

6 March 2024

## Outstanding Initial Mining Assessments at Rise and Shine (RAS)

The content of this announcement should be interpreted in the context of the Cautionary Statements on Page 6, and the footnotes, Assumptions, and Modifying Factors disclosed.

Further to the Company's Mineral Resource Estimate (MRE) update released on 16 February 2024, initial mine evaluation assessments on only the RAS deposit have been completed which provide indicative fiscal outcomes for further mine development studies.

### Open Pit Outcomes

- At the implied processing rate of 1.5 million tonnes per annum and at the current spot gold price of US\$2,083 (as at 1<sup>st</sup> March 2024, NZ\$3,415/oz using NZD:USD 0.61) the open pit generates an **operating cash surplus of NZ\$2.04 billion dollars** (undiscounted, pre-capex, pre-tax).
- The optimisation of the total MRE produces a mine diluted **12.1Mt @ 2.5g/t containing 972,000 ounces of gold** at an approximate 12.5:1 strip ratio. Within the pit void, 89% of the extractable resource is in the Indicated category and is above a cut-off grade of 0.70g/t.
- **Cash operating cost estimates** for the open pit are **NZ\$1,080 per ounce** of recovered gold or NZ\$78 per tonne processed.

### Underground Outcomes

- Assuming an underground production rate of 800,000 tonnes per annum and at the current spot gold price of US\$2,083 (as at 1<sup>st</sup> March 2024, NZ\$3,415/oz using NZD:USD 0.61) the underground generates an **operating cash surplus of NZ\$1.24 billion dollars** (undiscounted, pre-capex, pre-tax). Underground optimisations are based on the remaining MRE above 1.75g/t cut-off grade, down-plunge from the open pit.
- The conceptual underground mine produces a further **6.5Mt @ 3.1g/t containing 656,000 ounces of gold**. This could be mined in conjunction with the open pit or after open pit production.
- **Cash operating cost estimates** for the underground are **NZ\$1,312 per ounce** of recovered gold or NZ\$118 per tonne processed.

### Assessment Parameters

- Open pit and underground optimisations were predicated on a gold price of NZ\$2,704 per ounce (US\$1,650 per ounce from NZ:USD exchange rate 0.61) to determine the gold inventory available for processing.
- The order of magnitude for input accuracies into the assessment are +/-20%.
- A conventional gold processing plant operating at 1.5Mtpa producing up to 130,000 ounces of gold per annum and achieving an approximate 90% recovery has been applied.

### Enquiries:

Damian Spring  
Exec. Director & CEO  
[dspring@santanaminerals.com](mailto:dspring@santanaminerals.com)

Sam Smith  
Exec. Director Corp Affairs & IR  
[ssmith@santanaminerals.com](mailto:ssmith@santanaminerals.com)

Santana CEO, Damian Spring said:

*"We are thrilled to reveal some preliminary economics for part of this fantastic new discovery at the RAS prospect.*

*To be able to show that just a part of our Bendigo-Ophir Project is capable of generating such positive conclusions from these initial mining assessments is a fantastic outcome for our shareholders.*

*This, along with dramatically increased support and enthusiasm for mining from the new coalition government in NZ gives us great confidence as we rapidly advance the RAS discovery into pre- and definitive feasibility studies in the year forward.*

*We also continue to track the open extensions of RAS down-plunge and assess the other nearby targets to RAS, expanding and extending the overall project."*

## Mining Assessment

As announced on 16 February 2024, the successful infill-drilling program at RAS during 2023 resulted in a 464% increase in the Indicated category of the JORC mineral resource estimate, which enabled preliminary economic evaluation of the RAS deposit by open pit and underground mining methods.

