



# **Excellent results with >98% gold recoveries from preliminary test work - Morning Star Gold Mine**

## **Highlights**

- White Rock's Morning Star Underground Gold Mine gold recoveries averages over 98% in latest metallurgical test work.
- Test work is aimed at extracting even more gold and boosting gold recoveries and gold produced at the Morning Star Underground Gold Mine prior to conversion into gold doré bars for sale.
- White Rock's fully permitted and functional gravity gold processing plant has previously achieved gold recoveries of about 80%.
- Morning Star is in the commissioning phase, processing initial parcels of low-grade material through the gold processing plant as White Rock continues underground development.
- Gold production is expected to ramp up over the next two quarters.

### **White Rock Minerals Managing Director & CEO Matt Gill commented:**

*"These gold recovery results are exceptional and the Company is now going to progress this to assess its commercial potential for a low capital cost opportunity to increase gold recoveries from around 80% to over 95%. Given the low volume but very-high grade nature of the anticipated material to be fed into the existing gravity gold processing plant, any incremental improvement in gold recovery goes straight to our bottom line. We want to squeeze as much gold out of this high-value rock as we can, safely and environmentally responsibly. A key part of the next phase will be whether to conduct this gold extraction step on-site or off-site."*

**White Rock Minerals Limited (ASX: WRM; OTCQX:WRMCF), ('White Rock' or 'the Company')** is pleased to report results from metallurgical test work demonstrating excellent gold recoveries of more than 98% from its Morning Star Gold Mine, part of its broader 660km<sup>2</sup> Woods Point Gold Project, located in eastern Victoria.

White Rock engaged Gekko Systems to conduct comparative gravity tabling and intensive leaching test work on samples with varying particle size. Four samples were sent to Gekko for initial assaying with two samples chosen to continue with the test work.

The purpose of the test work was to obtain data to inform current plant operating parameters and give guidance to future potential processing options. To achieve these goals the test work program specifically aimed to:

- To determine if there are negative effects to gravity gold recovery from increased particle size. An increase in particle size could take some of the workload and pressure off the previously problematic VSI crushing unit.
- To determine the amenability of a gravity produced concentrate to intensive leaching using cyanide. Increased gold recoveries significantly improve revenues for a low capital and operating cost and would be preferable to be done in-state, rather than shipped as a concentrate overseas.

Both samples processed through this test work demonstrated a high amenability to gravity gold recovery techniques and to intensive cyanidation. The average gold head grade of the samples selected from underground ranged between 33 and 52 g/t gold.

- ✓ **Gravity gold recoveries (using a Wilfley table) of greater than 80%** in less than 10% of the mass of material was achieved, and
- ✓ **Excellent gold recoveries of all leached samples**, using the LeachWELL™ bottle roll test to extract the cyanide soluble gold, **delivered a total recovery of greater than 99%**.

As previously announced on 9 August 2022, White Rock is conducting optimisation works and process reviews to improve the overall gold plant performance. This work includes piping, screens and crushing units being stripped, refurbished and improved in preparation for upcoming higher-grade material processing and metallurgical testwork to improve the gold recovery efficiency of the existing plant.

The samples were taken from underground gold-bearing quartz reefs at Morning Star – Kenny's, Stacpoole, McNally's and Dickenson and delivered to Gekko's test facilities in Ballarat, with the latter two selected for the test work, 10kgs from McNally's and 25kgs from Dickenson. The averaged reconciled head grade of the McNally's sample was 50g/t gold and that from Dickenson's was 34g/t gold.

Both samples processed through this test work demonstrated a high amenability to gravity gold recovery techniques and to intensive cyanidation.

Wilfley tabling was conducted to determine the gravity gold recovery profile for both chosen samples. The samples treated were crushed by a laboratory-scale VSI crusher down to P100 of 2.80 mm and 1.70 mm and five table concentrates collected per sample and size fraction targeting a total mass pull of 30%. Both the McNally's and Dickenson's samples showed high amenability to gravity gold recovery with the Dickenson sample having >80% recovery in <10% of the mass for both size fractions and McNally's having >90% recovery in <10% of the mass for both fractions.

Gravity gold recovery comparison between the size fractions was negligible at <1% for the McNally sample, Dickenson exhibited some recovery loss between the size fractions with a 4.2% recovery drop on the 2.80 mm fraction compared to the 1.70 mm fraction.

Intensive leaching of the highest-grade table concentrate was conducted for all four of the samples tabled. The solids samples (100 gms) were placed in a bottle with water, along with NaCN and an oxidant. The pH was adjusted by the addition of NaOH. The bottles were then sealed and placed in a bottle roller for 24 hours. The leach profiles required monitor samples to be taken at regular time intervals to determine leach kinetics and reagent concentrations. Solutions removed for assay were replaced with fresh solution and reagents as per the specific test requirements. The pH and free CN content were also measured during the leach.

The samples leached had a head grade of between 1,927 g/t and 2,350 g/t and tail grades for all samples were <20 g/t giving all leached samples a total recovery >99%.

