RAMELIUS RESOURCES

ASX RELEASE

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ISSUED CAPITAL

Ordinary Shares: 528M

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18 September 2018

For Immediate Release

Resources and Reserves Statement 2018

The Directors of Ramelius Resources Limited (ASX: RMS) are pleased to announce new estimates of Mineral Resources and Ore Reserves as at 30 June 2018, with Mineral Resources up 36% and Ore Reserves up 54% for the year, after mining depletions.

Total Mineral Resources are estimated to be;

- 70.5 Mt at 1.5 g/t Au for 3,476,000 oz of gold

Total Ore Reserves are estimated to be;

- 13.3 Mt at 1.6 g/t Au for 698,000 oz of gold

Additions for both Mineral Resources and Ore Reserves were largely due to exploration success at Eridanus, Hill 60 and Shannon at Mt Magnet and the acquisition of the Edna May project. These deposits all saw additional drilling, resource modelling and mine feasibility work completed during the year.

Managing Director, Mr Mark Zeptner today said:

> *"Once again, we have seen a healthy overall increase in both Mineral Resources and Ore Reserves at Ramelius, whilst at the same time delivering record production of more than 200,000 ounces of gold for the 2018 financial year.*
>
> *On top of almost 700,000 ounces of Reserves, the potential acquisition for Ramelius of the Marda Project [1] will add notable ounces to this position. In addition, if the takeover offer for Explaurum Limited[2] is successful in securing the Tampia Hill Project, further significant reserves will be realised to consolidate the Company as a plus 200,000 ounce per annum producer going forward."*

Detailed tables of Resources and Reserves are shown below.

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[1]See RMS ASX Release, 'Ramelius to Acquire the Marda Gold Project', 13/09/2018

[2]See RMS ASX Release, 'Ramelius Announces Takeover Offer for Explaurum Limited', 10/09/2018

ABOUT RAMELIUS

Ramelius owns and operates the Mt Magnet, Edna May and Vivien gold mines, all in Western Australia (refer Figure 1).

Ore from the high-grade Vivien underground mine, located near Leinster, is trucked to the Mt Magnet processing plant where it is blended with ore from both underground and open pit sources.

The Edna May operation, purchased from Evolution Mining Limited in October 2017, is currently a single open pit operation feeding an adjacent processing plant.

Figure 1: Ramelius' Operations & Development Project Locations

Ramelius reported excellent financial and record breaking operational performances for Financial Year 2018. The Company reported Net Profit before Tax of A$45.5M, the fourth consecutive annual profit by the Company and an 81% increase on the Financial Year 2017 pre-tax profit.

The financial performance was achieved on the back of record production of 208,118 ounces of gold at an AISC of A$1,191/oz for the year. In addition, Ramelius has forecast to produce 200,000-220,000 ounces of gold at an AISC of A$1,150-$1,250/oz for the 2019 Financial Year.

MINERAL RESOURCES

Table A: Mineral Resources

MINERAL RESOURCES AS AT 30 JUNE 2018 - INCLUSIVE OF RESERVES													
Project	Deposit	Measured			Indicated			Inferred			Total Resource		
		Tonnes kt	Au g/t	Au oz	Tonnes kt	Au g/t	Au oz	Tonnes kt	Au g/t	Au oz	Tonnes kt	Au g/t	Au oz
Mt Magnet	Galaxy Group	92	1.8	5,000	4,279	1.4	193,000	2,316	1.2	93,000	6,687	1.3	291,000
	Morning Star				4,866	1.9	301,000	4,322	1.5	205,000	9,188	1.7	506,000
	Bartus Group	49	2.2	4,000	115	2.1	8,000	238	1.6	12,000	402	1.8	24,000
	Boomer				1,194	1.8	68,000	786	1.0	26,000	1,980	1.5	94,000
	Britannia Well				179	2.0	12,000				179	2.0	12,000
	Bullocks				202	3.3	21,000	40	2.5	3,000	242	3.2	24,000
	Eastern Jaspilite	146	2.2	10,000	121	2.8	11,000	134	2.5	11,000	401	2.4	32,000
	Eclipse				167	2.2	12,000	41	2.1	3,000	208	2.1	15,000
	Eridanus				2,840	1.3	123,000	690	1.1	23,000	3,530	1.3	146,000
	Golden Stream				154	2.9	14,000	7	1.7	-	160	2.8	14,000
	Lone Pine	199	2.5	16,000	277	1.7	15,000	147	1.7	8,000	623	1.9	39,000
	Milky Way				2,590	1.2	102,000	1,630	1.1	58,000	4,220	1.2	160,000
	O'Meara Group				231	2.5	18,000	151	1.5	7,000	383	2.1	25,000
	Spearmont - Galtee				25	2.9	2,000	207	4.3	28,000	232	4.1	30,000
	Stellar				580	1.5	27,000	150	1.6	8,000	730	1.5	35,000
	Stellar West				290	1.6	14,000	120	1.0	4,000	410	1.4	18,000
	Welcome - Baxter	222	1.6	11,000	276	1.6	15,000	198	1.8	11,000	696	1.7	37,000
	Open Pit deposits	707	2.0	46,000	18,386	1.6	956,000	11,177	1.4	500,000	30,271	1.5	1,502,000
	Hill 50 Deeps	279	5.5	49,000	932	7.0	209,000	396	6.4	81,000	1,607	6.6	339,000
	Hill 60 UG				200	4.4	28,000	160	4.3	22,000	360	4.3	50,000
	Morning Star Deeps				195	4.2	26,000	334	5.0	53,000	528	4.7	79,000
	Saturn UG							1,607	2.5	127,000	1,607	2.5	127,000
	Shannon UG				480	5.0	77,000	288	4.2	39,000	768	4.7	116,000
	Water Tank Hill UG				71	6.8	16,000	71	4.4	10,000	142	5.6	26,000
	UG deposits	279	5.5	49,000	1,877	5.9	356,000	2,855	3.6	332,000	5,012	4.6	737,000
	ROM & LG stocks	383	0.9	11,000							383	0.9	11,000
	Total Mt Magnet	1,370	2.4	106,000	20,264	2.0	1,312,000	14,032	1.8	832,000	35,666	2.0	2,250,000
Vivien	Vivien UG	477	6.4	97,000	80	6.0	16,000	117	3.7	14,000	674	5.9	127,000
Edna May	Edna May				20,900	1.0	657,000	5,100	0.8	136,000	26,100	0.9	794,000
	Greenfinch				2,700	1.1	94,000	1,700	1.1	60,000	4,300	1.1	154,000
	ROM & LG stocks	2,758	0.6	53,000							2,758	0.6	53,000
	Total Edna May	2,758	0.6	53,000	23,600	1.0	751,000	6,800	0.9	196,000	33,158	0.9	1,001,000
Kathleen Valley	Mossbecker				107	2.6	9,000	122	3.4	13,000	230	3.0	22,000
	Yellow Aster				91	3.8	11,000	300	2.0	19,000	391	2.4	30,000
	Nil Desperandum				23	5.8	4,000	101	2.9	10,000	125	3.5	14,000
	Total KV				222	3.4	24,000	523	2.5	42,000	745	2.8	66,000
Coogee	Coogee				31	3.6	4,000	65	3.3	7,000	96	3.4	11,000
Western Queen	WQ South				104	3.6	12,000	81	3.4	9,000	185	3.5	21,000
TOTAL RESOURCES		Mt	g/t	koz	Mt	g/t	koz	Mt	g/t	koz	Mt	g/t	koz
		4.6	**1.7**	**256**	**44.3**	**1.5**	**2,119**	**21.6**	**1.6**	**1,100**	**70.5**	**1.5**	**3,476**

Note: Figures rounded to kt, 0.1 g/t and 1,000 oz. Total rounded to Mt and koz. Rounding errors may occur.

Mineral Resource Commentary

Mt Magnet comprises of numerous gold deposits contained within a contiguous tenement holding and located within an 8km radius of the Checkers gold mill. The Galaxy group includes the Saturn, Mars, Titan, Brown Hill and Vegas deposits. Current mining operations include the Milky Way, Stellar, Stellar West & Shannon open pits, and the Water Tank Hill underground mine. Significant resource additions for the year occurred for the Shannon and Eridanus deposits due to exploration success. The Vivien resource was depleted for mining, but partially offset due to additions from drilling and grade control.

The Edna May mine was acquired in October 2017. It was re-modelled and reported in early 2018, following a significant underground and surface drilling campaign. It comprises of the large-scale Edna May stockwork deposit and the related Greenfinch deposit occurring along strike. Two high grade quartz lodes are modelled within the broader Edna May deposit. Mining is in progress on the Edna May Stage 2 open pit.

All resources are based on combinations of RC and diamond drill holes. Sampling has been via riffle or cone splitters (RC) or by sawn half core. Assay is carried out by commercial laboratories and accompanied by QAQC samples. A substantial proportion of drill data is historic in nature or gathered by previous owners, however Ramelius has added significant further drilling for all deposits, especially those forming Ore Reserves. Mineralisation has been modelled as cross-sectional interpretations using deposit appropriate lower cut-offs & geological interpretation or characteristics. Interpretations have then been wireframed using geological software, including Micromine, Leapfrog & Surpac. Mineralisation has been grouped by domain where required and statistical analysis, top-cutting and estimation carried out using anisotropic search ellipses. Estimation uses Ordinary Kriging and/or Inverse Distance methods. Modelling has been undertaken with recognition of the probable mining method and resource classifications reflect drill spacing, data quality, geological and grade continuity. Density information is generally well established and new measurements have frequently been obtained. Nearly all deposits listed (exceptions – Eridanus & Greenfinch) have had some degree of recent production or historic mining. Resources are reported using cut-offs equivalent to a A$1,600 - 1,650/oz gold price.

