# RAMELIUS

ACN 001 717 540 ASX code: RMS

2 August 2021

#### **ISSUED CAPITAL** Ordinary Shares: 814M

#### DIRECTORS

**NON-EXECUTIVE CHAIR:** Bob Vassie MANAGING DIRECTOR: Mark Zeptner Non-Executive Directors: Michael Bohm David Southam Natalia Streltsova

COMPANY SECRETARY: **Richard Jones** 

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RAMELIUS RESOURCES LIMITED

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2 August 2021

HIGHLIGHTS

New 1.84Moz Au Mine Plan across 7 years to FY28, plus a low-grade tail in FY29 and FY30, giving a total of 9 years of gold production

**RAMELIUS MINE PLAN INCREASES 27% TO 1.84Moz** 

RELEASE

- New **Mine Plan** production is **27% higher** than the previous plan
- Average All-in Sustaining Costs (AISC) for first 7 years of A\$1,390 A\$1,490/oz
- Predominantly Ore Reserves and Indicated Mineral Resources with only 8% of gold produced from Inferred Resources#
- Edna May Stage 3 Scoping Study open pit included from FY24 for 6 years, with Pre-Feasibility work extended out to 31 December 2021
- Galaxy underground (Saturn & Mars) from FY24 for 6 years
- Vivien extended by 2 years, to the end of FY23 with further drilling underway
- Penny underground on track to commence full production from start of FY23
- Eridanus underground included from FY25 for 5 years
- A\$32M exploration budget allocated for FY22, reviewed on an annual basis

Ramelius Resources Limited (ASX:RMS) ("Ramelius", "the Company") is pleased to provide an update to its Mine Plan from its portfolio of assets located in Western Australia (refer Figure 17).

The Edna May Stage 3 Pre-Feasibility Study will continue until 31 December 2021. With planned drilling in the northern (Golden Point) area and recent market fluctuations affecting a number of study inputs, more time is required to appropriately finalise mineable resources, capital and operating costs.

Scoping Study work at Mt Magnet has identified the opportunity to bring forward the Galaxy underground, given its potential to commence earlier than the Eridanus underground, which requires the Stage 2 open pit to be completed in FY24 before development can commence.

The Vivien mine has been extended by another two years, with a further year of underground mining before an open pit is planned to mine the crown pillar on the north end of the deposit. Furthermore, a comprehensive underground diamond drilling programme is underway that will look to add further life to the underground mine that has been in operation since 2015.

The high-grade **Penny** underground remains on track for ore production commencing at the start of FY23, with FY22 used to complete surface and underground development work.

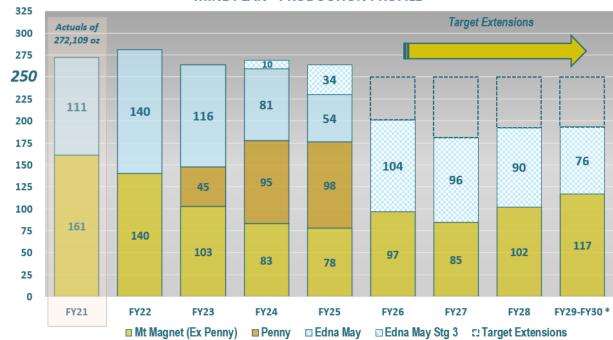
#### Ramelius Managing Director, Mark Zeptner, today said,

"Once again, to be able to increase the size of the Mine Plan to 1.84Moz, following another a record production year in FY21, is a very pleasing result for Ramelius. It is a further testament to the work done by all our team that we can articulate a longer term plan with production scale, strong margins and an achievable approach to reserve replacement that gives us added confidence going forward."

#Cautionary Statement: The Mine Plan contains Inferred Mineral Resources, refer to bottom page 4

## UPDATED MINE PLAN PROFILE

Figure 1 below outlines annual production targets and the relative contributions to group gold production from the Mt Magnet area (with Penny shown in a different colour) and the Edna May production centre, with the Edna May Stage 3 open pit highlighted as part of the Edna May profile. Group gold production in the FY22 year is now predicted to be higher (mid-point 280koz) than previously estimated (mid-point 265koz).



#### **MINE PLAN - PRODUCTION PROFILE**

Figure 1 – Ramelius Group Production profile

#### Discussion on the Mine Plan

The Mine Plan shows a solid level of production over a total of nine years, targeting a 250,000 p.a. level through the two production centres. During this timeframe both processing facilities run at maximum capacity (ore type dependent in the case of Tampia through Edna May). This nine year profile includes a two year tail where nearly 200,000 is produced, largely from the processing of low grade stockpiles at both sites.

The main body of the plan is for seven years: The first four years remain the core of this plan with production expected to exceed 250,000oz in each year. Production during these four years comes from the mainstay open pits and underground mines (Eridanus, Vivien, Shannon and Hill 60) but the benefit of the investments made by Ramelius over the past 3 years really come home, with a huge contribution over the four years from Marda & Tampia (main feed for Edna May) and Penny - in total, nearly 50% of the four year production profile comes from these 3 assets. This part of the plan also sees the introduction of some new development projects (e.g. Edna May Stg 3, Galaxy UG, Eridanus UG) that will provide the backbone of the next phase of the plan.

It is envisaged that extensional exploration success, as has been delivered in the past, on existing projects will provide the high-grade uplift to the lower grade base-lode feed in the years from FY26 and beyond, ideally achieving production rates similar to the 250,000 p.a. target.

The Edna May Stage 3 Pre-Feasibility Study will be ongoing until 31 December 2021. With planned drilling in the northern (Golden Point) area and recent market fluctuations affecting a number of study inputs, more time is required to appropriately finalise mineable resources, capital and operating costs. At this stage, and for the purposes of this Mine Plan update, the Scoping Study results are included, although due to the scale of the project and associated capital investment decision, it is itemised separately.

The Edna May Stage 3 project is very sensitive to gold price, grade and operating costs, particularly mining and development costs. A final strategic decision on Stage 3 will be made once the required Pre-Feasibility Study is complete and a final risk assessment is carried out prior to the financial investment decision.

\*Years FY29 to FY30 have been combined. Both years currently contain primarily low-grade stockpiles at Mt Magnet and lower grade material from Edna May Stg 3 cut-back. Production for the two years are 120koz for FY29 and 73koz for FY30.

Au Production (koz)

The Scoping Study work at Mt Magnet has brought forward the Galaxy underground, given its potential to commence earlier than the Eridanus underground, which requires the Stage 2 open pit to be completed in FY24 before development can commence.