The mining assessment targeted the current Mineral Resource Estimate 2024 at RAS as tabled below:

Feb 2024 RAS Mineral Resources at 0.5g/t cut-off (with 40g/t top-cut)				
Deposit	Category	Tonnes (Mt)	Au (g/t) rounded	Contained Gold (koz)
RAS	Indicated	17.1	2.4	1,293
	Inferred	13.7	2.1	923
<b>RAS Total</b>	<b>Indicated and Inferred</b>	<b>30.8</b>	<b>2.2</b>	<b>2,216</b>

Table 1 – RAS MRE 2024

The initial economic assessment of the Indicated resource at RAS was completed using commercially available pit optimisation software (Lerchs-Grossman) to determine a best-case, open pit outcome to take forward into further mine feasibility studies.

The remaining RAS Indicated and Inferred resources were then filtered using a Mine Shape Optimiser to include remaining blocks above a 1.75g/t cut-off to enable a conceptual underground model and extraction plan for this part of the deposit.

The cash-operating surplus generated by this process is reported on a pre-capex, undiscounted and pre-tax owner/operator basis with preliminary assumptions that ore processing will occur proximal to the deposit.

Capital estimates for plant, infrastructure and working capital requirements do not form part of this assessment.

## Open Pit Assumptions

The input parameters applied to the open pit assessment are tabulated below in Table 2, assuming that on-site processing will occur with ore trucked to a ROM pad near the pit exit. A nominal 1.5 million tonnes per annum processing rate is used with a conventional gold ore processing methodology, also noting that metallurgical properties from several stages of metallurgical test-work have been applied (please refer to page 9, Previous ASX Disclosures).

Capital costs of building the processing plant and associated infrastructure have not been included in the pit optimisation process and would hence need to be deducted from the estimated cash surplus when considering economic outcomes.

Post the Lerchs-Grossman optimisation a final open pit shell was designed including ramps, and an economic model established. The assumptions and modifying factors applied to the open pit evaluation are tabulated below.

Open Pit Inputs	Unit	Comment
Gold price	US\$/oz NZD\$/oz	US\$1,650oz (inside peer group long term assumptions) NZ\$2,704 converted using current exchange rates
Exchange rate \$NZ/US\$	0.61	As at 1 March 2024
Royalty rate (all)	4.5% to 5.5%	RSHL (Vendor) 1.5% Crown or NZ Government 2%, Land Access 1% up to 0.5Moz, then 1.5% up to 1.0Moz then 2% above 1.0Moz.
Plant Process Rate	1.5 million tpa	Nominal based on expected steady state mine production rate
Average mining costs	\$9.52/BCM \$3.50/tonne rock mined	Staged excavate load & haul costs built on first principles owner-operator modelling and validated by current industry estimates
Slope stability (OSA – overall slope angles)	45 degrees	Using geotechnical assessment studies and recommendations on similar mines in the region with the same rock characteristics
Targeted mineralisation dilution (% at 0.0g/t)	18% - overall	18% dilution applied at zero grams per tonne
Open Pit Mining loss	0%	Assumes all diluted tonnes are mined and no mining loss is applied in the pit
Metallurgical recovery	90%	Estimated as the average of several stages of metallurgical test work (see page 9 Previous ASX Disclosures)
Processing operating costs	\$16.39/t	First Principle estimates at a 1.5Mtpa processing rate
General site admin operating costs	\$3.12/t	At a 1.5Mtpa processing rate

Table 2 – Open pit assessment assumptions and modifying factors

The outcomes of the assessment are depicted in the final pit shell overlayed on the resource model in the following images, noting that the pit only covers the RAS deposit and no other deposits have been evaluated at this stage.

