

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 660km² 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 660km² 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).

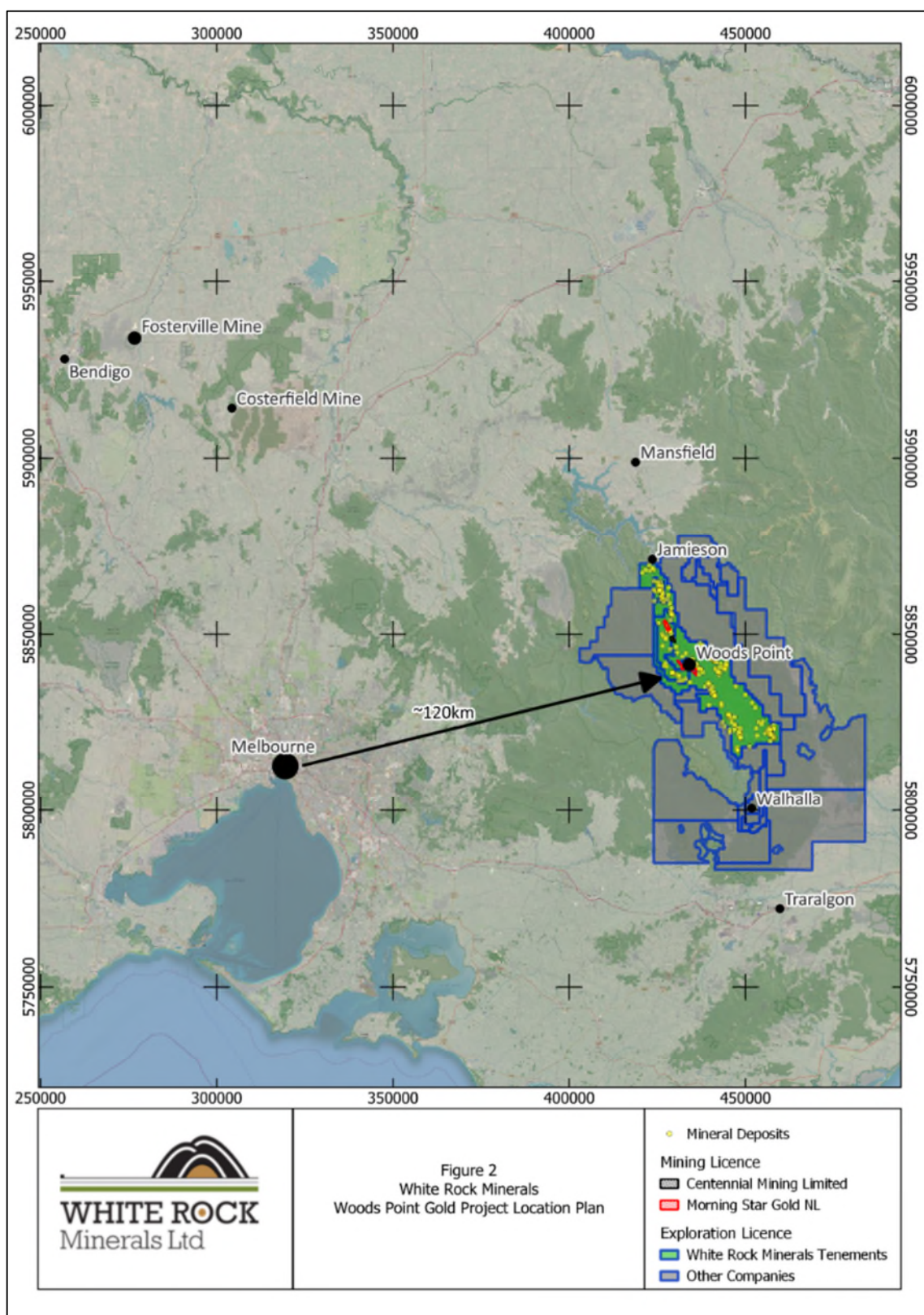


Figure 1: Woods Point Gold Project Location Plan

This announcement has been authorised for release by the Board.