Table 1 below outlines ranges for group gold production, AISC and capital expenditure per financial year:

l	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29+30*	Total / Average
Production (koz)	260 - 300	245 - 285	250 - 290	245 - 285	180 - 220	160 - 200	170 - 210	175 - 215	1,845
AISC (A\$/oz)	1,425 - 1,525	1,350 - 1,450	1,225 - 1,325	1,320 - 1,420	1,465 - 1,615	1,485 - 1,635	1,505 - 1,655	1,885 - 2,035	1,440 - 1,560
Capital	70 – 80	30 – 40	60 – 70	15 – 25	10 – 20	10 – 20	10 – 20	5 – 15	210 – 290
Edna May Stg 3	-	20 – 30	70 – 80	60 – 70	-	-	-	-	150 – 180
TOTAL (A\$M)	70 – 80	50 – 70	130 – 150	75 – 95	10 – 20	10 – 20	10 – 20	5 – 15	360 – 470

Table 1 - Gold Production, AISC per Ounce and Capex

Exploration expenditure for FY22 is budgeted to be A\$32M. A significant programme of work has been planned and scheduled for the coming year. The programme and associated budgets are reviewed annually.

#### Penny – One of the Lowest Cost Mines

The favourable impact on the AISC profile in years FY23 - FY25, when Mt Magnet is seeing the full benefit of the Penny underground project, can be seen in Table 1 above (also in the darker colour in Figure 1). The Penny underground is expected to be one of the lowest cost gold mines in Australia with an AISC over its life of between A\$600 and A\$650/oz.

## **PRODUCTION GROWTH PROFILE - FY15 TO FY22**

The Company has demonstrated constant production growth over a six-year period of over 20% year-on-year, whilst maintaining a consistent cost profile, as show below in Figure 2. Up until the FY21 year the AISC per ounce varied no more than 2.5% from one year to the next. The cost pressures felt in FY21 due, in part, to the impact of the COVID-19 pandemic, commodity price increases and the flow on effect to the availability and cost of labour in the mining industry, put upward pressure on our AISC. Despite a slightly higher cost profile looking forwards into FY22, with the current strong gold price and an improving price from the hedge book, we expect margins to be broadly maintained.

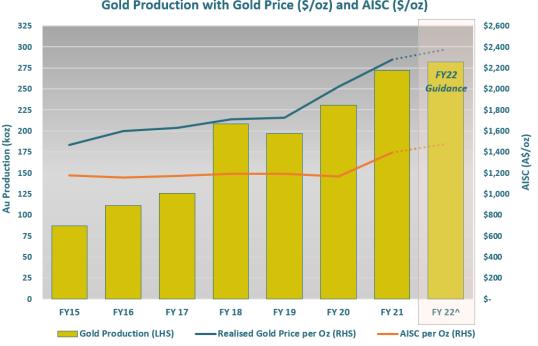




Figure 2 - Production Growth from FY15 to FY21

#### ORE RESERVE & MINERAL RESOURCE CONTRIBUTION TO GROUP MINE PLAN #

The new Mine Plan is based predominantly on Ore Reserves and Indicated Resources with a small contribution from Inferred Resources of 8% (see Figure 3).

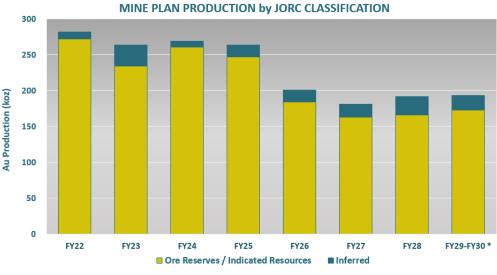


Figure 3 – Life of Mine Production by JORC Category

^Includes mid-points of production and AISC guidance and a weighted average gold price from the Ramelius Hedge Book and an assumed A\$2,450/oz spot price during FY22.

#The Mine Plan is a Production Target that contains a proportion of Inferred Mineral Resources (8%). 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 production target itself will be realised

\*Years FY29 to FY30 have been combined. Both years currently contain primarily low-grade stockpiles at Mt Magnet and lower grade material from Edna May Stg 3 cut-back. Production for the two years are 120koz for FY29 and 73koz for FY30.

#### COMPARISON TO JUNE 2020 MINE PLAN

Comparing the new Mine Plan with the previous one published in June 2020<sup>1</sup> (refer Figure 4) shows both a longer mine life and production at a higher annual rate, leading to a 27% increase in total ounces. Indeed, when the June 2020 Mine Plan was completed this time last year, the total forward looking production forecast was 1.45Moz. Looking back to that same date now, the production figure for the equivalent timeframe (which would now include actuals for FY21) has increased to **over 2.1Moz**.

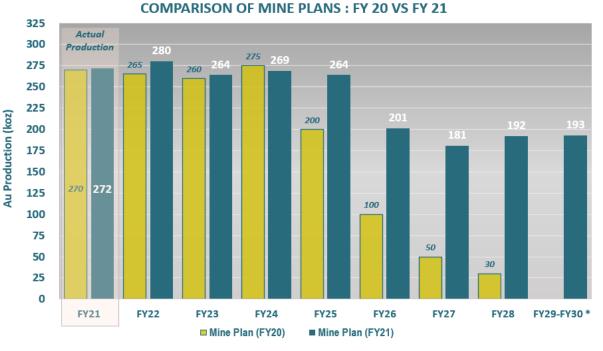


Figure 4 – Mine Plan Comparison

The key drivers of this positive change are the inclusion of the Edna May Stage 3 open pit, the new Galaxy underground and extensions at the Shannon/Hill 60 Underground at Mt Magnet. Incremental extensions, at a number of locations including the likes of Vivien, have been the "quiet achiever" at Ramelius providing a significant cumulative effect. The only reduction is from the conservative removal of the Tampia cut-back until the performance of the orebody in the current phase of mining can me be more fully understood. This may well be added back in later.





<sup>1</sup>See RMS ASX Release, "Ramelius Extends Life of Mine Plan by 34% to 1.45Moz", 30 June 2020 \*Years FY29 to FY30 have been combined. Both years currently contain primarily low-grade stockpiles at Mt Magnet and lower grade material from Edna May Stg 3 cut-back. Production for the two years are 120koz for FY29 and 73koz for FY30.