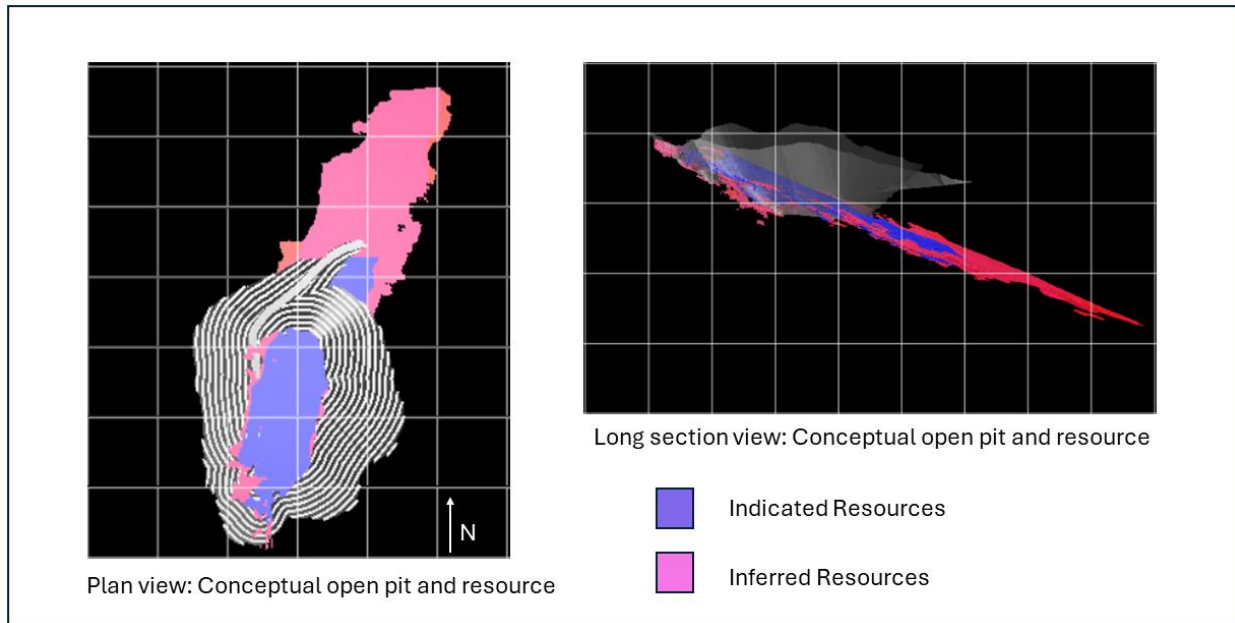


Figure 1 – RAS open pit including 12.1Mt at 2.5g/t for 972,000 ounces of the MRE

The total RAS open pit process feed is estimated at 12.1 Mt at 2.5g/t for 972,000 contained ounces of gold. The total Indicated material falling within the optimised shells totals 10.1 million tonnes at 2.7g/t of gold, containing 863,000 ounces. The remainder is inferred resource mined as a consequence of mining the indicated resource.

Pit optimisations determined the transition point from open pit mining to underground mining along with physical constraints such as the location of Shepherds Creek, an ephemeral creek with modest run-off incision that forms a practical separation for open pit and future underground partitioning.

#### Underground Mining Assumptions

The remaining RAS 2024 MRE (down-plunge from the conceptual open pit), was optimised using Mine Shape Optimiser software resulting in an underground inventory for processing of 6.5 Mt at 3.1g/t for 656,000 ounces.

The Indicated portion of the resource produces approximately 28% of the total underground feed. The remainder of feed is in the Inferred resource category with the system remaining open down-plunge.

The estimated break-even grade for underground mining is 1.75g/t Au.

Conceptual underground mining studies are based on a mining method of long-hole open stoping with paste backfill.

Underground Inputs	Unit	Comment
Gold Price US\$	US\$/oz NZD\$/oz	US\$1,650/oz (inside peer group long term assumptions) NZ\$2,704 converted using current exchange rates
Exchange Rate \$NZ/US\$	0.61	1 March 2024
Royalty Rate (all)	4.5%	RSHL (Vendor) 1.5% Crown 2% Land Access 1%
Estimated underground mining rate	800 ktpa	Based on physical underground mining constraints and current mill feed analysis at RAS
Average Mining Only Costs	\$85/tonne processed	Based on internal estimates and industry benchmarks
Dilution	22% Plus 5%	(at 0.62g/t) to create mineable shapes (at 0.0g/t) of the mineable shapes