Further details are available in prior RMS ASX Releases for individual projects. Additional detailed information relating to generation of the resource estimates is attached below in Table 1 – JORC 2012 Reporting Criteria.

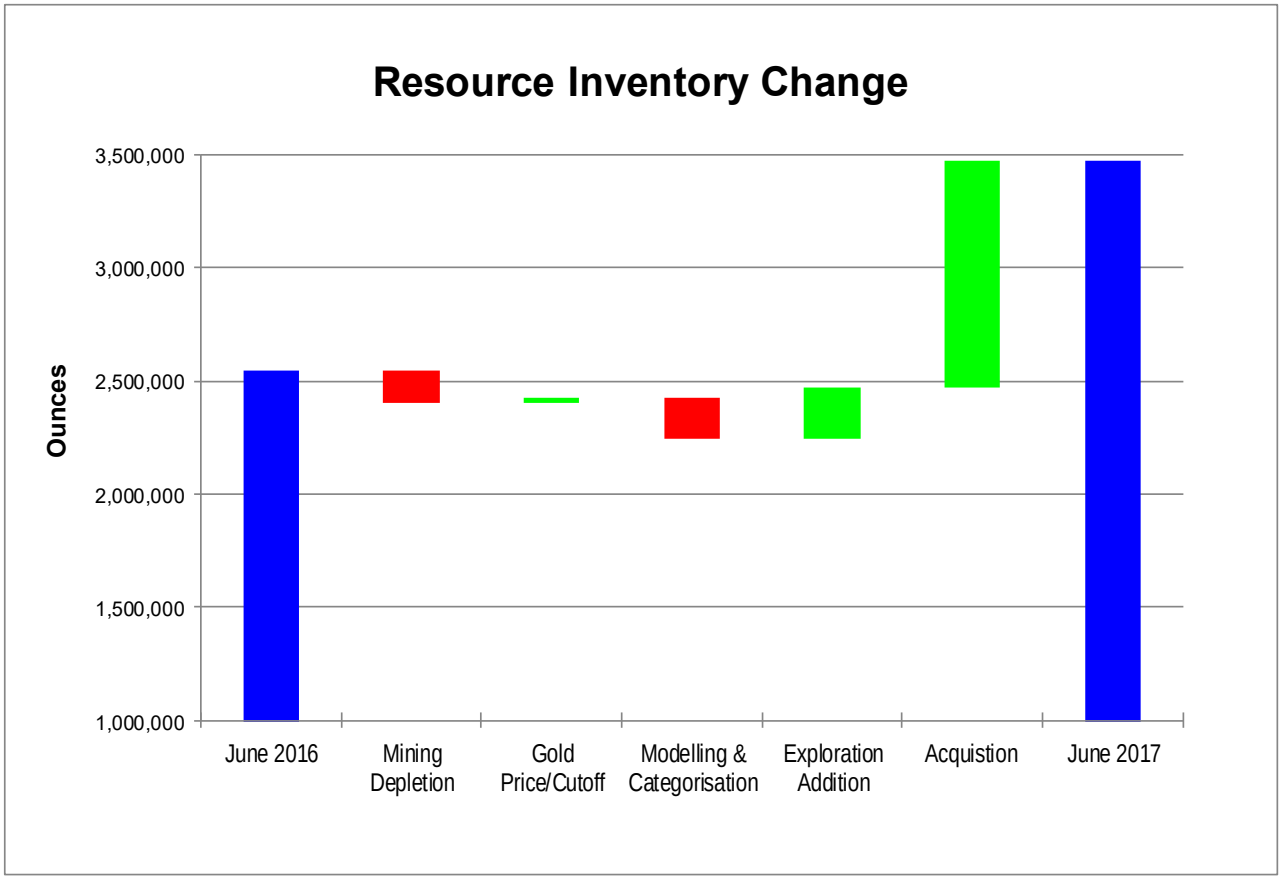

Figure 2: Resource Inventory Change

Mineral Resource Diagrams

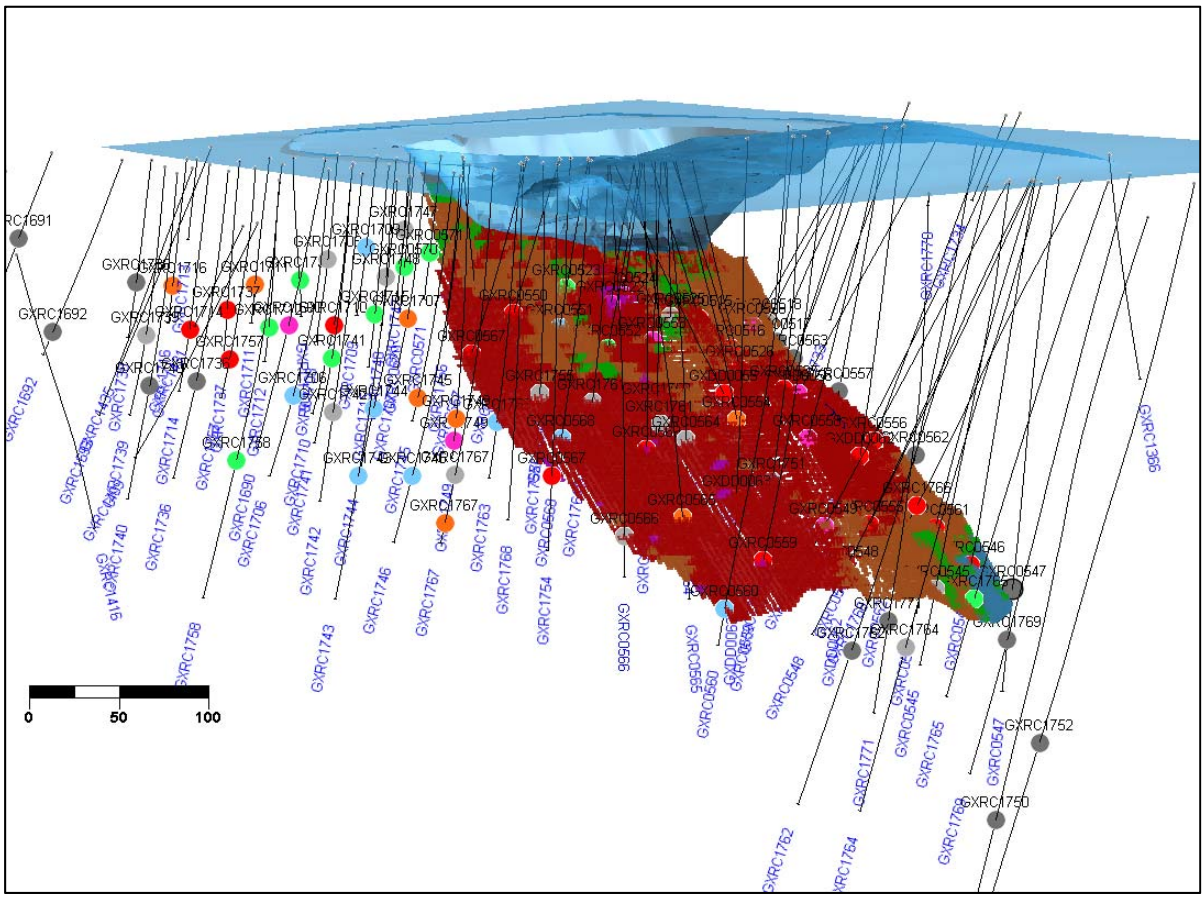

Figure 3: Shannon lode deposit - view to NW – existing pit, model & drill holes

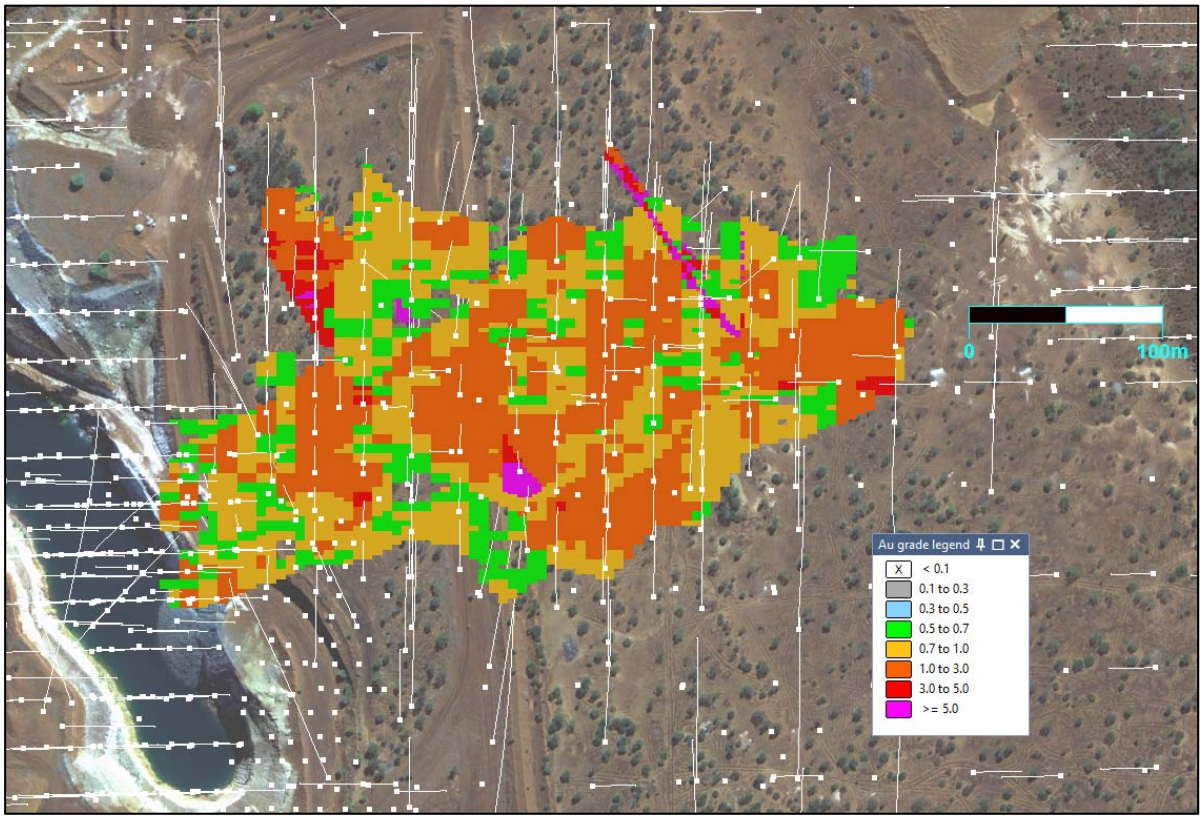

Figure 4: Eridanus stockwork deposit - plan view – drilling and model

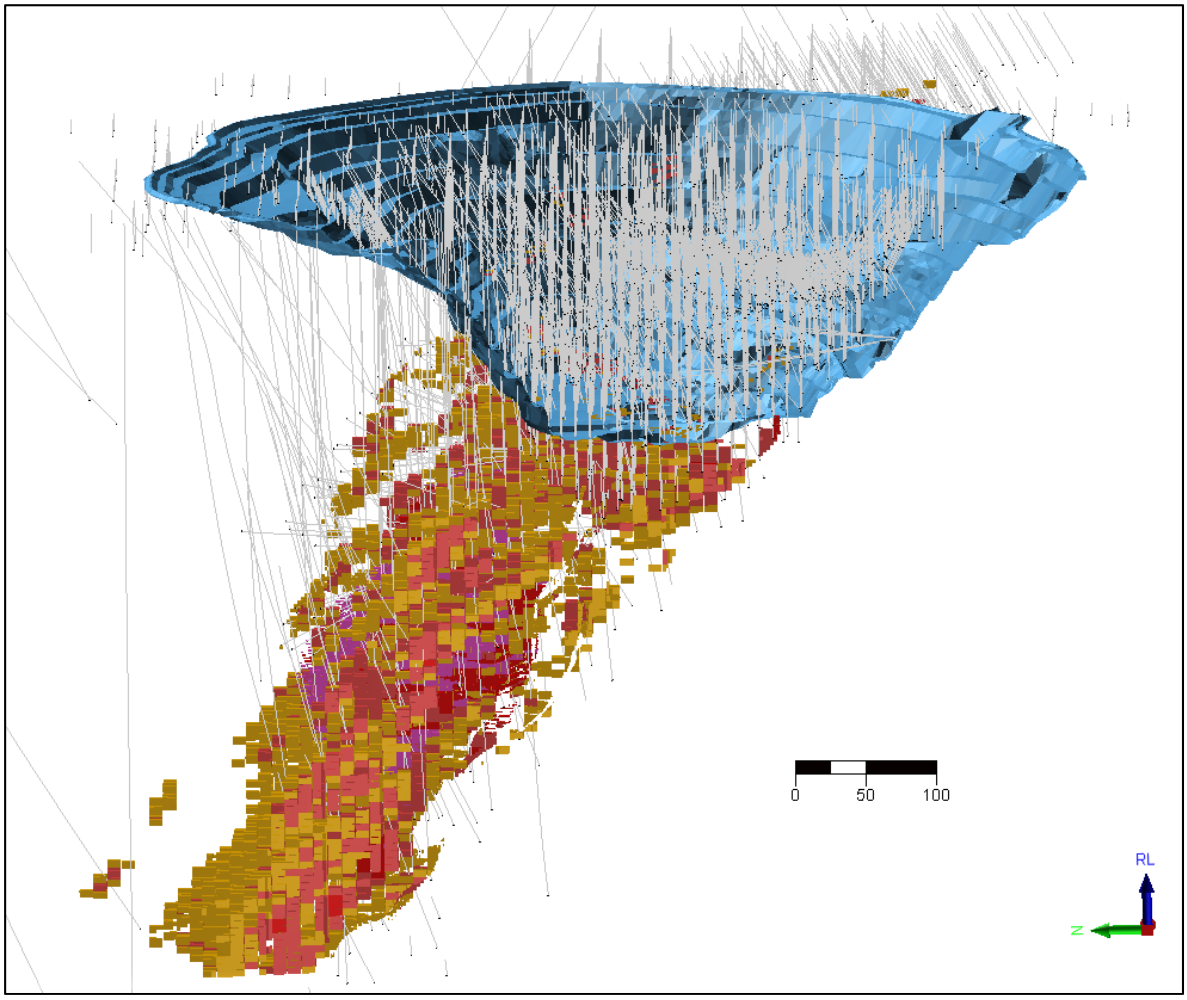

Figure 5: Edna May stockwork deposit, 3D truncated view to the east of open pit, block model & drilling

ORE RESERVES

Table B: Ore Reserves

ORE RESERVE STATEMENT AS AT 30 JUNE 2018										
Project	Mine	Proven			Probable			Total Reserve		
		Tonnes kt	Au g/t	Au oz	Tonnes kt	Au g/t	Au oz	Tonnes kt	Au g/t	Au oz
Mt Magnet	Boomer				132	2.9	12,000	132	2.9	12,000
	Brown Hill				623	1.6	31,000	623	1.6	31,000
	Eridanus				2,148	1.2	85,000	2,148	1.2	85,000
	Golden Stream				95	3.0	9,000	95	3.0	9,000
	Lone Pine				246	1.8	14,000	246	1.8	14,000
	Milky Way				1,320	1.3	56,000	1,320	1.3	56,000
	Morning Star				1,099	1.9	68,000	1,099	1.9	68,000
	O'Meara				50	3.3	5,000	50	3.3	5,000
	Shannon				143	2.7	12,000	143	2.7	12,000
	Stellar				330	1.5	16,000	330	1.5	16,000
	Stellar West				90	2.4	7,000	90	2.4	7,000
	Vegas				192	1.4	8,000	192	1.4	8,000
	Total Open Pit				6,469	1.6	323,000	6,469	1.6	323,000
	Hill 60				209	3.5	24,000	209	3.5	24,000
	Shannon				324	5.2	54,000	324	5.2	54,000
	Water Tank Hill				85	3.4	9,000	85	3.4	9,000
	Total Underground				618	4.4	87,000	618	4.4	87,000
	ROM & LG stocks	383	0.9	11,000				383	0.9	11,000
	Mt Magnet Total	383	0.9	11,000	7,086	1.8	410,000	7,470	1.8	421,000
Vivien	Vivien UG	331	6.7	71,000	38	4.8	6,000	370	6.5	77,000
Edna May	Edna May Stage 2	640	1.1	22,000	60	1.1	2,000	700	1.1	24,000
	Edna May UG				398	4.8	61,000	398	4.8	61,000
	Greenfinch				1,652	1.2	62,000	1,652	1.2	62,000
	ROM & LG stocks	2,758	0.6	53,000				2,758	0.6	53,000