## MINE STUDIES / MINE EXTENSIONS

## Edna May Stage 3 Open Pit (Edna May, WA) – Pre-Feasibility Study Status

#### Status Report

Further work was identified in January 2021 in order to complete a Pre-Feasibility Study. As at 30 June 2021, not all of this work has been completed, some of which has been complicated by an increasingly volatile general labour and mining contractor market in Western Australia over recent months. In terms of each item, an update is provided below:

- RC drilling of Golden Point, with potential to provide additional shallow ounces that may lead to increased ounces and improve financial metrics (refer Figure 6) drilling approval received in June 2021, with drilling scheduled to commence in August 2021. Whilst longer than anticipated, the process gives confidence when considering the future larger Stage 3 approval itself.
- Detailed open pit design, including considerations for integration of underground/open pit mining work completed that consider the interaction between underground and open pit mining with the aim to have continuous underground mining throughout the project life and then continuous open pit mining once it is started.
- Improve confidence in cost estimates for mining rates, plant infrastructure relocation and road re-alignment The current construction and contractor market, operating at near-full capacity with COVI-19 related labour impacts, has resulted in significant pricing volatility. The flow on impact of this is the potential to produce a variety of pit optimization shells which may or may not be optimal, especially given it is highly likely that Stage 3 will be the final stage of open pit mining of the Edna May orebody. The mine planning team is planning a more formal pricing/benching mechanism to ensure as competitive pricing as possible in the current environment. Risk around accurate pricing is expected to remain as long as COVID-19 related labour shortages are impacting on the resources sector in Western Australia.
- Life-of-Mine Tailings Storage Facility plan and associated design work work completed for new Tailings Storage Facility to be located to the north of the current facility
- Further geotechnical investigations both within the open pit and in relation to the nearby mill infrastructure work completed with some opportunity to marginally steepen wall angles in final pit design
- Investigate opportunities to backfill Greenfinch and the Golden Point pits, reducing waste haulage costs backfilling of Greenfinch incorporated into planning process although Golden Point not yet drilled and optimized in order to understand the extent of the backfill opportunity
- Understand process plant water supply requirements during various underground / open pit mining interaction
   – work completed to understand the relocation of certain infrastructure and the requirement for consistent water
   supply to the mill at all times

The Pre-Feasibility Study is now targeted for completion by 31 December 2021 and the Scoping Study results from January 2021 (refer Table 2) have been included in the Mine Plan in the meantime. Given the size of the project and the significant upfront capital associated, it is itemized separately both on the production profile and in the capital expenditure program.

#### **Scoping Study Results**

The key elements of the Scoping Study are shown in Table 2 below.

Parameter	Unit	Scoping Study (January 2021)
General		
Total clearing/disturbance	ha	13.2
Start Date	Qtr	September 2022 Quarter
Project life (mining)	Yrs	4.5
Project life (milling)	Yrs	6.75
Mining		
Ore tonnes	Mt	16.5
Grade	g/t	0.82
Contained Gold	koz	434
Processing		
Ore processed	Mt	16.5
Grade	g/t	0.82
Recovery	%	94.0
Gold Production	koz	408
Financial		
Upfront Project Capital Cost**	A\$M	165
AISC	A\$/oz	1,540

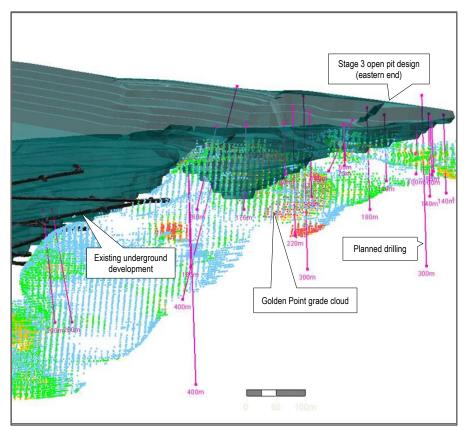


Figure 6 - Eastern end of Stage 3 pit, with Golden Point grade cloud currently outside of pit design

'The Scoping Study is a Production Target based on Indicated Resources (pit design contains 16koz of Inferred material which is excluded from the Study). Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.

"The original Sale & Purchase agreement between RMS and Evolution Mining (EVN) requires RMS to pay A\$20 million to EVN upon the commencement of Stg 3 open cut operations. This is excluded from the Project Capital as it forms part of the original Edna May acquisition cost (deferred payments) and indeed, can be settled via a cash payment or an issue of RMS shares or a combination of both.

#### **Location & Project History**

The mine is located adjacent to the town of Westonia in Western Australia, 315km east of Perth. Significant historic underground mining occurred between 1911 and 1947. Modern open pit and underground mining has taken place from 1984 to 1998 and then from 2010 to present. The deposit has produced over 1 million ounces to date.

## **Geology and Mineralisation**

The deposit is well understood geologically. The Edna May Gneiss (EMG) is a metamorphosed tonalitic granitoid within a mafic-ultramatic stratigraphy. It hosts the gold mineralisation which occurs as sheeted quartz, minor sulphide veining, generally parallel to strike and less frequent larger quartz lodes/reefs which cross-cut the gneiss with a more northerly strike and westerly dip. The gneiss strikes east-west (100-120°) and dips at 50-60° to the north. It has a strike length of 1,000m, a width of 50–150m and depth extent of at least 700m. Significant background Au anomalism (0.1 - 0.5 g/t) is present, associated with alteration intensity, proximity to veining and micro-fracturing. Visible gold is frequently seen in drill core in close association with veining and gravity recovery is very high for a low-grade deposit at around 50%.

## **Mineral Resource**

Table 3 – Edna May Mineral Resource September 2020 (>0.5g/t)								
Ind	icated		lr	ferred		Total	Resou	rce
Tonnes	Au	Au	Tonnes	Au	Au	Tonnes	Au	Au
t	g/t	oz	t	g/t	oz	t	g/t	οz
24,000,000	1.1	810,000	7,100,000	1.0	240,000	31,000,000	1.1	1,000,000
	Ind Tonnes t	Indicated Tonnes Au t g/t	Indicated Tonnes Au Au t g/t oz	Indicated Ir Tonnes Au Au Tonnes t g/t oz t	Indicated Inferred Tonnes Au Au Tonnes Au t g/t oz t g/t	Indicated Inferred Tonnes Au Au Tonnes Au Au t g/t oz t g/t oz	IndicatedInferredTotalTonnesAuAuTonnesAutg/toztg/tozt	IndicatedInferredTotal ResouTonnesAuAuTonnesAutg/toztg/toz

Figures rounded to 2 significant figures. Rounding errors may occur. See RMS ASX release 'Penny & Edna May Study Updates', 9 Nov 2020.

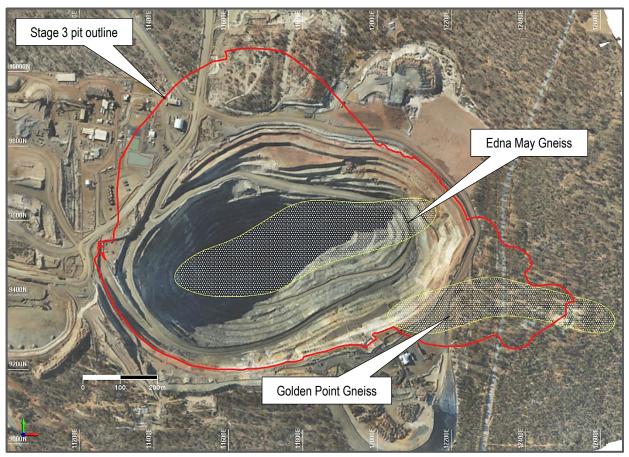


Figure 7 - Edna May Plan view - existing pit, Scoping Study Stage 3 pit outline and host gneiss units

