**ASX: AMI** 



# **Group Mineral Resource and Ore Reserve Statement**

# Group

- Strong growth in Group Mineral Resource tonnage, increasing 63% to 27.0Mt, following extensive drilling programs at Federation, Great Cobar and Kairos and the Dargues Mine acquisition.
- Gold-copper mineralisation represents 52% of the Group Mineral Resource tonnage.
- Minor decrease in Group Ore Reserve tonnage after mining depletion to 4.4Mt (3% reduction).
- Significant Ore Reserve growth expected in FY22 from maiden Ore Reserve declarations for Great Cobar and Federation.

#### **Peak**

- 51% increase in the Peak Mineral Resource Estimate (MRE) to 16.9Mt.
- Great Cobar MRE tonnage increased by 43% to 5.8Mt which contains more than 120kt of copper and 130koz of gold.
- Kairos MRE tonnage increased by 68% to 1.6Mt inclusive of Inferred material from the recently identified Eastern Copper Lens.
- Ore Reserve Estimate of 2.7Mt after mining depletion.

#### Hera

Minor MRE increase to 1.7Mt with an Ore Reserve Estimate of 0.9Mt after mining depletion.

# **Dargues**

- 33% growth in MRE tonnage to 2.1Mt at 5.1g/t Au for 350koz of contained gold, reflecting the successful 2021 drill program.
- Ore Reserve Estimate of 0.8Mt at 5.0g/t Au after mining depletion.

### **Federation**

- 45% growth in MRE tonnage since the February 2021 update and a 97% increase in tonnage since the maiden 2020 MRE.
- MRE of 5.1Mt at 5.5% Pb, 9.3% Zn, 0.9g/t Au, 7g/t Ag and 0.3% Cu across all classifications.

#### SUMMARY

Aurelia Metals Limited ("Aurelia" or the "Company" or the "Group") is pleased to report the Group's annual Mineral Resource and Ore Reserve statement for its 100% owned Peak, Hera and Dargues Mines, along with Mineral Resource Estimates (MREs) for its fully owned Federation deposit and 95% owned Nymagee Project in New South Wales (NSW).

The Mineral Resource and Ore Reserve estimates are reported in accordance with the guidelines of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code 2012"). Estimates are reported as at 30 June 2021.

Group Mineral Resource and Ore Reserve estimates are presented in Table 1 and Table 2. Estimates for each mine and deposit are summarised in Table 3 to Table 12.



Table 1. Group MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	5,000	2.6	0.7	1.3	1.7	15
Indicated	12,000	1.7	1.3	1.6	2.3	9
Inferred	11,000	0.9	1.2	2.3	3.8	10
Total	27,000	1.5	1.1	1.8	2.8	11

Note: The MRE is inclusive of Ore Reserves. There is no certainty that Mineral Resources not included in Ore Reserves will be converted to Ore Reserves. The Group MRE utilises a A\$120/t net smelter return (NSR) cut-off for mineable shapes that include internal dilution for Peak, Nymagee and Federation, a A\$100/t NSR for Hera and a 2 g/t Au cut-off for Dargues. NSR is an estimate of the net recoverable value per tonne including offsite costs, payables, royalties and metal recoveries. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 2. Group Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Proved	2,300	230	2.7	0.5	1.8	2.5	17
Probable	2,100	210	2.5	0.5	1.9	2.3	11
Total	4,400	220	2.6	0.5	1.8	2.4	14

Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.

# MINERAL RESOURCE ESTIMATES

Table 3. Peak Mine copper MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	2,700	2.3	1.1	0.2	0.1	8
Indicated	5,900	1.2	1.8	0.1	0.1	6
Inferred	5,600	0.8	2.0	0.1	0.2	9
Total	14,000	1.2	1.8	0.1	0.1	7

Note: The Peak Mine MRE is inclusive of Ore Reserves. The MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 4. Peak Mine lead-zinc MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	730	2.9	0.4	4.1	5.0	26
Indicated	1,200	1.8	0.3	5.3	6.6	26
Inferred	1,000	1.0	0.3	6.3	8.8	37
Total	2,900	1.8	0.3	5.3	6.9	29

Note: The Peak Mine MRE is inclusive of Ore Reserves. The MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.