The positive metallurgical results will allow White Rock to advance studies to determine what implementation steps would be required to give effect to this leaching opportunity to improve gold recoveries and boost revenues.

**Gold production continues on track during Q3 2022, moving White Rock into the league of gold producers.**

## The Woods Point Gold Project

White Rock holds 660km<sup>2</sup> of granted Exploration Licences over the Woods Point – Walhalla Geosyncline between Jamieson and Walhalla and two granted Mining Licences (MIN5009 & MIN5299), covering the Morning Star Gold Mine and the Rose of Denmark Mine. The Project is situated approximately 120km east of Melbourne (Figure 1).

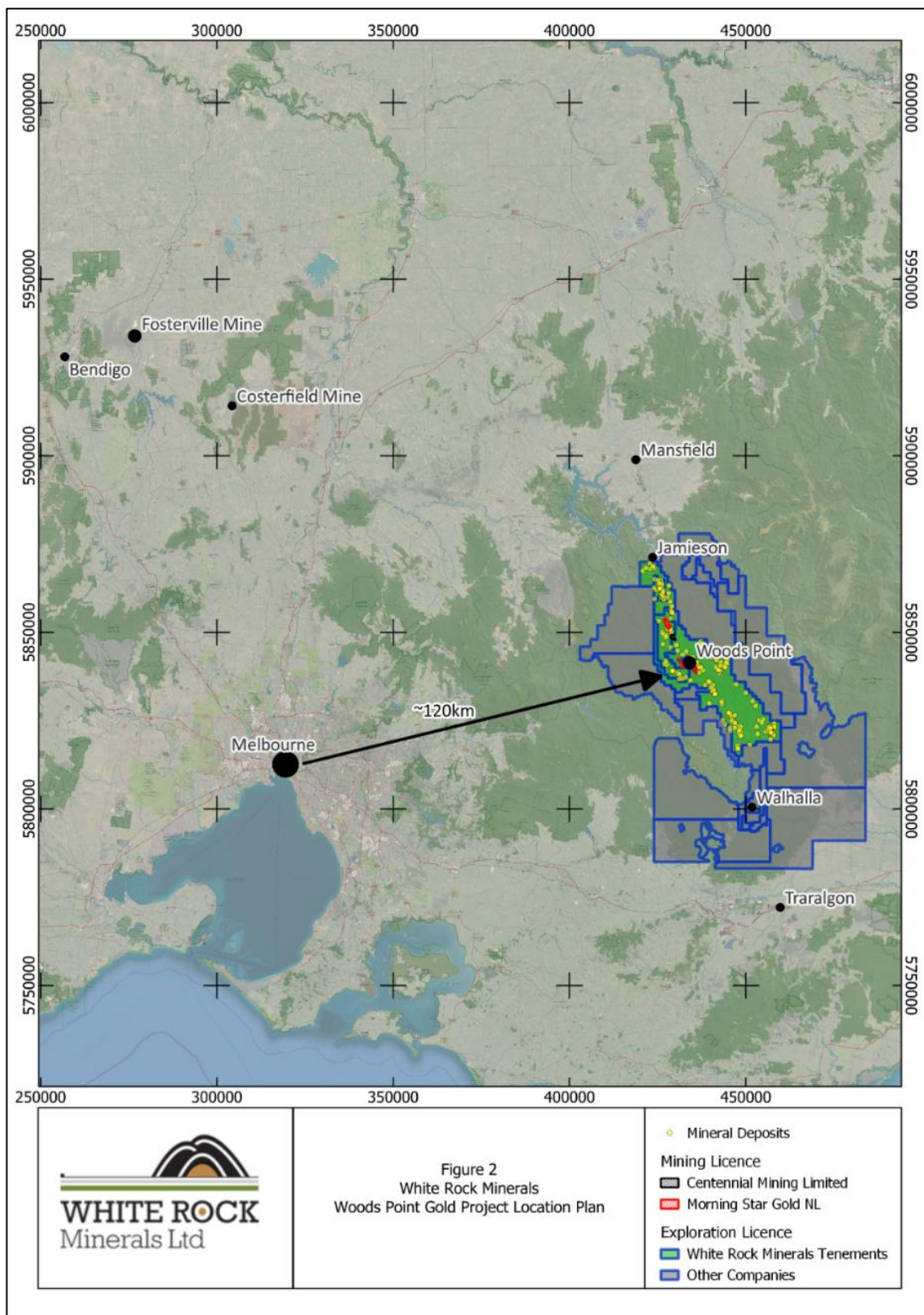


Figure 1: Woods Point Gold Project Location Plan

This announcement has been authorised for release by the Board.

### No New Information or Data

This announcement contains references to exploration results and Mineral Resource estimates, all of which have been cross-referenced to previous market announcements by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements 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.