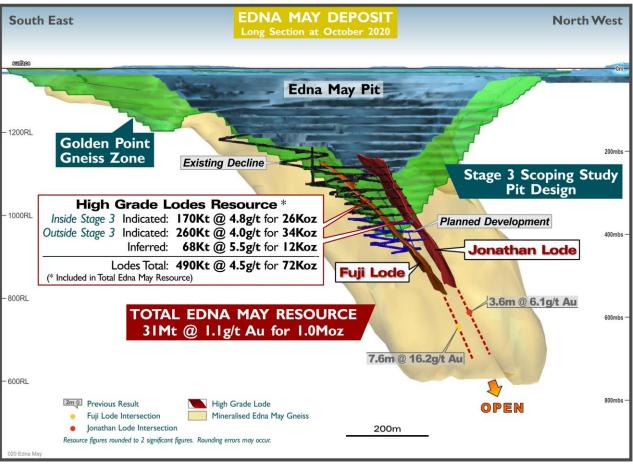


Figure 8 – Edna May long section – existing pit (blue), underground mine & Scoping Study Stage 3 pit (green)

#### Infrastructure

Some existing infrastructure will require relocation for the Stage 3 open pit (as shown in Figure 7), including workshop and process water dam facilities adjacent to the processing plant. Similar to the road diversion required for the Greenfinch open pit (shown on Figure 9), the Shire-owned Boodarockin Road to the east would need to be relocated for a length of approximately 1.5km. The Scoping Study included an A\$8M allowance to re-establish such infrastructure.

Areas are available for extension of the Corsini waste dump and Tailings Storage Facility to the north, on cleared Company-owned farmland.

#### **Environmental Permitting**

Ramelius has experience with environmental permitting through the Greenfinch approval process (circa 2019/2020). The Greenfinch process required dealing with three primary issues 1) relocation of a number of the rare eremophila resinosa plant, 2) reduction in the connectivity between the western and eastern sections of bushland, and 3) a reduction in the overall Threatened Ecological Community (TEC) bushland through clearing for mining. The Stage 3 open pit envisages only needing to deal with issue #3, primarily due to location of the cutback itself.

Further, rehabilitation is ongoing on the perimeter of the northern farm lots as well as within the newly acquired farm lot directly south of the Greenfinch open pit. Rehabilitation of these areas, along with potential back filling of the Greenfinch pit back to ground level, may further reduce impact of the project which contains a similar clearing area to the Greenfinch project currently. An initial meeting with government advisors was positively received and the Company is confident of receiving approvals within a reasonable timeframe of submission. This is supported by the recent approval of a Program of Work (PoW) to drill the Golden Point area.



Figure 9 – Plan showing Westonia townsite and Edna May operation

## Galaxy Underground (Mt Magnet, WA) – Scoping Study Status

#### Location & History

The Galaxy Underground (Saturn, Mars, Titan, Perseverance & Hill 50) project to convert existing resources was previously considered for Scoping Study reporting at the end of December 2021. Access to the resource, as opposed to waiting for completion of the open pit at Eridanus, has allowed the mining study and the associated potential project start date to be brought forward. The opportunity to establish another underground mining centre at Mt Magnet, at relatively low capital cost, has been recognized by the mine planning team and included in the Mine Plan from the start of FY24.

#### **Geology & Mineralisation**

Mineralisation is principally hosted within Banded Iron Formations (BIF) where gold is spatially associated with nort-east trending faults and associated with pyrrhotite and pyrite mineralisation. BIF units occur within a mafic and ultramafic stratigraphy with felsic sill and cross-cutting intrusives occurring. Stratigraphy is sub-vertical and BIF units largely have deep vertical continuity.

#### **Mineral Resource**

Galaxy mineral resources are based on a number of models generated between 2012 and 2020 and reported as the Galaxy Group (open pit) and Saturn UG Mineral Resources. Significant drilling and mining has been conducted by Ramelius in this period and major pit cutbacks occurred on Saturn, Mars, Perseverance, Titan and Vegas open pits.

For resource modelling the geology has been interpreted first and forms the basis of a separate interpretation of mineralisation envelopes. Multiple domains are generated to reflect geological host, mineralisation style or local spatial trends and hard bound assay information at a nominal 0.2 - 0.5 g/t cut-off. Estimation by anisotropic Ordinary Kriging or ID methods using 1m composited assay data in parent cells only. Top-cuts are applied by domain determined by review of population stats. All resources have previous versions or recent production to compare to.

#### Mine Design

The Galaxy Underground Scoping Study progressed to preliminary mine designs outlining the potential to utilise the upper portion of the existing Hill 50 decline to access two new internal declines to stope ore from the Saturn BIF in areas below the Saturn pit and the southern half of the Mars pit (refer Figures 10 & 11). Refinement of the mine design and interrogation of the design against the resource model will continue as a priority.



Figure 10 - East wall of Mars Pit showing existing Hill 50 decline

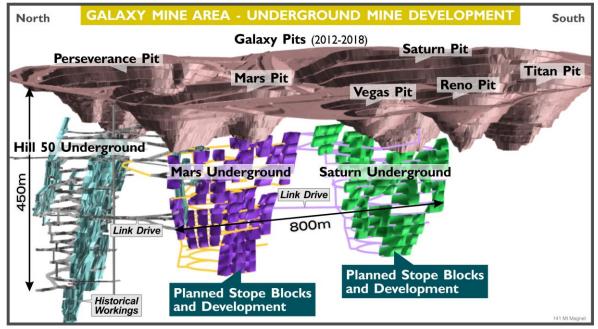


Figure 11 – Isometric view of Galaxy Underground including historic Hill 50 workings

#### Infrastructure

Considerable underground development is already in place at the Hill 50 underground, accessed from the Mars open pit, which will require re-supporting on the way down. The mine will be managed using existing mining offices and support services such as emergency services, and the mine infrastructure identified in the capital estimate includes:

- Power reticulation
- Ventilation fans
- Pumping stations and dewatering infrastructure
- Light vehicles and ancillary
- Open pit and portal preparation work

## **Scoping Study Results**

Table 4 – Galaxy (Saturn & Mars) Underground Scoping Study results

Parameter	Unit	Scoping Study
		(July 2021)
General		
Mining Method		Long Hole Open Stoping
Start Date (decline rehabilitation)	Qtr	FY24
Initial life	Yrs	6.0
Mining (underground)		
Ore tonnes	Mt	3.0
Grade	g/t	1.9
Contained Gold	koz	190
Processing		
Ore processed	Mt	3.0
Grade	g/t	1.9
Recovery	%	94
Gold Production	koz	179
Financial		
Upfront Capital Cost	A\$M	40
AISC	A\$/oz	1,689

## Metallurgy

Ore is planned to be processed through the Mt Magnet Processing Plant as part of an overall feed blend. Mining and processing over a number of years of the Saturn and Mars orebodies has shown that high metallurgical recoveries can be achieved at the current processing grind size of nominally 120µm. No capital modifications to the processing facility are required in order to process the ore. Existing tailings storage facilities will be utilised. The metallurgical modifying factors used for the Scoping Study can be summarised as:

- Gold recovery: 94%
- Throughput: 2.0 Mtpa
- Processing cost: A\$20.37/t

## Permitting

The Galaxy open pits were previously mined by Ramelius from 2012 to 2018. It is expected that permitting for the Galaxy underground will be a relatively straight-forward exercise and will be achieved well ahead of that required in the Mine Plan.