	Edna May Total	3,398	0.7	75,000	2,111	1.8	125,000	5,509	1.1	200,000
TOTAL RESERVES		Mt	g/t	koz	Mt	g/t	koz	Mt	g/t	koz
		4.1	**1.2**	**157**	**9.2**	**1.8**	**541**	**13.3**	**1.6**	**698**

Note: Figures rounded to kt, 0.1 g/t and 1,000 oz. Total rounded to Mt and koz. Rounding errors may occur.

Ore Reserve Commentary

All Ore Reserves have been reported from Measured and Indicated Resources only. Current operational open pits are Milky Way, Stellar, Stellar West, Shannon and Edna May and these were depleted via mining to the end of June 2018. Current underground operations are the Vivien and Water Tank Hill mines which were also depleted. All Ore Reserves have been generated from a number of internal and external mining optimisations and open pit or underground design studies using appropriate cost, geotechnical, slope angle, stope span, dilution, cut-off grade and recovery parameters. Ore Reserves are utilised in the current Life of Mine plan. Mining approvals processes are in progress for the Hill 60 & Shannon underground mines and Morning Star & Greenfinch open pits.

The Eridanus Ore Reserve is based on an open pit mine design and has been reported from Indicated Resource only. It has been calculated from several internal and external optimisation and design studies using appropriate cost, geotechnical, slope design criteria, dilution, cut-off grade and recovery parameters. Ore Reserves are reported above 0.6g/t Au. The design pit totals 5.5Mbcm, is 450m long and reaches a maximum depth of 110m (refer Figure 9).

All Ore Reserves utilise a nominal gold price of A$1,650/oz to generate appropriate cut-offs. Mining, milling and additional overhead costs are based on currently contracted and budgeted operating costs. Costs for Vivien underground mining and ore haulage are based on current contracted and budgeted rates. Mill recoveries for all ore types are well established. Mt Magnet and Edna May stockpiles consist of ROM stocks & low-grade stocks mined post

2012. Further detailed information relating to generation of the Ore Reserve estimates is attached below in Table 1 - JORC 2012 Reporting Criteria.