Underground Inputs	Unit	Comment
Mining losses	15% Plus 5%	Of the targeted stoping shapes to allow for regional pillars Losses of mineable shapes on extraction.
Metallurgical Recovery	90%	Estimated as the average of several stages of metallurgical test work
Processing operating costs	\$16.39	Assumes the underground ore is processed in conjunction with open pit ore
General Site Amin Operating costs	\$3.12	Assumes the underground ore is processed in conjunction with open pit ore

Table 3 – Underground mining assumptions and modifying factors

The outcomes of the RAS underground assessment are spatially shown in Figure 2, with the decline location and stope shapes beneath the open pit.

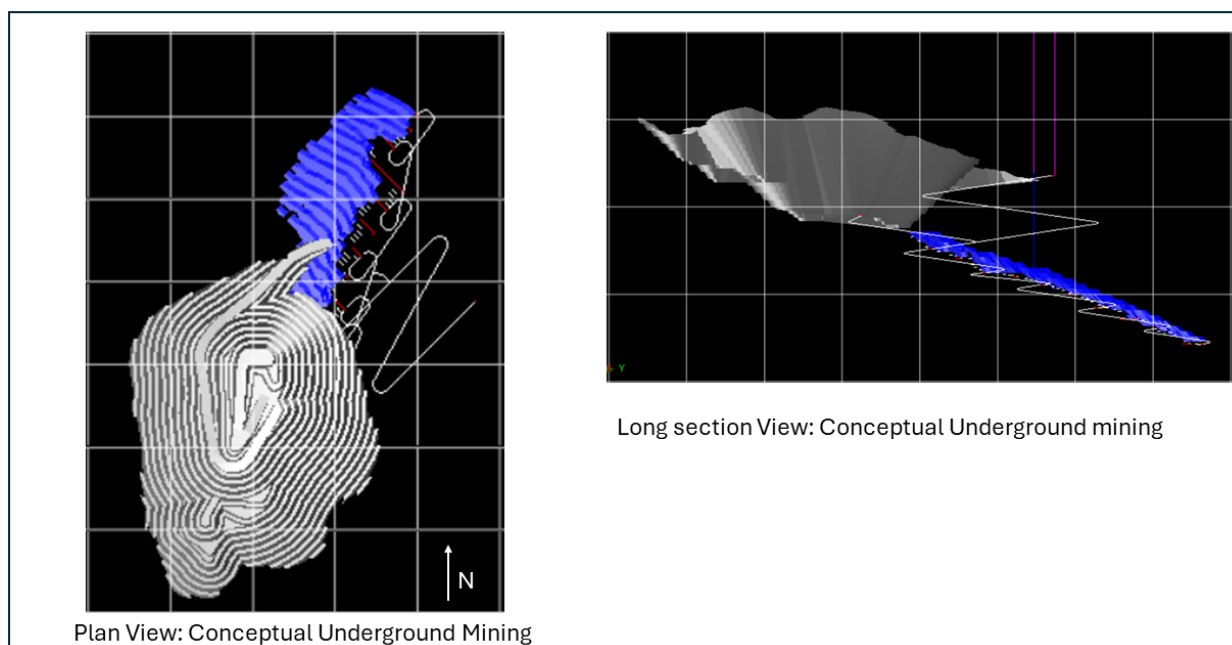


Figure 2 – RAS underground including 6.5Mt at 3.1g/t for 656,000 ounces

### Next Steps

The compelling commercial cash-operating outcomes of this initial mining assessment of the RAS deposit has propelled Santana to move directly into Pre-Feasibility Studies.

Revised mineral resource estimates (MRE) are yet to be completed for the other known mineral resources (Come-in-Time, Shreks, Shreks East Prospects) which currently total 6.2 million tonnes at 1.2 g/t Au containing 0.24 million ounces of gold (top-cut, 0.5g/t lower cut-off). These satellite deposits are currently all classified in the Inferred category with drilling to further evaluate these deposits planned for the next financial year.