## **Next Steps**

Further work required to complete a Pre-Feasibility Study by 30 September 2021 includes:

- Refine mine design and schedule;
- Obtain contractor and supplier costs;
- Confirm permitting requirements and initiate submissions; and
- Complete geotechnical assessment.

## Eridanus Underground (Mt Magnet, WA) – Scoping Study Status

#### **Location & History**

The Eridanus open pit is located 7.8 kilometres southwest, by haul road from the Mt Magnet mill. The Mineral Resource is situated between the historical Lone Pine open pit and the backfilled Theakston open pit. The deposit was discovered by Ramelius in late 2017 and mining of the Stage 1 pit commenced in mid-2019. A large Stage 2 cutback pit (230m depth) was commenced shortly after in June 2020.

#### **Geology & Mineralisation**

Eridanus is predominately hosted within a granodiorite intruded into felsic aphyric to porphyritic intrusive rocks. Mineralisation occurs as stockwork veins concentrated within the east-west orientated Eridanus Granodiorite intrusion. The granodiorite has undergone pervasive sericite–carbonate alteration and silica healing manifesting in quartz plus quartz-tourmaline veins. A supergene zone is recognised in the transitional weathered zone between 25-50m depth, below up to 25m of depletion. Given the overall stockwork nature of the gold mineralisation true widths are variable, but the average true width of the mineralised granodiorite is 60m.

#### **Mineral Resource**

The Eridanus Mineral Resource was generated incorporating the recent deep diamond drilling completed in the December 2020 and March 2021 Quarters. Both resource definition and exploration holes were incorporated with a total of 10 holes for 6,001m. Six holes were drilled along the strike of the host granodiorite (east-west) and the remainder as south-north stratigraphic holes across the granodiorite. Drilling concentrated on a 200m zone below the 230m deep Stage 2 open pit design. True width of mineralisation reflects the granodiorite host unit geometry and generally ranges from 30-60m. The new deep drilling has revealed a change in the geometry of the granodiorite unit at around 400m vertical depth, where it changes from vertical to south dipping and narrows in width.

Resource modelling and estimation methods follow the same methodology as previously announced models. A number of constrained domains are used. Within the main granodiorite host, an 'indicator' ore/waste value based on +/- 0.25 g/t was used to estimate mineralised and non-mineralised sub-domains. These domains were then used to flag sample data to inform and estimate the 'ore' versus 'waste' domains. Ordinary kriging was used for this process with suitable geostatistical parameters. Estimation uses domain top-cuts and moderately anisotropic search parameters.

A drilling and model section is show below in Figure 14. Reconciled open pit production (>0.4g/t) from Eridanus to 30 June 2021 is 3.1Mt at 1.1g/t for 112,000oz.

Me	asured	1	Ind	licated	i	In	ferred		Т	otal	
tonnes	g/t	ounces	tonnes	g/t	ounces	tonnes	g/t	ounces	tonnes	g/t	ounces
1,300,000	1.1	46,000	14,000,000	1.3	580,000	4,000,000	1.0	130,000	20,000,000	1.2	760,000

#### Table 5: Eridanus Mineral Resource April 2021 (>0.5g/t)

Figures rounded to 2 significant figures. Rounding errors may occur.

#### **Scoping Study Status**

An early stage bulk underground mining option was included in the 2020 Mine Plan based on the December 2019 Mineral Resource, with the key parameters as shown under Preliminary Scoping Study (June 2020) in Table 6.

Further options for underground mining have been evaluated using the updated April 2021 resource model below the planned Eridanus pit currently being mined. The overall low-grade nature of the deposit and current lack of continuity of the higher-grade zones, has led to discontinuous mining areas at the higher cut-off grades typically used in underground mine design. This is largely due to the lack of close spaced drilling that an orebody of this nature requires, especially for any selective style underground mining method. Two main options were considered, being:

- 1) Stoping under Rockfill, somewhat similar to a sub-level cave stoping method
- 2) Long Hole Open Stoping (LHOS), with rock fill & pillars

Option 2 also considered a staged approach, whereby a relatively small Stage 1 underground mine (refer Figure 12) underneath the currently designed open pit was designed in conjunction with a close-spaced diamond drill program, in order to reduce upfront capital and improve orebody knowledge. This option is expected to provide the opportunity to

delineate higher grade ore zones and increase overall head grade. The Stage 2 underground for the LHOS Option (refer Figure 13) was simply an extension to a depth of approximately 200m below the open pit.

The LHOS was preferred over the Stoping under Rockfill method, despite producing lower overall ounces, as it delivered a higher grade, lower cost result and was therefore included in the Mine Plan. Table 6 shows the Preliminary Scoping Study as well as both the Stoping under Rockfill and LHOS Options. Given the earlier access available at the Galaxy Underground, the start date has been pushed out until FY25 from the previous FY23 commencement.

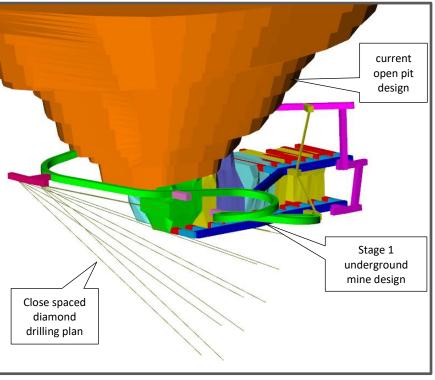


Figure 12 - Stage 1 Underground of LHOS Option below Eridanus current designed pit

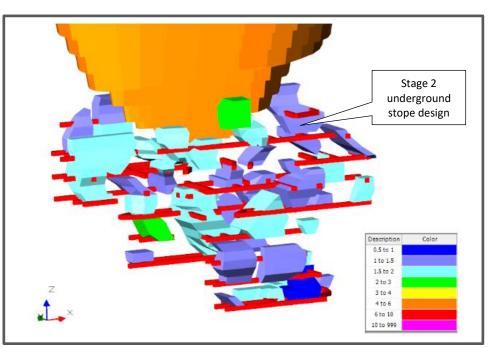


Figure 13 - Stage 2 Underground of LHOS Option

Table 6 – Eridanus	Underground Scoping Study Summaries
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Parameter	Unit	Preliminary Scoping Study	Scoping	g Study			
		(June 2020)		(July 2021)			
General			Option 1	Option 2 (Preferred)			
Mining Method		LHOS without Fill	Stoping under Rockfill	LHOS with Rock Fill			
Start Date (decline)	Qtr	December 2023 Qtr	FY25	FY25			
Initial life	Yrs	3.0	7.0	5.0			
Mining (underground)							
Ore tonnes	Mt	2.0	5.54	2.47			
Grade	g/t	1.6	1.1	1.6			
Contained Gold	koz	103	198	127			
Processing							
Ore processed	Mt	2.0	5.54	2.47			
Grade	g/t	1.6	1.1	1.6			
Recovery	%	95	94	94			
Gold Production	koz	98	186	119			
Financial							
Upfront Capital Cost	A\$M	30	27	37.5			
AISC	A\$/oz	1,559	2,039	1,765			