Competent Persons Statement

The information in this report that relates to exploration results is based on information compiled by Mr Juan Cipriano MSc (Hons) Geology, who is a member of the Australian Institute of Geoscientists (MAIG) and is a full time employee of White Rock Minerals Ltd. Mr Cipriano 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 Cipriano consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

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

For more information, please contact:

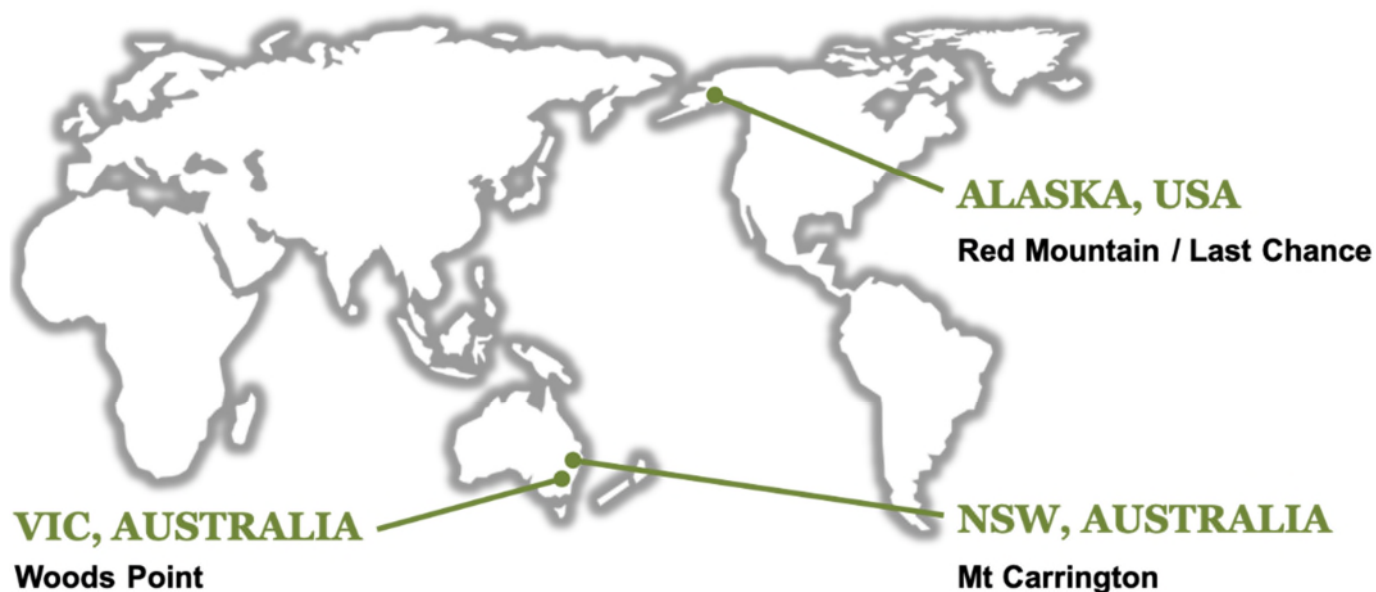
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About White Rock Minerals

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-660km² 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 base¹ of 21.3Mt @ 8.5% ZnEq² (or 393g/t AgEq³) 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 Resource¹ 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 Equivalent², or 555 g/t Silver Equivalent grade³.**
- **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):

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

JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i> 	<ul style="list-style-type: none"> Metallurgical tests have been completed on “bulk” samples of quartz reef material from the McNally and Dickenson Reefs. Metallurgical testing was carried out by the Gekko System Metallurgical Laboratory in Ballarat, Victoria and the methodology is summarised in this ASX release. Results reported are those provided by Gekko System Metallurgical Laboratory. Sample 1 (~100kg) was a bulk sample taken from Dickenson Reef between Level 4 and Level 3 Sublevel. Sample 2 (~100kg) was a bulk sample taken from McNally’s Reef in Level 7. The samples were sent to Gekko System for tabling and intensive leaching test to evaluate the behaviour of particle size to gold recovery, their liberation being tested using the Wilfley table gravity separator, and amenability of different grain size to intensive cyanidation.
Drilling techniques	<ul style="list-style-type: none"> <i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i> 	<ul style="list-style-type: none"> Not applicable – rock chip samples were bulk samples obtained by face sampling of underground reef systems.
Drill sample recovery	<ul style="list-style-type: none"> <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i> 	<ul style="list-style-type: none"> Not applicable – this announcement refers to metallurgical test work only.
Logging	<ul style="list-style-type: none"> <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support</i> 	<ul style="list-style-type: none"> Not applicable – this announcement refers to metallurgical test work only.