### Cautionary Statement

This initial Mining Assessment is conceptual to determine the open pit and underground gold mining metrics as a pre-cursor to further detailed open pit and underground mining studies.

The Assessment is based on a JORC compliant Mineral Resource Estimate (MRE) for the Rise and Shine gold deposit (ASX release 16 February 2024). The MRE underpinning the Assessment has been prepared by a Competent Person in accordance with the requirements of the JORC Code (2012). All material assumptions and technical parameters underpinning the MRE continue to apply and have not materially changed.

The Assessment is preliminary and not intended as a feasibility study. It should be understood by the reader that this announcement reports on initial outcomes of early stage open pit and underground optimisation for the Rise and Shine (RAS) deposit only. The outcomes presented here should be only considered as preliminary guidance on economics of a stage in the potential development of the Rise and Shine deposit. It does not account for the capital costs of a processing plant or other pre-mining capital and infrastructure works. The Assessment includes preliminary economic analysis and is based on a number of Production Targets and material assumptions and other relevant factors estimated by a Competent Person to have an accuracy range of approximately  $\pm 20\%$ . A Competent Person's Statement is found below in this announcement. The Assessment findings are indicative only and subject to assumptions outlined in this announcement, and market and operating conditions. They should not be construed as guidance and are subject to further studies and all necessary approvals, permits, internal and regulatory requirements. While Santana considers that all the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this assessment will be achieved. Whilst best efforts are taken to ensure that input parameters are realistic and achievable they remain subject to review and confirmation with more detailed estimation and/or tendering. They are not intended to purport a definitive forecast of any financial nature at this time.

The constraining of the resource model and the addition of dilution parameters to provide plant feed estimates for preliminary economic analysis should not purport to represent a formal indication of Reserves for the Project or parts of it at this stage. As such, no Ore Reserve has been declared. While each of the Modifying Factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the Production Targets will be realised. Further evaluation work and appropriate studies are required before Santana is in a position to estimate an Ore Reserve or to provide any assurance of an economic development case. As such, the Assessment outcomes and forecast financial information referred to in this announcement is based on accuracy levels and technical and economic assessments that are insufficient to support estimation of Ore Reserves.

The open pit described in the report captures a portion of the RAS MRE and include variable amounts of Indicated and Inferred Mineral Resources. 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 additional Indicated Mineral Resources or that the outcomes from open pit optimization studies will be realised. Santana confirms that the potential financial viability of producing gold from the Project is not dependent on the inclusion of Inferred Resources in the various Production Targets.

This announcement has been prepared by Santana. This document contains contextual information current as at the date of this announcement. This document provides a summary of the Assessment and does not purport to be all-inclusive or complete.

Project development assumes the completion of a Definitive Feasibility Study (DFS). There is no certainty that the Company will be able to source the required development funding if and when required. The Company considers that there is a reasonable expectation that a project of this scale will be able to be funded with a combination of debt and equity at the appropriate time. 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 shares. It is also possible that Santana could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce the Company's proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Assessment.

### **Compliance Statement**

The information in this report that relates to the Rise and Shine Mineral Resource is based on information announced to the ASX on 16 February 2024. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

### **Competent Persons Statement – Production Target and Modifying Factors**

The information in this report that relates to Production Targets, assumptions on Modifying Factors and evaluation of other relevant factors are based on, and fairly represent information and supporting documentation that has been compiled for this report and have been compiled under the supervision of Mr Damian Spring, a mining engineer and member of AusIMM. Mr Spring is a Director of Santana. Mr Spring has reviewed and approved the technical content of this report. Mr Spring is a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Spring consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Mr Spring is a full-time executive director of the Company and participates in short and/or long term incentive programs as disclosed in its annual reports and other disclosure documents.