## **Eridanus Exploration Drilling**

Diamond drilling continues to be ongoing at Eridanus, particularly along strike to the north-east where mineralization continues to be intersected including a recent drill hole GXDD0119 which includes a 1.2m quartz vein with visible gold, as shown on Figure 14. Additional ounces per vertical metre and more importantly demonstrated continuity between high-grade zones will only improve project economics in the future.

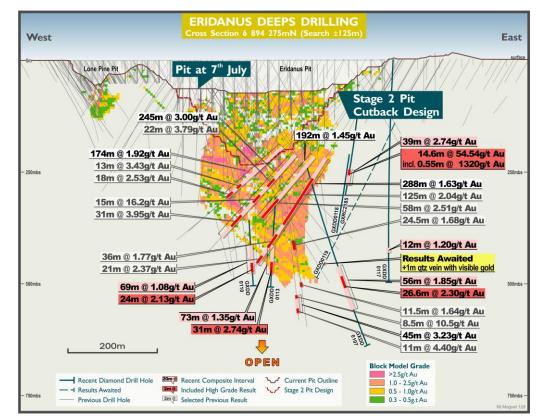


Figure 14 - Eridanus Deeps drilling and block model

#### Eridanus – Franks Tower Trend

As mentioned earlier, drilling is ongoing between Eridanus and Franks Tower as further understanding of the local geology is gained and the overall mineral resource in the area grows. The area is relatively shallowly drilled and continues to provide high-grade intercepts that would be conducive to underground mining once geological controls and continuity of these zones is established (refer Figure 15). Relatively small (35koz) oxide open pits at Orion and Franks Tower are included in the Mine Plan.

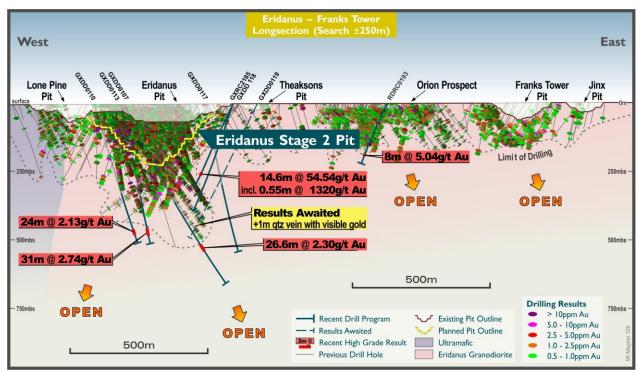


Figure 15 - Eridanus to Franks Tower Long Section

## Vivien (Leinster, WA) – Mine Extension

#### **Location & History**

The Vivien underground mine is an established mine located 20km west of Leinster WA. Gold is hosted by a steep dipping, 1-8m wide, quartz vein with sulphides. Ramelius commenced the operation in 2015 and milled production has now reached 1.1Mt at 6.1g/t for 210,000oz. The original Ore Reserve at commencement was 400kt at 7.1g/t for 101,000oz<sup>1</sup> and the current remaining mine production plan for FY22/23 is for 426kt @ 4.3g/t for 59,000oz, representing an excellent ounce growth of approximately 166% on the original reserve position.

#### **Mine Extension & Further Exploration**

Developments during FY21 included identification of economic ore in the parallel East Lode (hangingwall) vein structure and re-modelling of oxide remnant resources above the underground, potentially leading to a pit cutback at the end of the mine life. With these additions and progressive grade control modelling it is expected the total resource has not changed significantly since 30 June 2020, even after mining depletion.

Toward the end of FY21 the mine has reached the current mine plan base and an extensional underground drilling program has commenced. It aims to add additional resources at depth on the Main Lode and on the East Lode.

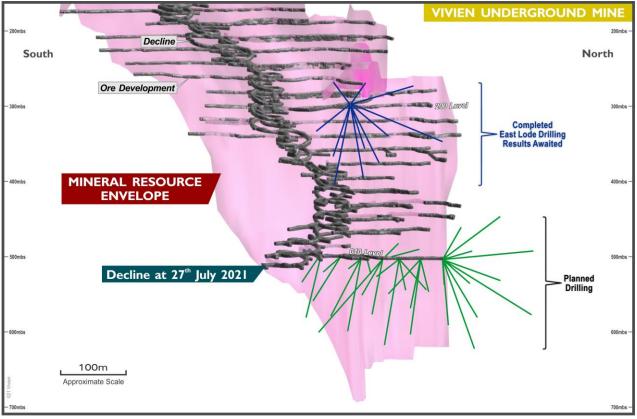


Figure 16 - Vivien July 2021 diamond drill programme

## **MINING/PROCESSING STUDIES & RESOURCE CONVERSION**

The Company plans to continue to leverage its large resource base<sup>A</sup>, particularly at Mt Magnet and Edna May, to produce longer Mine Plans with a higher conversion of resources. Ramelius notes that any increase in production that is largely due to the higher gold price environment we are currently operating in will generally lead to higher underlying operating costs due to a lower cut-off grade being applied to design parameters, and this is seen to be the case with the lower grade projects. Notwithstanding, mining/processing studies that are currently planned for FY22 are show in Table 7 below.

#### Table 7: Mining/Processing Studies

Site	Study Description	Est. Completion
Mt Magnet	Galaxy (Saturn & Mars) underground: complete Pre-Feasibility Study	30 September 2021
Mt Magnet	Morning Star underground: Scoping Study to convert a % of ~80koz Mineral Resource	31 December 2021
Mt Magnet	Hill 50 underground: Concept Study to convert a % of ~340koz Mineral Resource	31 March 2022
Mt Magnet	Eridanus underground: Scoping Study complete, awaiting further exploration drilling and pit deepening	ТВА
Mt Magnet	Processing Facility Upgrade: Feasibility Study on upgrade from 2.0 to 2.5-2.7 Mtpa (dependent on underground study results above)	ТВА
Edna May	Stage 3 Open Pit: complete Pre-Feasibility Study (assuming continuation of the current high-grade lode underground operation)	31 December 2021

This ASX announcement was authorised for release by the Board of Directors. For further information contact:

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## ABOUT RAMELIUS

Ramelius owns and operates the Mt Magnet, Edna May, Vivien, Marda, Tampia and Penny gold mines, all of which are located in Western Australia (refer Figure 17). Ore from the high-grade Vivien underground mine, located near Leinster, is hauled to the Mt Magnet processing plant where it is blended with ore from both underground and open pit sources at Mt Magnet. The Penny project is currently under development with first ore in late FY22.