## Contacts

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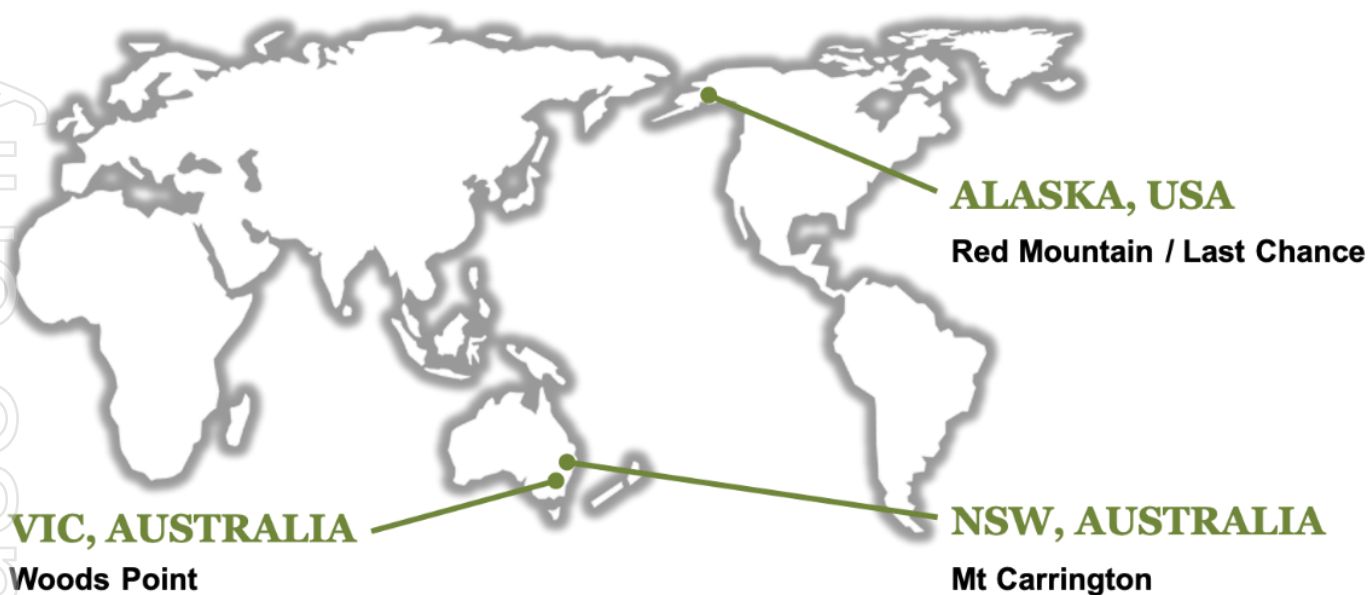
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## About White Rock Minerals

White Rock Minerals is an ASX listed explorer and near-stage gold producer with three key assets:

- **Woods Point** – New asset: Victorian gold project. Bringing new strategy and capital to a large-660km<sup>2</sup> exploration land package and high-grade mine (past production >800,000oz @ 26g/t).
- **Red Mountain / Last Chance** – Key Asset: Globally significant zinc–silver VMS polymetallic and IRGS gold project. Alaska – Tier 1 jurisdiction.  
**Global Resource base<sup>1</sup> of 21.3Mt @ 8.5% ZnEq<sup>2</sup> (or 393g/t AgEq<sup>3</sup>)** with 822,000t (1.8B lbs) zinc, 334,000t (0.7B lbs) lead, and 60.9 million ounces silver and 442,000 ounces gold. *Including:-*  
**High-grade JORC Resource<sup>1</sup> of 11.6Mt at 134 g/t silver, 5.5% zinc, 2.3% lead and 0.8 g/t gold** (3% Zn cut-off). **for a 12.0% Zinc Equivalent<sup>2</sup>, or 555 g/t Silver Equivalent grade<sup>3</sup>.**
- **Mt Carrington** – Near-term Production Asset: JORC resources for gold and silver, on ML with a PFS and existing infrastructure, with the project being advanced by our JV partner under an exploration earn-in joint venture agreement.





1. Refer ASX Announcement 17 February 2022– “Significant Increase in Zinc-Silver Resource, Red Mountain VMS Project, Alaska”
2. ZnEq=Zinc equivalent grade adjusted for recoveries and calculated with the formula (pricing units are detailed below):  

$$\text{ZnEq} = 100 \times \left[ \frac{(\text{Zn\%} \times 2,425 \times 0.9) + (\text{Pb\%} \times 2,072 \times 0.75) + (\text{Cu\%} \times 6,614 \times 0.70) + (\text{Ag} \times (21/31.1035) \times 0.70) + (\text{Au} \times (1,732/31.1035) \times 0.80)}{(2,425 \times 0.9)} \right]$$
3. AgEq=Silver equivalent grade adjusted for recoveries and calculated with the formula (pricing units are detailed below):  

$$\text{AgEq} = 100 \times \left[ \frac{(\text{Zn\%} \times 2,425 \times 0.9) + (\text{Pb\%} \times 2,072 \times 0.75) + (\text{Cu\%} \times 6,614 \times 0.70) + (\text{Ag} \times (21/31.1035) \times 0.70) + (\text{Au} \times (1,732/31.1035) \times 0.80)}{((21/31.1035) \times 0.7)} \right]$$