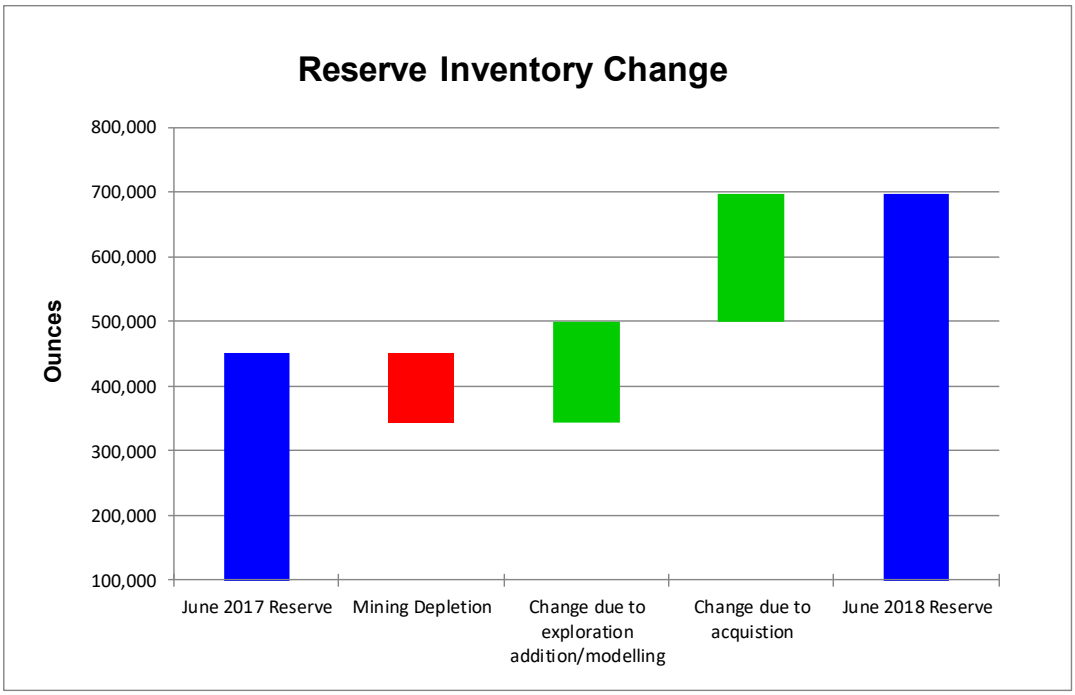

Figure 6: Reserve Inventory Change

Ore Reserve Diagrams

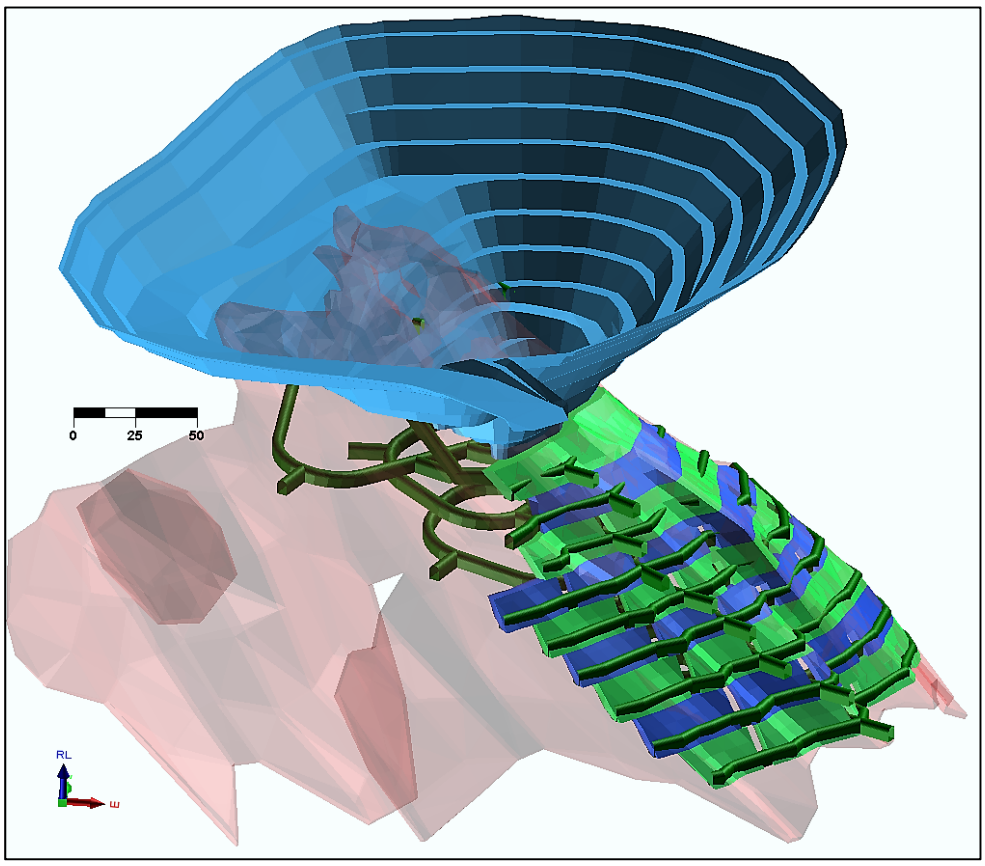

Figure 7: Shannon pit & underground mine design, 3D view to the north-west

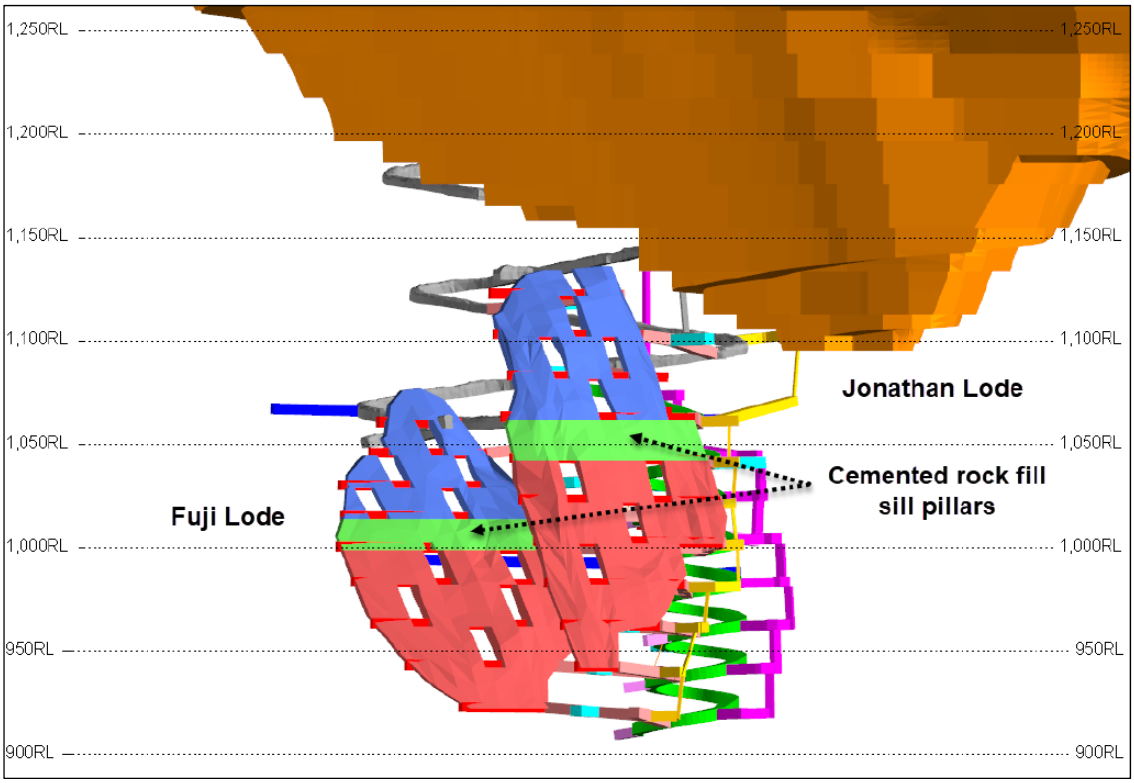

Figure 8: Edna May underground mine design, view to the East

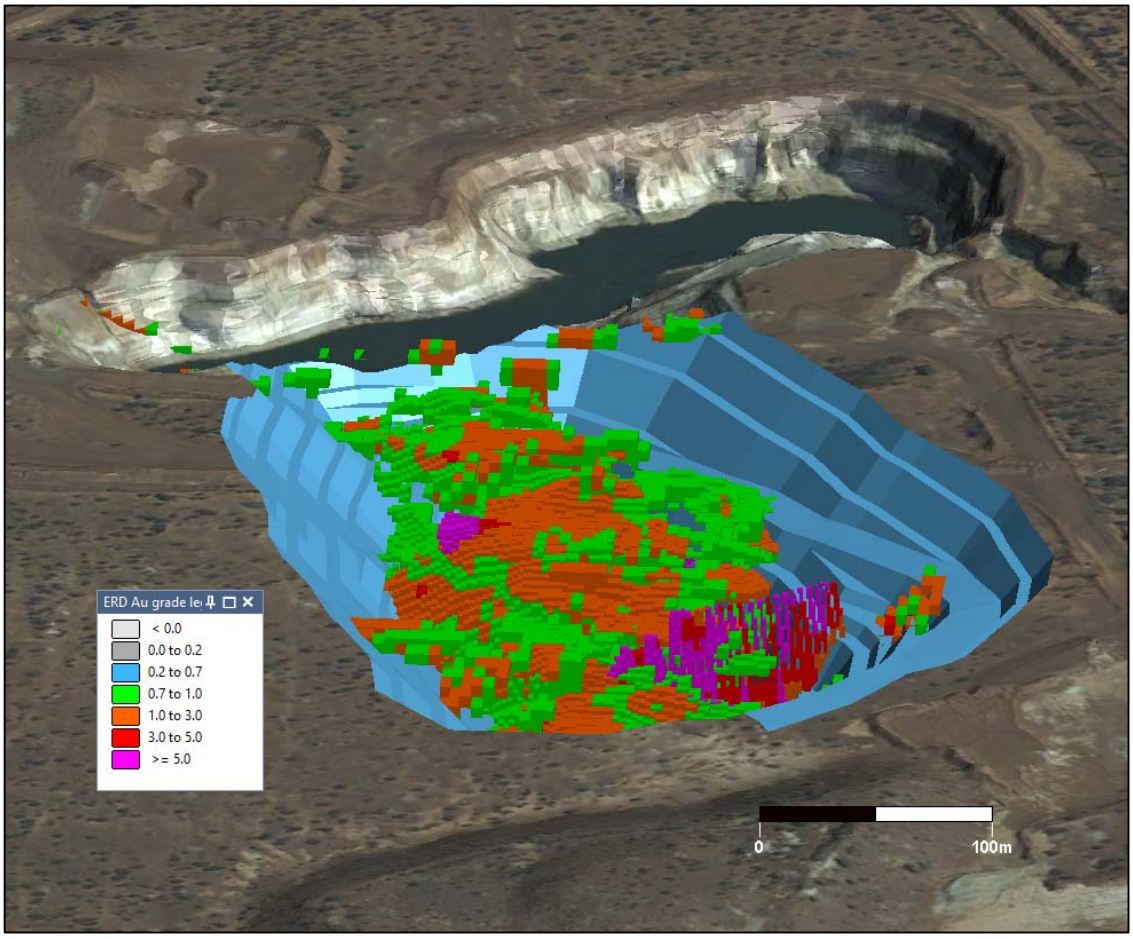

Figure 9: Eridanus model & pit design, view to the West

Competent Persons Statements

The information in this report that relates to Mineral Resources is based on information compiled by Rob Hutchison, a Member of the Australasian Institute of Mining and Metallurgy. Rob Hutchison has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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'. Rob Hutchison is a full-time employee of the company and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information compiled by Duncan Coutts, a Member of the Australasian Institute of Mining and Metallurgy. Duncan Coutts has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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'. Duncan Coutts is a full-time employee of the company and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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.

TABLE 1 - JORC REPORTING CRITERIA

Section 1	**Sampling Techniques and Data**					
Project	**Mt Magnet**, includes Galaxy, Cosmos, Morning Star, Water Tank Hill, Hill 60 and numerous smaller deposits. Galaxy consists of the Saturn, Mars, Titan, Brown Hill & Vegas. Cosmos consists of the Milky Way, Stellar, Stellar West & Shannon deposits.	Western Queen	**Edna May**, includes the main Edna May deposit and Greenfinch deposit	Coogee	Vivien	Kathleen Valley
Project History	Field discovered in 1891. Hill 50 UG mine operated 1934-1976 & 1981-2007. Recorded production of 6.0 Moz. Operated by numerous companies including WMC, Metana Minerals, Hill 50 Gold and Harmony Gold. Project acquired by Ramelius Resources Ltd (RMS) in 2010, with exploration, mining and milling recommencing early 2012. Ramelius gold production to 2017 is 390koz.	Historic underground production in 1936/37. Significant drilling and exploration by WMC in early 1990's. Western Queen (WQ) pit mined by Equigold 1998-2001. Western Queen South (WQS) mined by Harmony Gold in 2007. Mined by RMS 2013/14.	Discovered in 1911. UG mining of quartz reefs from 1911-47 producing 360koz. Modern mining comencing 1984 with Australian Consolidated Minerals, followed by Catalpa & Evolution. Total production over 1Moz. Acquired by Ramelius in 2017.	Discovered in mid-1990's. Majority of drilling by Sovereign Resources shortly after discovery in 1996, with lessor amounts by Harmony Gold (2002) and recently by Ramelius (2012). Mined by RMS 2013/2014.	Historic underground production in early 1900's. Early drilling by Asarco, Wiluna Mines and Australian Goldfields (AGFNL). Pit mined on 1997/98 by AGFNL. Major drilling by Agnew Gold Mining Company in 2000's. RMS acquisition & drilling 2013. Ramelius gold production 2016-18 is 105koz	Historic underground production in early 1900's at Yellow Aster (YA) and Nils Desperandum (ND). Explored by Newmont (1980's), Sir Samuel Mines/Jubilee Mines (1990's - 2000's) and Xstrata (2012). RMS acquisition & drilling in 2014. Ramelius gold production to 2015-2016 was 66koz.
Sampling techniques	Sampling was completed using a combination of Reverse Circulation (RC) and Diamond Drilling (DD). RC drill samples were collected at 1m intervals in a cyclone at the side of the drilling rig and a sub-sample collected via a riffle or cone splitter. A split portion weighing 2-3kg was in collected in numbered sample bags. The remaining portion was laid out on the ground for logging. Occasional wet samples were not split but collected in a plastic bag then spear sampled. Some samples were collected as 2m or 4m composites. These were generally outside mineralised areas, with exception of early Kathleen Valley holes. Diamond Drilling (DD) core was sampled as 1m or geologically selected intervals. Core was sawn to provide half core samples for analysis. Core outside lode or mineralised zones is not always sampled.					
	All sampling by conventional gold industry drilling methods. More recent RC drilling have duplicate samples collected to test sample representivity.					
	Sampling Technique details for historic drilling are often partial or unknown. At Mt Magnet numerous reports exist referencing similar methods of sampling, however detailed information is incomplete or lacking for the majority of older data or exists in hardcopy formats which have not been systematically investigated. Early RC drill sampling (pre 1990's) is likely to have used cross-over subs which could affect sample recovery and contamination to a greater degree than modern face sampling hammers. Early RC drilling may have been collected in bagged 1m samples and manually riffle split.					