The Edna May operation is currently processing high grade underground ore, low grade stockpiles, as well as ore from the adjacent Greenfinch open pit and the satellite Marda open pit mines. Ore feed from the Tampia open pit mine commenced in early FY22.



Figure 17 – Ramelius' Production Centre and Development Project locations

## FORWARD LOOKING STATEMENTS

This report contains forward looking statements. The forward looking statements are based on current expectations, estimates, assumptions, forecasts and projections 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 such statements are made, but which may prove to be incorrect. The forward looking statements relate to future matters and are subject to various inherent risks and uncertainties. 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. Such factors include, among others, changes in market conditions, future prices of gold and exchange rate movements, the actual results of production, development and/or exploration activities, variations in grade or recovery rates, plant and/or equipment failure and the possibility of cost overruns. Neither Ramelius, its related bodies corporate nor any of their directors, officers, employees, agents or contractors makes any representation or warranty (either express or implied) as to the accuracy, correctness, completeness, adequacy, reliability or likelihood of fulfilment of any forward looking statement, or any events or results expressed or implied in any forward looking statement, except to the extent required by law.

## PREVIOUSLY REPORTED INFORMATION

Information in this report references previously reported exploration results and resource information extracted from the Company's ASX announcements. For the purposes of ASX Listing Rule 5.23 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 and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

## **COMPETENT PERSONS**

The information in this report that relates to Mineral Resources and Ore Reserves is based on information compiled by Rob Hutchison (Mineral Resources) and Paul Hucker (Ore Reserves), who are Competent Persons and Members of The Australasian Institute of Mining and Metallurgy. Rob Hutchison and Paul Hucker are full-time employees of the company. Rob Hutchison and Paul Hucker have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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". Rob Hutchison and Paul Hucker consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.

## Attachment A: JORC Table 1 Ramelius Projects

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Most sampling was conducted using 1m intervals collected from reverse circulation (RC) drill holes. Diamond drilling is also used and generally represents 5-20% of deposits, unless defined from underground. Surface diamond holes are sampled on 1m or geologically selected sub metre intervals.</li> <li>RAB drilling occurs and is excluded from resource modelling with a few minor exceptions.</li> <li>Drill hole locations were designed to allow for spatial spread across the interpreted mineralised zone. All RC samples were collected and split to 3-4kg samples on 1m metre intervals. Diamond core is half cut along downhole orientation lines. Half core is sent to the laboratory for analysis and the other half is retained for future reference.</li> <li>Standard fire assaying was employed using a 50gm charge with an AAS finish for all samples. Screen fire assay methods were used for some selected mineralised zones.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>Drilling was completed using 5 ¾" face sampling RC drilling hammers for all RC drill holes. Diamond drilling used HQ and NQ diamond core. Most core holes were drilled as tails from 100m to 200m RC precollars.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>RC drill hole samples were visually inspected by the supervising geologist to ensure adequate clean sample recoveries were achieved. Cone splitter systems were levelled before use. All diamond core is jigsawed to ensure any core loss,if present is fully accounted for. Any wet, contaminated or poor sample returns are flagged and recorded in the database to ensure no sampling bias is introduced.</li> <li>Sample recovery in both RC and Diamond is generally excellent.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Samples are geologically logged on site by geologists. Details on the rock type, mineralogy, fabrics and textures are recorded.</li> <li>Drill hole logging is qualitative on visual inspection of rock forming minerals and on estimates of mineral abundance. A number of HQ geotechnical diamond holes were drilled as core from surface and have been logged by a geotechnical consultant to support the mining study.</li> <li>The entire length of each drill hole is geologically logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or</li> </ul>	<ul> <li>Core samples were sawn and half core sampled.</li> <li>Most RC 1m samples were split to a 3kg target sub- sample via a cone splitter. Some older samples were collected as 4m spear composites in zones of geologically</li> </ul>

ersonal use only	Quality of assay data and laboratory tests Verification of sampling and assaying	<ul> <li>dry.</li> <li>For all sample types, the appropriateness of the satechnique.</li> <li>Quality control procedure sampling stages to maxin samples.</li> <li>Measures taken to ensure representative of the in si including for instance rest duplicate/second-half sam</li> <li>Whether sample sizes are grain size of the material</li> <li>The nature, quality and al assaying and laboratory p whether the technique is total.</li> <li>For geophysical tools, spe handheld XRF instrument parameters used in deternincluding instrument make times, calibrations factors derivation, etc.</li> <li>Nature of quality control p (eg standards, blanks, du laboratory checks) and wilevels of accuracy (ie lack precision have been estail)</li> <li>The verification of signific either independent or alter personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary procedures, data verification primary primary primer primary primary</li></ul>
	Location of data points	<ul> <li>Accuracy and quality of so drill holes (collar and dow trenches, mine workings a</li> </ul>
		used in Mineral Resource • Specification of the grid s • Quality and adequacy of

Quality of assay data and laboratory tests	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Samples are appropriate for type of mineralisation and analysis.</li> <li>All core and RC samples are crushed &amp; pulverized prior to splitting in the laboratory to ensure homogenous samples. 200gm is extracted by spatula that is used for the 50gm or 30 gm charge on standard fire assays.</li> <li>Significant numbers of mineralised duplicate samples were geologically selected and submitted. Analysis of duplicates shows satisfactory performance.</li> <li>The sample size is considered appropriate for the type, style, thickness and consistency of mineralization.</li> <li>The fire assay method and AAS finish is used for most samples. Screen fire assay method has been applied to some recent lode zones and is also appropriate.</li> <li>No field analyses of gold grades are completed. Quantitative analysis of the gold content is undertaken in a controlled laboratory environment.</li> <li>Handheld pXRF analysis not used.</li> <li>Industry best practice was employed with the inclusion of duplicates and standards. Standards and blanks are interrogated to ensure they lie within acceptable tolerances.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Ramelius personnel have inspected the diamond core and RC chips in the field to verify the correlation of mineralised zones between assay results and lithology, alteration and mineralization.</li> <li>Twinned or close spaced holes exist and often occur where historic drilling occurs. Eridanus is drilled from multiple directions and holes cross.</li> <li>Holes are digitally logged in the field and data is collected in auto validating spreadsheets. These sheets were loaded into an Access database using scripting and further validation steps. Data was then exported to Micromine for visual validation by the Project &amp; Resource Geologists.</li> <li>The responsible geologist makes the DBA aware of any errors and/or omissions to the database and the corrections (if required) are corrected in the database immediately.</li> <li>No adjustments or calibrations are made to any of the assay data recorded in the database.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All drill hole collars are picked up using accurate DGPS survey control by a commercial survey contractor. All down hole surveys are collected using downhole gyro surveying technique provided by the drilling contractors.</li> <li>All holes were picked up in MGA94 – Zone 50 grid coordinates.</li> <li>An accurate topographic surface has been established from a recent aerial survey and is used to check DGPS surveys.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the</li> </ul>	<ul> <li>The dominant spacing is a 40m section x 25m grid with selected 20m section infill holes. Eridanus hole spacings are variable and spacing increases at depth.</li> <li>Drill spacing is sufficient to establish appropriate continuity and classifications.</li> </ul>

determined waste rock.

