constructed by Powerlink.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.*	• Projected capital costs have been based on similar projects – the processing route and type of equipment to be used are all conventional and widely used. Pricing is based on new equipment, however there may be opportunities to purchase second hand equipment.

Criteria	JORC Code explanation	Commentary
	• *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Operating costs have been based on similar projects and also built up from first base. • No deleterious elements have been identified. • Offsite gold refining costs have been based on other similar projects; these costs represent a very small component of the overall costs. • Royalties of 5% for gold are included and are based on the rate that is currently prescribed by the Queensland Government. • See Sections 9 and 10 of Appendix 1 for more information.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products*	• Metal prices and exchange rates have been based on historical averages and corporate guidance. Upside and downside prices have been assessed and breakeven prices have been determined. • See Sections 11 and 12 of Appendix 1 for more information.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• As gold is a readily traded commodity on the transparently quoted spot market for gold, no market assessment has been undertaken.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The Project has been evaluated using a detailed financial model that has been modelled on a quarterly basis over the life of the proposed operations. All operating and capital costs as well as revenue factors have been included in the financial model. The modelling has demonstrated that the Project has potential to provide a positive economic value. • A discount rate of 7 % is used and inflation is assumed to be nil over the project

Criteria	JORC Code explanation	Commentary
		timeframe. • Full sensitivity analyses have been undertaken. The sensitivity analysis shows that the Project is most sensitive to the price of gold. • See Sections 11 and 12 of Appendix 1 for more information.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• An agreement under section 31(1) of the *Native Title Act 1993* (Cth) must be entered into with the relevant native title applicants or holders before the grant of a mining lease can be made. • A current landholder agreement in the form of a Conduct and Compensation Agreement is in operation and relates to exploration purposes only. A compensation agreement with the landholder will be required for the grant of a mining lease. • Whilst some significant agreements would need to be put in place, no issues are expected with the key stakeholders and local community given previous interactions by Superior.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent*	• No Ore Reserve modelling has been conducted as part of the Scoping Study. • Further studies and sufficient time for relevant approvals, including at least one mining lease, would be needed before any mining can commence. • Contractual arrangements with third party contractors are required for the Toll Treatment scenario for contract mining and the haulage and processing of ore. • No fatal flaws or other materially significant factors relating to naturally occurring risks have been identified. • All relevant tenements are current and in good standing under the *Mineral Resources Act 1989* (Qld). • As described above (under Social) third-party procedural consents are required from the relevant landholder and native title parties. The Company does not consider that any impediment exists to prevent or otherwise materially adversely impact the ability of the Company in obtaining the necessary third-party consents. The existing statutory framework assists in reducing the risk associated with such third-party consents.
Classification	• *The basis for the classification of the Ore Reserves into*	• No Ore Reserve modelling has been conducted as part of the Scoping Study.

Criteria	JORC Code explanation	Commentary
	varying confidence categories. • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The Scoping Study is based on the MRE as published on the ASX Market Announcements Platform on 11 April 2022. • The MRE and associated Mineral Resource confidence classifications applying to the Mineral Resource continue to appropriately reflect the characterisation and modelling of the relevant deposits comprising the Steam Engine Gold Project.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• No Ore Reserve modelling has been conducted as part of the Scoping Study. • An independent review of the MRE was conducted by The ERM International Group Limited during November 2023 for the purposes of a Processing Options Study that was conducted by METS Engineering Group.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy*	• No Ore Reserve modelling has been conducted as part of the Scoping Study. • The Scoping Study is based on the MRE as published on the ASX Market Announcements Platform on 11 April 2022.

Criteria	JORC Code explanation	Commentary
	and confidence of the estimate should be compared with production data, where available.	