Drilling techniques	*Recent (+2009)*: 860 RC and DD holes, with majority as RC using face sampling bit. Diamond drilling (DD) consists of NQ or HQ drill core. Most core not orientated. *Old*: Exploration/resource database contains 74,000 holes, with around 23,000 RC and 5,000 DD. Not all hole types recorded. Older RC holes may have used cross-over subs. Some RAB, AC or VAC holes may be included in shallow resource estimates (i.e. surficial laterites). Underground drilling includes some smaller core sizes such as BQ and grade control sludge holes.	Deeper resource drilling below current pit is largely diamond or RC pre-collared diamond tail holes. The non-GC drill dataset is over 200,000m. 227 holes are greater than 200m and maximum depth is 835m. Typically NQ core. Ramelius drilled 108 holes (100 DD) for 13,715m in 2017/18.	Resource defined by 140 RC holes and 2 DD holes. RC used face sampling bit. 15 RC and 2 HQ diamond core holes were drilled by RMS in 2012. Core not orientated. RAB and AC holes exist but are not used for estimation	Drillholes for resource comprise 70 RC and 158 DD holes. DD holes are NQ size and normally have RC precollars. ≈80% of drilling is post 2002 and deeper holes are mostly Diamond. Ramelius drilled 12 infill, geotechnical and exploratory DD holes (3 x HQ3, 7 x NQ2) in 2013. Core orientated using EzyMark.	Drillholes for resources comprise 854 RC and 56 Diamond holes. DD drillholes include HQ and NQ core sizes. Core was not orientated. The majority of drilling was completed by Jubilee Mines in 1992-96. Xstrata drilled 73 RC and 30 DD holes in 2012. RMS drilled 28 RC holes in 2014.
Drill sample recovery	Core recovery has been logged for more recent drilling at Mt Magnet, Western Queen South, Kathleen Valley (post 2009) and Vivien (post 2002) and is generally excellent (≈100%). Minor wet intervals occur and can affect RC sample recovery. Edna May core recovery excellent. Chip sample recovery is generally not logged. Voids relating to historic UG workings are logged as open or filled stope voids.				
	Sample recovery at all deposits is generally excellent in weathered and fresh rocks. Recent drilling has utilised RC rigs of sufficient size and air capacity to maximise recovery and provide dry chip samples or significant diamond drilling (Edna May).				
	No indication of sample bias is evident or has been established.				
Logging	Recent drilling (+2009) has been logged for lithology, oxidation, alteration, veining and sulphides and all core is photographed and unsampled core retained. Chip-trays were retained for RC precollars and holes. Older drilling generally has a minimum of lithology is logged for +90% of holes, with varying degrees of other information. All projects have a number of holes drilled and logged specifically for geotechnical purposes and the level of detail supports resource estimation, mining studies and metallurgical understanding.				
	Drillhole logging of RC chips & DD core is qualitative on visual recordings of rock forming minerals & estimates of mineral abundance. Photography exists for recent (+2002) DD core from all projects.				
	The entire length of drillholes are geologically logged				
Sub-sampling techniques and sample preparation	Core holes are sawn and sampled as half core. Some 1/4 core sampling has occurred as checks. Older drilling details incomplete but where available were similar. Old Mt Magnet core may have been hand split in some instances				
	Recent RC holes sub-sampled by rig mounted cone or riffle splitter. Majority of old drilling details unknown. Kathleen Valley (KV) 90's drilling collected in plastic bags and manually riffle split. Occasional wet samples spear sampled from plastic bags.				
	Sub-sample methods appear appropriate for deposit and sample type using excepted industry practices.				
	Recent RC samples have field duplicate samples taken at regular intervals and compared. For older sampling reports exist referencing similar methods, however detailed information is incomplete or lacking for the majority of older data or exists in hardcopy formats which have not been systematically investigated.				
	All recent samples sub-sampled using accepted splitting techniques and have been delivered to laboratory for total preparation by crushing and pulverisation, before being sub-sampled for analysis. For recent Mt Magnet (+2009) samples pill standards have been frequently submitted testing sample preparation and homogenisation.				
	Sample sizes are generally appropriate for grain size and material types being sampled, although nuggety gold exists at Vivien and Kathleen Valley and smaller samples, i.e. half NQ core, may be less representative than larger RC samples.				
Quality of assay data and laboratory tests	Recent assaying (+2002) has all been by commercial laboratories including ALS, SGS, KalAssay and Genalysis, typically by 40-50g Fire Assay to give total contained gold. Screen Fire Assays have been used for 2013 vein samples at Vivien. Earlier assaying includes a number of techniques and laboratories and details are often incomplete or unknown. 1990's assays at Kathleen Valley were typically by Aqua regia 25g, but mineralised zones re-assayed by 1kg BLARG (Multilab - Leonora). Older Mt Magnet assays frequently use PAL assays conducted by site laboratories.				