Criteria	JORC Code explanation	Commentary
	<p><i>appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> <i>The total length and percentage of the relevant intersections logged.</i> 	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> Not applicable – rock chip samples were bulk samples from underground Dickenson and McNally's Reefs. Assaying at Gekko System Laboratory can be affected by the high nugget effect. However, the bulk nature of the samples being processed in this test, the method chosen for assaying was appropriate.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i> 	<ul style="list-style-type: none"> The head grade of the samples was initially tested by fire assay to determine which samples should undergo further test work. The individual head grades for the samples for the Wilfley table tests were averaged from the reconciled grades of the products of Wilfley table and analysed by FA in duplicate. The head grade for leach testing were from the fire assay results of the Wilfley table test. McNally metallurgical samples requires additional material from the concentrate #2 to make an equivalent mass for the leaching. Head grade for leaches is a weighted average of the concentrate #1 and concentrate #2 assays.
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> Not applicable – this announcement refers to metallurgical test work only.

Criteria	JORC Code explanation	Commentary
<i>Location of data points</i>	<ul style="list-style-type: none"> • Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> • Not applicable – this announcement refers to metallurgical test work only.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied. 	<ul style="list-style-type: none"> • Not applicable – this announcement refers to metallurgical test work only.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> • Not applicable – this announcement refers to metallurgical test work only.
<i>Sample security</i>	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • Rock chips were sampled on site then secured in bags. • Each polywoven bag is sealed with tamper evident zip ties. • The mine site is securely locked after working hours. • A chain of custody procedure has been designed to maintain sample security.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> • No audits or reviews have been completed to date.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i> 	<ul style="list-style-type: none"> The Woods Point Gold Project comprises MIN5009 (Morning Star), MIN5299 (Rose of Denmark), EL6321, EL6364 and ELA6853, located in the State of Victoria, Australia. MIN5009, MIN5299, EL6321 and EL6364 are owned by Morning Star Gold NL, a 95% owned subsidiary of AuStar Gold Limited, which in turn is a 100% owned subsidiary of White Rock Minerals Ltd. ELA6853 is an application in the name of AuStar Gold Limited. All of the Tenements are current and in good standing. The bulk underground samples were taken from MIN5009.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> The Morning Star gold mine has been intermittently active since 1861, with many owners and operators. Historic production is estimated to be 883,000 ounces gold at 26.5g/t during the period 1861 to 1963. Mining companies associated with production during this period included Morning Star Gold Mining Company prior to 1927 and Gold Mines of Australia between 1932 and 1963. The Rose of Denmark gold mine operated from the early 1860s with the last significant production reported in the 1920s. Total recorded production is 36,000 ounces gold at 11.6g/t.
<i>Geology</i>	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> The Woods Point Gold Project lies within the Woods Point – Walhalla Synclinorium structural domain of the Melbourne zone, a northwest-trending belt of tightly folded Early Devonian Walhalla Group sandy turbidites. The domain is bounded by the Enoch's Point and Howe's Creek Faults, both possible detachment-related splay structures that may have controlled the intrusion of the Woods Point Dyke Swarm and provided the conduits for gold-bearing hydrothermal fluids. The local structural zone is referred to as the Ross Creek Shear Zone (RSZ). Most gold mineralisation in the Woods Point to Gaffney's Creek corridor occurs as structurally controlled quartz ladder vein systems hosted by dioritic dyke bulges.

Criteria	JORC Code explanation	Commentary
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> • No table is reported as there was no drilling involved, therefore such table is not material to understanding the results.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> • Individual samples taken from concentrates and tails generated in these metallurgical tests are used to obtain a “Calculated Head Grade” for the reef material on a weighted average basis. • The data relates to gravity recovery and cyanide leach tests, as detailed in the body of this announcement. • No metal equivalents are used.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> • These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’). 	<ul style="list-style-type: none"> • Bulk samples were taken from historic stope extensions in Level 4, Level 3 Sublevel and Level 7.
<i>Diagrams</i>	<ul style="list-style-type: none"> • Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	<ul style="list-style-type: none"> • Not applicable – this announcement refers to metallurgical test work only.

Criteria	JORC Code explanation	Commentary
<i>Balanced reporting</i>	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> Not Applicable (no drill hole information was used).
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	<ul style="list-style-type: none"> Other relevant and material information has been reported in this and earlier reports.
<i>Further work</i>	<ul style="list-style-type: none"> The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Further work is discussed in this announcement. The test work to date has been on quartz reefs from L4 Dickenson and L7 McNally's reefs. The nature of mineralisation is much the same and potential reef areas of Morning Star mine such as Stacpoole and Kenny can be similarly treated via gravity and leaching.