### **Forward-Looking Statements**

This ASX announcement contains a series of forward-looking statements. The words “expect”, “potential”, “intend”, “estimate” and similar expressions identify forward-looking statements. Forward-looking statements are subject to known and unknown risks and uncertainties that may cause the actual results, performance or achievements to differ materially from those expressed or implied in any of the forward-looking statements in this report and are not a guarantee of future performance. Statements in this release regarding Santana's business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties. These include Mineral Resource Estimates, metal prices, capital and mine production costs, changes in project parameters as plans continue to be evaluated, the continued availability of capital, general economic, market or business conditions, and statements that describe the future plans, objectives or goals of the Company, including words to the effect that Santana or its management expects a stated condition or result to occur. Forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by Santana, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements.

The Company has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this ASX announcement and accompanying Assessment. This includes a reasonable basis to expect that it will be able to fund the development of the Rise and Shine Gold Project with successful delivery of key development milestones. The detailed reasons for these conclusions are outlined throughout the ASX announcement and accompanying Assessment.

Ends.

This announcement has been authorised for release by the Board.

### **Enquiries:**

Damian Spring  
Exec. Director & CEO  
[dspring@santanaminerals.com](mailto:dspring@santanaminerals.com)

Sam Smith  
Exec. Director Corp Affairs & IR  
[ssmith@santanaminerals.com](mailto:ssmith@santanaminerals.com)



### Bendigo-Ophir Project Mineral Resource Estimate

The Project contains a Mineral Resource Estimate (MRE) calculated at a cut-off grade of 0.5 g/t Au with top cuts applied, as at February 2024:

Deposit	Category	tonnes (Mt)	Au grade (g/t)	Contained Gold (koz)
RAS <sup>1</sup>	Indicated	17.1	2.4	1,293
	Inferred	13.7	2.1	923
RAS Total	Indicated and Inferred	30.8	2.2	2,216
CIT <sup>2</sup>	Inferred	1.2	1.5	59
SHR <sup>2</sup>	Inferred	4.7	1.1	174
SRE <sup>2</sup>	Inferred	0.3	1.3	11
RSSZ Total	Indicated	17.1	2.4	1,293
	Inferred	21.7	1.7	1,152
<b>RSSZ Total</b>	<b>Indicated and Inferred</b>	<b>38.8</b>	<b>2.0</b>	<b>2,445</b>

Table 4 – February 2024 Bendigo-Ophir MRE at 0.5 g/t

### Previous ASX Disclosures - 2012 JORC Code

Information relating to Mineral Resources, Exploration Targets and Exploration Data associated with the Company's projects in this announcement is extracted from the following ASX Announcements:

- ASX announcement titled "More high grades from RAS Infill drilling" dated 4 April 2023
- ASX announcement titled "New Gold assays and metallurgical results from RAS" dated 24 April 2023
- ASX announcement titled "High grade intercept from infill drilling south of RAS ridge" 2 June 2023
- ASX announcement titled "RAS high grade zones expand with drilling results" dated 22 June 2023
- ASX announcement titled "Infill drilling at RAS continues to grow confidence" dated 13 July 2023
- ASX announcement titled "High grade zones strengthen ahead of RAS MRE Update" dated 27 July 2023
- ASX announcement titled "New results extend potential for upcoming RAS MRE" dated 30 August 2023
- ASX announcement titled "Drill results confirm and extend high grade mineralisation" dated 8th September 2023
- ASX announcement titled "Strong RAS and regional drill results" dated 23 October 2023
- ASX announcement titled "More High Grade Gold from Rise and Shine Prospect" dated 23 November 2023
- ASX announcement titled "Bendigo-Ophir Exploration and Project Update" dated 04 January 2024
- ASX announcement titled "High-Grade Intercepts Close out Resource Drilling at RAS" dated 24 January 2024
- ASX announcement titled "1.3m ounces upgraded to Indicated category from RAS drilling" dated 16 February 2024

A copy of such announcements are available to view on the Santana Minerals Limited website [www.santanaminerals.com](http://www.santanaminerals.com). The reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.