	No field analyses of gold grades are completed. Quantitative analysis of the gold content and trace elements is undertaken in a controlled laboratory environment.					
	Recent assaying (+2002) has had QAQC measures including certified reference standards, field duplicates, blank samples and umpire laboratory check samples carried out for all deposits and shows acceptable levels of accuracy and precision. For older data reports and tables exist, referencing similar QAQC methods, however detailed information is incomplete or lacking for the majority of old data. 1990's Kathleen Valley samples lack blanks and standards, but have frequent repeat assays using BLARG or SFA and a reasonable number of interlab check assays (Genalysis) carried out and compared.					
Verification of sampling and assaying	The Competent person has verified significant intersections of recent RMS drilling during the resource modelling process					
	In most projects holes were not twinned deliberately, but there are frequent holes that are effectively twinned by varied drill angles and hole density. All significant projects have holes drilled more recently as a check of older drilling data. The new Eridanus resource has a number of scissor and orthogonal holes drilled as checks.					
	Recent (+2002) data was captured using logging software (i.e. Field Marshall) and transferred to central databases (i.e. SQL). Assay results are loaded electronically. All drillhole data is visually validated prior to resource modelling. For old data detailed information for verification of sampling and assaying is generally not available. In some cases, i.e. Kathleen Valley, hardcopy data is available and checks have been conducted to verify original and electronic datasets.					
	No adjustment of assay data					
Location of data points	Recent (+2002) collars have been surveyed by DGPS instruments or by minesite surveyors to sub-metre accuracy. RMS holes drilled at Mt Magnet, Edna May, WQS and Vivien were downhole surveyed using electronic camera or gyroscopic survey tools. Old: Collar survey method is not recorded for all old holes, however at Mt Magnet and Vivien mine site surveyors were available and used. At Kathleen Valley older holes were frequently planned to a pegged survey grid and drilled on the grid to +/- 1-2m accuracy. Downhole surveys not available for all older drilling, notably vertical RC drilling at Coogee and Kathleen Valley. If present, downhole survey method frequently unknown.					
	Local grids have been used for resource modelling of all deposits. Holes may have been picked up in local grid or MGA94 and then translated. Original survey coordinates are retained.					
	Quality topographic surfaces have been generated more recently from aerial photogrammetry or detailed surveys. Some older drillhole RL data has been adjusted to match accurate topography					
Data spacing and distribution	The majority of Mt Magnet deposits are drilled on a 25m based sections and frequently closed to 12.5m. On section spacing is generally 20-50m, with spacing generally closer near surface and wider at depth. Some deposits are drilled on 20m section spacings.	Resource holes on 25m sections with variable 10-50m on section spacing.	Resource holes on 25m sections with variable 10-50m on section spacing. Density decreasing at depth.	Majority of drilling is 25m section by 10m on section spacing, with some infill to 5m on lines in core high grade zones and/or selected 12.5m sections.	Drilling pattern generally on 25m sections and 10-30m eastings.	Drilling pattern generally on 25m sections and 10-20m eastings and frequently closer.
	Data spacing is appropriate to defining deposits and estimation process					
	RC: Vast majority of samples are 1m with minor 2 or 4m composites, generally outside mineralised areas. Diamond: 1m samples or geologically defined 0.3 - 1.5m samples. All data composited to 1m lengths for resource calculations.					

Orientation of data in relation to geological structure	Orientation of geological structure and deposit geometry is varied at Mt Magnet. Intercept angles are usually orthogonal or high-angle to stratigraphy and vary to suit individual deposits. Mineralisation is frequently complex with structurally controlled stratigraphic and cross-cutting sub-vertical trends. Drillhole dip angles are generally at a moderate to high angle to steeply dipping stratigraphy and mineralisation.	Drillholes are orientated orthogonal to the geological and mineralised trend. Intercept angles are moderate to high angle. Typically as -60° east dipping holes drilling a steeply -80° west dipping lode zone.	Drillholes are orientated orthogonal to the geological and mineralised trend. Intercept angles are moderate to high angle. Typically as -60° south dipping holes drilling a steeply -80° west dipping gneiss unit. High grade quartz reefs have been targeted with orthogonal UG diamond holes	Drillholes are orientated orthogonal to the geological and mineralised trend. Intercept angles are at a high angle and close to true width. Most holes are vertical drilling a shallow -30° west dipping lode zone. New RMS drilling is -60° to the east.	Drillholes are orientated orthogonal to the geological and mineralised trend. Intercept angles are at a moderate to high angle to the lode. Typically as -60° NW dipping holes drilling a -75° SE dipping lode zone.	Drillholes are orientated orthogonal to the geological and mineralised trend. Intercept angles are at a high angle to the lode. Typically as -60° E dipping or vertical holes drilling a flat to shallow W dipping lode zone.
	No bias considered present for all deposits. At Mt Magnet, potential for orientation bias for some individual holes exists, but no bias is believed evident at deposit scales.					
Sample security	*Recent*: All samples have been collected by Ramelius geological staff. Samples are transported to the laboratory by commercial transport companies. The laboratory receipts received samples against the sample dispatch documents and issues a reconciliation report for every sample batch. *Old*: unknown					
Audits or reviews	No external audits or reviews of sampling techniques and data collection have been undertaken.					

Section 2	**Reporting of Exploration Results**					
Mineral tenement and land tenure status	Mt Magnet resources and reserves fall within the contiguous 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.	WQS falls within M59/208 owned 100% by Mt Magnet Gold Pty Ltd	Edna May falls within M77/88 owned 100% by Edna May Operations Pty Ltd.	Coogee falls within M26/477 owned 100% Ramelius Resources Ltd	Vivien falls within M36/34 owned 100% Ramelius Resources Ltd	Kathleen Valley mineral resources fall within M36/375 owned 100% Ramelius Resources Ltd
	Operating mine site. No known impediments.	Recently operating mine site. No known impediments.	Operating mine site. No known impediments.	Recently operating mine site. No known impediments.	Operating minesite as of May 2015.	Recently operating mine site. No known impediments.
Exploration done by other parties	In all deposits a large proportion of exploration work has been carried out by previous owners. i.e. Mt Magnet - WMC, Metana Minerals, Hill 50 Gold and Harmony Gold. Western Queen South - WMC, Equigold, Harmony Gold. Coogee - Sovereign Gold, Harmony Gold. Vivien - Asarco, Wiluna Mines, Australian Goldfields and Agnew Gold Mining Company. Kathleen Valley - Newmont, Sir Samuel Mines/Jubilee Mines and Xstrata. Edna May - Westonia Mines, ACM, Work includes geological interpretation, soil sampling, exploration and resource drilling, geophysical surveys, data collation and modelling.					

Geology	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 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 & almost all resources (except Eridanus) have been previously mined	Archaean gold mineralisation. The WQ, WQ central and WQ south zones are hosted by steeply dipping mafic - ultramafic greenstone stratigraphy. Mineralisation occurs as within a steeply dipping, NNW trending foliated mafic lode/shear zone displaying silica veining and alteration and disseminated pyrite. The lode sits adjacent to an ultramafic contact.	Hosted by Edna May Gneiss, a metamorphosed granitoid with strike length of 1km, width of 140m and depth extent of 700m and bounded by a mafic-ultramafic stratigraphy. Mineralisation relates to widespread quartz veining, which occurs as thin sheeted foliation parallel or larger cross-cutting reef veins with a polymetallic sulphide assemblage. Mineralisation forms a broad low-grade stockwork within the gneiss.	Coogee is hosted by a felsic dacitic and rhyolitic units. Mineralisation is hosted within a shallow (-30°) west dipping lode/shear zone. Pit exposures show the lode zone to be associated with sericite-chlorite alteration, coarse pyrite-hematite mineralisation and foliation. It is interpreted as a Archaean structurally hosted lode gold deposit possibly occurring on a sedimentary layer within the volcanic sequence. High grade zones occur as SE plunging shoots within the shear.	Vivien is a typical orogenic structurally controlled Archaean gold lode system. It is a steeply dipping narrow quartz vein hosted within a dolerite/gabbro unit. It has strong geological continuity and is well understood from diamond drill core and historic mining and investigation. Mineralisation is related to a secondary phase of quartz veining with associated sulphide mineralisation.	Kathleen Valley deposits are orogenic structurally controlled Archaean gold lode systems. The mineralisation is controlled by a W dipping N/S trending fault contact between the Jones Creek Conglomerate and underlying ultramafic rocks. Gold occurs in flat lying silica-biotite-pyrite altered lodes hosted by the Conglomerate just above the fault contact. The Mossbecker deposit, for example, extends over 350m strike and consists of 1 - 2 main sub-horizontal lodes.
Drill hole information	This report relates to resources and reserves based on existing drillhole datasets. No new exploration results are reported. All previous RMS significant new drilling results have been previously reported.					
	This report relates to resources and reserves based on existing drillhole datasets. No new exploration results are reported. All previous RMS significant new drilling results have been previously reported.					
Data aggregation methods	No exploration results are reported. Intercepts used in resource modelling are typically defined by cutoff and/or geological interpretation. Lower cutoff varies from 0.5 to 2 g/t based on deposit style and whether open pit or underground mining scenario.					
	Vivien is example of highly mixed grade population with all quartz vein material modelled as lode zone but very erratic and nuggety gold grade values (frequently below nominal cutoff)					
	No metal equivalents, gold only					
Relationship between mineralisation widths and intercept lengths	This report relates to resources and reserves based on existing drillhole datasets. No new exploration results are reported. Mineralisation widths are effectively constrained by interpretation and modelling process					
Diagrams	Appropriate plans and section are reported with previous new drilling result releases. Appropriate example resource/reserve pictures are presented above.					
Balanced reporting	This report relates to resources and reserves based on existing drillhole datasets. No new exploration results are reported. All previous RMS significant new drilling results have been previously reported.					