	<ul> <li>Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>No physical compositing has been applied within mineralised intervals.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The drilling is completed orthogonal to the interpreted strike and dip of the mineralisation.</li> <li>No orientation bias is evident</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>All bagged samples are collected by the exploration teams and driven directly to the laboratory in Perth, whereupon the laboratory checks the physically received samples against sample submissions.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No external audits have been completed to date.

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Mt Magnet resources and reserves fall within the cointiguous Mt Magnet tenement group. Total of 62 Mining Leases and 6 Prospecting leases 100% owned by Mt Magnet Gold Pty Ltd, a wholly owned subsidiary of RMS.</li> <li>Currently all the tenements are in good standing. There are no known impediments to obtaining a licences to operate in either area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>In all deposits significant exploration and development work has been carried out by previous owners. i.e. Mt Magnet - WMC, Metana Minerals, Hill 50 Gold and Harmony Gold</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>Archaean gold mineralisation. Mineralisation is principally hosted within Banded Iron Formations (BIF) where gold is spatially associated with NE trending faults and associated with pyrrhotite or pyrite mineralisation. Additionally stockwork and vein hosted gold is commonly found in late stage felsic intrusives or structurally controlled zones which cross-cut stratigraphy on NE trend. Interpretation for Mt Magnet resources is based on a long-history of exploration, open-pit and underground mining. Numerous geological interpretations, pit fact maps and reports exist &amp; almost all resources (except Eridanus) have been previously mined.</li> </ul>
Drill hole Information	<ul> <li>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:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	<ul> <li>No new drill hole information is reported</li> <li>Previous reporting of intercepts has been made in prior releases with all appropriate information included.</li> </ul>
	<ul> <li>If the exclusion of this information is justified on</li> </ul>	

		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.	
	Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Weighted average techniques are applied to determine the grade of the lode intervals when geological intervals are less than 1m (core samples)</li> <li>Exploration drilling results are generally reported using a nominal 0.5 g/t Au lower cut-off. Sub grade values may be incorporated if within geological lode interval or making up a minimum width (2-3m downhole).</li> <li>No metal equivalent reporting is used or applied.</li> </ul>
	Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	No new results reported
$\square$	Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Example maps and sections are included in above and previous releases</li> </ul>
	Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>Most drill holes completed to date are reported in previous releases and all material intersections are reported.</li> </ul>
	Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>No other exploration data that has been collected is considered meaningful and material to this report.</li> </ul>
	Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Exploration of the wider project area is in progress. Additional resource infill drilling may take place prior to commencement of mining.</li> </ul>

#### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data was imported from digital logging sheets and validated via a number of steps when entered into the Access database. Validation includes scripting checks and final visual validation by the Resource geologist.</li> <li>Data was imported from the Access database as Micromine data files for use in the estimate</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person is a full-time employee of Ramelius Resources and has made two site visits</li> <li>Visits verified understanding of deposit and available information</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>Confidence in the geological interpretation is high.</li> <li>Data used includes drilling assays &amp; logging, density and multi-element data from drilling.</li> <li>No alternate interpretation required</li> <li>Geology forms a base component in the mineralisation interpretation. Mineralisation hosted by stratigraphic units.</li> </ul>
Dimensions	<ul> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul> <li>Eridanus- granodiorite host, 330m long ~075° strike, 500m down dip, ~60m wide, ~dominant NNW and subordinate NNE quartz veins variable dips</li> <li>Franks Tower - 400m N-S strike, 200m wide stockwork host granodiorite host</li> </ul>
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	<ul> <li>The interpretation of the stratigraphy forms the main grade domains. Minor supergene and vein lodes are interpreted on margins.</li> <li>The resource model was constructed using Micromine software.</li> <li>Grade within the domain is estimated by geological software using Inverse Distance<sup>1</sup> within hard bounded domains. Ordinary Kriging grades were generated and compared.</li> <li>Significant ore production has been already achieved at Eridanus and a historic pit mined at Fanks Tower</li> <li>Gold grade is estimated</li> <li>Parent cell of 5mE x 5mN x 5mRL with minor sub-celling. Parent cell estimation only. Parent cells are SMU size or larger.</li> <li>Domains are statistically analysed and assigned appropriate search directions, top-cuts and estimation parameters. The search is aligned with the observed geological strike. Domains estimated separately.</li> <li>Samples were composited within ore domains to 1m lengths.</li> <li>Top cuts were applied to domains after review of grade population characteristics. Main Eridanus topcut is 13 g/t</li> <li>Validation includes visual comparison against drillhole grades and comparison against previous models.</li> </ul>

	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>Reporting cutoff is &gt;0.5 g/t reflecting bulk low grade mining scenarios for pit and UG.</li> </ul>
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul> <li>Resources are reported on the assumption of mining by bulk mining methods. Small dilution and recovery factors recommended for evaluation.</li> </ul>
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>A 93% recovery factor is used and is based on testwork and well established Mt Magnet recovery data.</li> </ul>
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>Mining operations in progress</li> <li>Mining Approvals required for Franks Tower</li> <li>Processing will take place at the Mt Magnet gold mine.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.),</li> </ul>	<ul> <li>Density values are adopted from testwork on diamond drill holes completed at Eridanus. Density measurements were completed on the geotechnical diamond core holes using the weight in air/weight in water method. They have been assigned by geological and weathering domains.</li> <li>SG is mostly estimated for weathered rock units.</li> </ul>

Classification	<ul> <li>moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> <li>The basis for the classification of the Mineral</li> </ul>	The resource has been classified as Measured, Indicated
2	<ul> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>or Inferred categories based on geological and grade continuity and drillhole spacing and age.</li> <li>The resource classification accounts for all relevant factors</li> <li>The classification reflects the Competent Person's view</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No audits or reviews conducted
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource 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 resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant to the procedures used.</li> <li>These statements of relative accuracy and confidence of the procedures used.</li> <li>These statements of relative accuracy and confidence of the procedures used.</li> </ul>	<ul> <li>The accuracy and confidence in the Resource is reasonably high given the deposit style, quality and density of drilling and sampling.</li> <li>Resources are global estimates</li> <li>Historic global pit production data is available</li> </ul>