Other substantive exploration data	All deposits have had some degree of additional sampling or testwork in regard to geotechnical investigation, geochemical characterisation, metallurgical testwork and density measurement, usually on specific selected diamond core holes. Other exploration data is useful in understanding geology and mineralisation types but is generally not material to resource estimation.
Further work	Further work will consist of ongoing infill or extensional drilling on material projects likely to convert to reserves to extend mine life.
	Further work mainly comprises of varied drilling stated above and no diagrams are attached

Section 3	**Estimation and Reporting of Mineral Resources**
Database integrity	*Recent (+2002)*: Ramelius employs an SQL central database using Datashed information management software. User access to the database is regulated by specific user permissions. Only specific users can overwrite data. Data collection uses Field Marshall software with fixed templates and lookup tables for collecting field data electronically. A number of validation checks occur upon data upload to the main database. Recent data from Edna May (Evolution), Vivien (AGMC) & Kathleen Valley (Xstrata) has employed similar measures. *Old*: The majority of data has been inherited as SQL or access databases and integrity measures is largely unknown. Numerous old resource reports list previous validation exercises, however new checks have not been undertaken.
	Validation checks include electronic checks for missing assays and geology intervals, overlapping intervals, duplicate assays, EOH depth, hole collar elevations and assay value detection limits, negative and zero values. Some historic data, notably Kathleen Valley, has been checked against hardcopy logs and assay reports.
Site visits	The Competent Person is a full time employee of Ramelius Resources Ltd and has made multiple site visits to all deposits. Visits confirmed understanding of deposits and datasets
Geological interpretation	Confidence in the geological interpretation of the deposits is high. All deposits (except Eridanus) have had a significant history of exploration or recent mining. Geological interpretations have been formulated over many years and multiple drilling campaigns.
	Numerous geological interpretations, pit or underground maps and reports exist and almost all resources have been previously mined to some degree. Drillhole geological logging and mapping data is primary information used to interpret geological and fault wireframes.
	No alternate interpretations have been considered necessary
	At Mt Magnet mineralisation is principally hosted within Banded Iron Formations (BIF) where gold is spatially associated with NE trending faults and associated with pyrrhotite and pyrite mineralisation. Additionally gold is commonly found in late stage felsic intrusives which cross-cut stratigraphy in NE trend. For resource modelling the geology has generally been interpreted first followed by a separate interpretation of mineralisation envelopes. At WQS mineralisation occurs as within a steeply dipping, NNW trending foliated mafic lode/shear zone displaying silica veining and alteration and disseminated pyrite. At Coogee mineralisation is hosted within a shallow (-30°) west dipping silica-pyrite lode zone within felsic volcanic units. At Vivien mineralisation is hosted by a steeply dipping quartz vein within a dolerite host unit and strongly associated with sulphide mineralisation within the vein. At Kathleen Valley mineralisation sits in sub-horizontal silica-biotite-pyrite altered lodes within a granitic conglomerate unit just above shallow dipping fault contact with underlying ultramafics. Edna May is a large scale vein stockwork with a number of higher grade quartz 'reefs'.
	Continuity is affected by geological extents and mineralisation as currently defined by drilling

Dimensions	Numerous variations. Examples: current Saturn pit cutback being mined is 700m long, 350m wide & 190m deep. Main Saturn BIF hosted orezone strikes length of pit, is 5-30m wide, subvertical and currently drilled to 350m vertical depth. Higher grade zones typically occurring as vertical shoots in BIFs. Minimum width in resource interpretations generally 3-4m, example Golden Stream narrow sub-vertical BIF hosted resource over 270m strike length, drilled to 90m down-dip.	Lenticular NNW striking and steeply west dipping (-70°) lode with width of 5-15m. Strike length of 350m. Drilled down dip extent of 160m and higher grade core zone plunging -40° to S. Occurs from 40 to 300m below surface.	Edna May gneiss unit is a lenticular body, typically 50-150m thick, 1000m long and defined down-dip to 700m. It strikes east-west and dips N at 50-60°. Quartz reefs strike N-NE and dip 45-50 W.	Shallow dipping (-30°) tabular lode, 3-6m thick. Strike extent of 230m, drilled down dip extent up to 130m. Occurs 25-100m below surface. Smaller flat lying supergene zone, 2-5m thick sits above lode at base of complete oxidation (25-30m depth).	Narrow vein/lode style. Strikes NNE and dips at 70° to ESE. Average width approximately 2.7m, ranging between 1- 7m. Established strike length of 600m and down dip extent of 400m.	The Mossbecker deposit extends over 350m strike (to N).Gold mineralisation occurs in shallow dipping lodes 2-10m thick and 40m wide and plunges around 15° to the southwest. Lodes occur from 0-100m depth. The other deposits are of similar dimensions and geometry.
Estimation and modelling techniques	Recent: Core deposits have been remodelled in 2012-2013. 3D mineralisation wireframes interpreted in Micromine. Often multiple domains were generated to reflect geological host, mineralisation style or local spatial trends and hard bound assay information at a nominal 0.5g/t (open-pit) cutoff. Estimation by anisotropic Ordinary Kriging or ID methods using 1m composited assay data in parent cells only. Topcuts applied by domain determined by review of population stats. All resources except Water Tank Hill have previous versions to compare. Models were validated visually against assay data. Reports exist for all models to varying degrees of detail.	Three dimensional mineralisation wireframes interpreted in Micromine. One primary and 2 minor lode domains were generated to hard bound assay information at a nominal 1g/t cutoff. Estimation by anisotropic Ordinary Kriging and comparison ID^3 methods using 1m composited assay data in parent cells only. Appropriate topcuts applied by domain determined by population stats.	The Edna May Gneiss unit forms the main mineralised domain and grades were generated within it using anisotropic Ordinary Kriging. Population statistics were reviewed and appropriate topcuts and parameters applied. Quartz reefs were constrained within interpreted lode shapes and estimated separately.	Three dimensional mineralisation wireframes interpreted in Micromine software. One primary and one supergene domain were generated to hard bound assay information at a nominal 1g/t cutoff. Estimation by anisotropic ID^3 method using 1m composited topcut assay data in parent cells only.	Three dimensional mineralisation wireframe interpreted in Micromine. Single lode domain interpreted based on quartz vein position, with minimum 1.5m downhole width. Grade estimation by Ordinary Kriging method using 1m composited topcut assay data to parent cells only. Anisotropic search ellipse using strike and dip and with NE plunge used reflecting previous interpretations and variography.	Three dimensional mineralisation wireframes interpreted in Micromine. Lode domains interpreted based on 0.5g/t cutoff. Hard bounded grade estimation by Inverse Distance & Ordinary Kriging method using 1m composited topcut assay data to parent cells only. Anisotropic search ellipse based on domain variography.
	All deposits have previous resource estimates which have been used as checks against current estimates. Mining by RMS at Mt Magnet, WQS, Vivien, Edna May and Coogee has also occurred and allowed comparison of resource estimates to production. Galaxy models were adjusted 2012 to account for this.					
	No by-products					
	No non-gold elements of significance. Low sulphur or sulphur directly related to ore grade material.					

	Galaxy block size 4m(X) x 10m(Y) x 5m(Z) with subcells. Parent cell estimation only. Other deposits similar sizes. Anisotropic search - maximum range 120m	Block size 4m(X) x 10m(Y) x 5m(Z) with subcells. Parent cell estimation only. Anisotropic search - maximum range 100m	Block size 10m(X) x 5m(Y) x 5m(Z) with subcells. Parent cell estimation only. Anisotropic search - maximum range 100m	Block size 5m(X) x 12.5m(Y) x 2.5m(Z) with subcells. Parent cell estimation only. Anisotropic search - maximum range 50m	Block size 5m(X) x 12.5m(Y) x 10m(Z) with subcells. Parent cell estimation only. Anisotropic search - maximum range 65m	Block size 5m(X) x 10m(Y) x 5m(Z) with subcells. Parent cell estimation only. Anisotropic search - maximum range 50m
	No assumptions made in modelling SMU at resource stage					
	Grades assumed to correlate along mineralised trends/wireframes and estimated using anisotropic searches matching correlation directions					
	Mineralisation wireframes were constructed with reference to geological/mineralisation interpretations					
	All gold deposits with lognormal grade distributions. Top cutting used in all estimates as per industry practice, in 97.5 to 99.5 percentile range.					
	Validation has generally included visual comparison against drillhole grades, volume comparisons, global grade statistic comparison and swath grade plots					
Moisture	All tonnages are estimated on a dry basis					
Cut-off parameters	Cut-off grades are adopted on current operating cutoff grades, with variances for deposit mineralisation tenor, location and mining method. Mt Magnet open-pit resources are generally reported above 0.6 or 0.7 g/t. Mt Magnet, WQS and Vivien underground resources are nominally above 2-3g/t. Edna May is reported above 0.5/g/t. Kathleen Valley mineralisation encompassed and reported above 0.5g/t envelope. This cutoff encapsulates the mineralisation effectively and typically discriminates economic material from waste.					
Mining factors	Galaxy, Cosmos, Eridanus, Morning Star and Mt Magnet pit deposits, Coogee & Kathleen Valley are currently modelled as open pit deposits. Factors include potential pit depths, minimum mineralisation widths and economic cutoffs based on current contract mining equipment and milling facilities. Mt Magnet UG deposits, including Water Tank Hill, Hill 60, Shannon and Vivien and WQS are currently modelled with consideration of extraction by conventional sub-level open stoping methods. The Saturn UG resource assumes a bulk underground sub-level cave type method. Edna May resource is both a bulked low grade model for open pit evaluation and contained two high grade constrained reefs for UG evaluation.					
Metallurgical factors	Metallurgical treatment is based on current ore production or metallurgical testwork. Milling is occurring at Ramelius' Checker mill (Mt Magnet), a 1.7 Mtpa CIL gold plant and the Edna May mill (Westonia), a 2.8Mtpa CIL gold plant. Mt Magnet deposits are currently or have recently been processed with recoveries around 90-92%. Edna May has significant gravity recoveries (≈50%) and high total recoveries (≈94%). Vivien is processed at Mt Magnet with recoveries of 96%.					
Environmental factors	All sites are now operating or recently operating mine sites and compliant with all legal and regulatory requirements. No significant environmental issues are envisaged. Approvals processes are underway for a number of projects. The Greenfinch open pit project is within a PEC/TEC area and requiring additional environmental approvals, currently in progress.					
Bulk density	All deposits have a number of density measurements based on core samples using water immersion method. Calculated density is dry. The number of measurements is variable but there are enough to give representative average density values to use in ore and waste tonnage calculations.					
	Density measurements are always available for fresh core, but fewer measurements exist for oxidised or transitional materials. Oxidised densities used can include assumed values based on previous mining and CP experience.					
	All resources have dry densities assigned by geologically interpreted weathering horizon, plus rocktype where appropriate. At Vivien a variable density calculation is applied to fresh quartz lode based on ore grade. This fits with measured densities and the correlation between sulphide content with gold grade.					
	It is assumed the deposit densities can be represented by the average values determined or estimated by rocktype and oxidation type.					

Classification	Mineral Resources have been classified into Measured, Indicated and Inferred categories based on drillhole spacing, geological confidence, information quality and grade continuity. Only a small proportion of resources have been classed as Measured and generally occur at a areas of high drilling density at the base of previously mined pits.
	Appropriate account has been taken of all factors
	The classification reflects the Competent Person's view
Audits or reviews	The Galaxy, Milky Way, WQS, Edna May, Coogee and Vivien mineral resource estimates have been reviewed by an external geological consultant. While a number of minor changes and enhancements were recommended, no significant flaws to the resource models were found. Historic drilling data information quality was not reviewed. Other Mt Magnet resources have not been externally reviewed.
Discussion of relative accuracy /confidence	All deposits (except Eridanus) have a number of previous resource estimates for comparison. Much of the drilling data however is historic and methodology detail and quality assurance information is not always complete or in hardcopy records which have not been systematically investigated. Hence the bulk of resources have been assigned an indicated or inferred status. At the Mt Magnet deposits: Perseverance, Morning Star, St George, Mars and at Vivien and Kathleen Valley some underground mining voids exist and surrounding remnant resources if existing are given a maximum of Indicated status. Confidence levels are reflected by the classifications applied and reported.
	The estimates are global estimates
	Many of the resources have current production data to compare, including, Milky Way, Stellar, Stellar West, Water Tank Hill, Vivien and Edna May and reconcile within 10% of estimates.

Section 4	**Estimation and Reporting of Ore Reserves**					
Mineral Resource estimate for conversion to Ore Reserves	Mt Magnet ore reserves are based on revised resource estimates generated by RMS in 2012 - 2018, with the exception of the Lone Pine open pit and St George underground which are based on previous Harmony resources	WQS - no Ore Reserve	Edna May ore reserve is based on Ramelius 2018 resource model. Greenfinch is based on Ramelius 2017 resource model	Coogee - no Ore Reserve	Vivien ore reserve is based on the 2018 Grade Control model and the Ramelius 2014 Mineral Resource model	Kathleen Valley - no Ore Reserve
	Mineral Resources are reported inclusive of Ore Reserves					
Site visits	The Competent Person is a full time employee of Ramelius Resources Ltd and has made multiple site visits. Visits have confirmed understanding of reserve work.					
Study status	At Mt Magnet, Edna May and Vivien reserves are based on budgeted production, life of mine planning, feasibility and pre-feasibility studies conducted with the last 1 to 4 years.					
	Ore Reserves have been generated after studies appropriate to the deposit type, mining method and scale and are considered to be at least Pre-Feasibility level. Mining studies have been carried out both internally and using external consultants with appropriate geotechnical, hydrological, equipment, metallurgical and mining method information. Costs have been used from current budgeted mining, milling and administration costs. Environmental, social and other factors have been considered internally.					
Cut-off Parameters	Mt Magnet - open pits cut-off 0.6-0.7 g/t, selective UG cut-off 3.5g/t. Vivien UG cut-off 3.5g/t. Edna May Stage 2 pit cutoff 0.5 g/t. Greenfinch open pit cutoff 0.6 g/t. Edna May UG cutoff 2.1 g/t.					

Mining factors or assumptions	For Mt Magnet and Edna May resources, models have been created with a parent block size to reflect likely SMU block size and mining resolution prior to optimisation and design work to generate ore reserves. Some models have had blocks regularised to generate an appropriate SMU size. For Vivien the resource model is used as is with planned development and stoping design given planned and unplanned dilution factors.
	Appropriate mining methods are used. Open pit mining methods for Mt Magnet & Edna May open pit resources using current design, mining equipment and cost parameters. Selective open stoping underground methods are used for Mt Magnet & Edna May underground reserves.. For Vivien a conventional, narrow, top-down, long hole stoping method is used.
	Geotechnical parameters are derived from current mining practises and regular inspection & reporting by geotechnical consultants for all operating mines. New projects have a number of geotechnical drillholes and assessments generated. Grade control processes are well established and generally consist of RC drilling within pits or face sample grade control and drilling in undergrounds.
	For Mt Magnet and Edna May resources, models have been created with a parent block size to reflect likely SMU block size and mining resolution prior to optimisation and design work to generate ore reserves. Some models have had blocks regularised to generate an appropriate SMU size. For Vivien the resource model is used as is with planned development and stoping design given planned and unplanned dilution factors.
	Dilution factors are used for all pits and range between 2 - 10% based on deposit style, orientation and mining method. At Vivien 20% dilution (0 g/t) is used if stopes between 1.5 and 2m and 10% dilution if wider than 2m. For Shannon, dilutions of 20% at 0g/t were applied. For Hill 60 UG, dilution of 25% at 0g/t were applied. For Edna May UG dilutions of 27-31% are applied.
	Open pits mining recoveries range between 90-98%. At Vivien mining recovery was 95% with 5% left as island rib pillars. At Shannon UG and Hill 60 UG, 95% mining recovery was applied. At Edna May UG 85% mining recovery was used.
	At Mt Magnet a minimum width of around 3m is assumed. At Vivien, minimum stope width of 1.5m was assumed with 20% dilution (0 g/t) and 10% dilution if wider than 2m. At Shannon UG and Hill 60 UG minimum stope widths of 3m is assumed.
	Inferred mineral resources for pits have been tested in optimisations but are not included in Ore Reserves or final pit economic evaluations. The project viability is not dependent on the inferred resource.
Metallurgical factors or assumptions	Milling will use Checkers mill at Mt Magnet and Edna May mill, conventional gravity recovery and CIL processing circuits. Significant milling information historical and current is available for all deposits.
	Process is proven technology
	Significant milling information, historical and current, is available for all deposits. Long term mill recoveries are generally around 92-93% for Mt Magnet and 93-94% for Edna May.
	No deleterious elements present
	No bulk samples or bulk sample requirement
	No specifications, gold
Environmental	Environmental studies including waste rock characterisation studies from drill samples, flora and fauna and hydrological surveys have been carried out for all projects. Mining Approvals are currently granted for the Mt Magnet & Edna May pits. Mining Approvals are underway for new projects including Shannon and Hill 60 UG's and the Morning Star and Greenfinch pits. Greenfinch pit is within a PEC/TEC and requires additional Environmental Approvals.
Infrastructure	Current site infrastructure is in place and suitable for current and planned mining and milling operations. At Mt Magnet it includes accommodation camp, Checkers mill and tailings dams, offices, magazines, roads and gas/diesel power station. At Edna May it includes mill, tailings dams, offices, magazines, roads. Power for processing and surface facilities at Edna May is from state grid and UG is on diesel generation.. At Vivien infrastructure requirements are relatively small, comprising offices, workshop, generators, underground fan, dewatering pumps, pipeline and magazine. Site access roads largely exist. Accommodation will utilise existing camps at Mt Magnet, Westonia and Leinster.
Costs	Capital costs based on current costs and budget model or recent Pre-Feasibility studies.
	Operating costs based on current costs and budget models. Additional costs i.e. void backfilling added where required

	No deleterious elements present
	Using recent average gold price
	Cost models use Australian dollar
	Transport (Vivien & mine site ore haulage) cost based on contracted rates
	Treatment costs based on known current milling costs. No penalties or specifications
	Royalty costs are included in budget models, financial evaluations and feasibility models
Revenue factors	All reserves are generated at $1650/oz or similar.
Market assessment	Doré is sold direct to the Perth Mint at spot price
	Market window unlikely to change
	Price is likely to go up, down or remain same
	Not industrial mineral
Economic	Discounted cash flows were carried out, where relevant, to determine relative NPV's, using a 8% annual discount rate.
	Sensitivity to gold price, grade and costs was also evaluated.
Social	Agreements are in place with stakeholders including traditional land owner claimants, pastoralists and the local Shires
Other	No material risks or impacts are identified.
Classification	Reserves have been classified according to Resource classification. The majority are Probable with a small amount of Proven
	They reflect the Competent Person's view
	No probable reserves are derived from measured resources
Audits or reviews	No Ore Reserves have been reviewed.
Discussion of relative accuracy /confidence	Confidence is in line with gold industry standards and the companies aim to provide effective prediction for current and future mining operations. No statistical quantification of confidence limits has been generated. Estimates are global by deposit. The Ore Reserve is most sensitive to a) resource grade prediction, and b) gold price.