Table 5. Hera Mine MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	880	1.7	0.1	2.8	4.3	35
Indicated	500	2.1	0.1	1.8	2.6	13
Inferred	280	1.3	0.1	1.8	2.3	17
Total	1,700	1.8	0.1	2.3	3.5	25

Note: The Hera Mine MRE is inclusive of Ore Reserves. The MRE utilises A\$100/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 6. Dargues Mine MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)
Measured	380	6.0
Indicated	1,200	4.8
Inferred	570	5.1
Total	2,100	5.1

Note: The Dargues Mine MRE is inclusive of Ore Reserves. The MRE is reported using a 2g/t Au cut-off. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 7. Federation Deposit MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Indicated	1,500	2.2	0.4	6.1	10	8
Inferred	3,500	0.3	0.3	5.2	9.0	7
Total	5,100	0.9	0.3	5.5	9.3	7

Note: The Federation MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 8. Nymagee Project MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Indicated	1,400	0.1	2.3	0.8	1.5	18
Inferred	40	0.1	1.6	0.2	0.5	10
Total	1,500	0.1	2.3	0.8	1.5	18

Note: The Nymagee Project MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

The change in the Group's MRE relative to the prior (30 June 2020) published statement is presented in Figure 1.



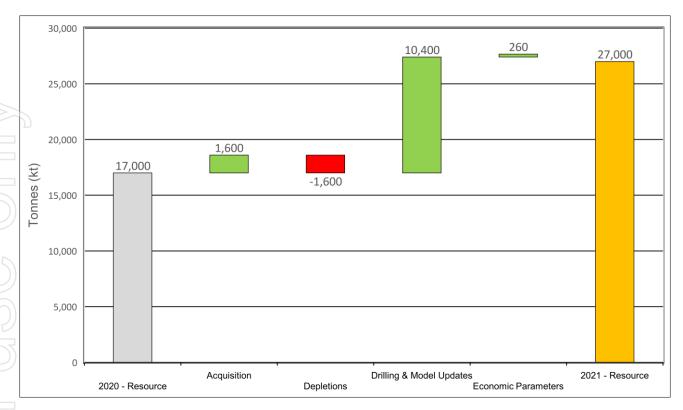


Figure 1. Change in Group Mineral Resource tonnage relative to 30 June 2020.

# **ORE RESERVE ESTIMATES**

Table 9. Peak Mine copper Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Proved	940	200	2.4	1.2	0.2	0.2	4
Probable	740	170	1.6	1.3	0.1	0.1	6
Total	1,700	190	2.1	1.2	0.2	0.1	5

Note: The Peak copper Ore Reserve Estimate utilises a A\$80/t NSR cut-off for development and A\$140-170/t NSR for stoping depending on mine area. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 10. Peak Mine lead-zinc Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Proved	340	360	3.7	0.4	5.7	7.1	25
Probable	670	270	2.2	0.3	5.2	6.2	22
Total	1,000	300	2.7	0.3	5.4	6.5	23

Note: The Peak lead-zinc Ore Reserve Estimate utilises a A\$80/t NSR cut-off for development and A\$155/t NSR for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.



Table 11. Hera Mine Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (g/t)
Proved	750	180	1.4	2.7	4.3	34
Probable	190	150	1.2	2.4	3.6	24
Total	940	180	1.4	2.6	4.1	32

Note: The Hera Ore Reserve Estimate utilises a A\$80/t NSR cut-off for development and A\$100/t NSR cut-off for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 12. Dargues Mine Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)
Proved	230	280	6.1
Probable	540	210	4.5
Total	770	230	5.0

Note: The Dargues Ore Reserve Estimate utilises a A\$80/t NSR cut-off for development and A\$135/t NSR cut-off for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

The change in the Group's Ore Reserve Estimate relative to the prior (30 June 2020) published statement is presented in Figure 2.

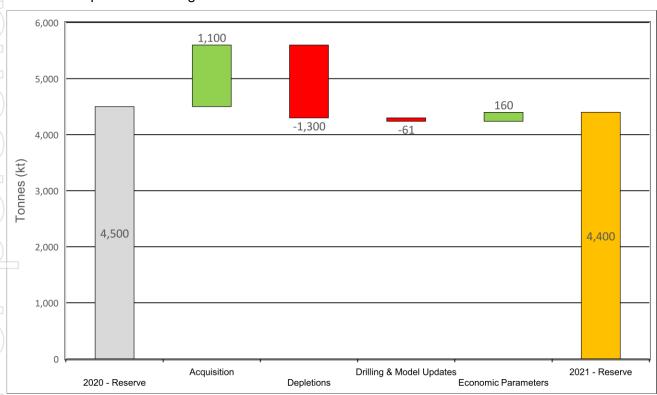


Figure 2. Change in Group Ore Reserve tonnage relative to 30 June 2020.



This announcement has been approved for release by the Board of Directors of Aurelia Metals.

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#### IMPORTANT INFORMATION

This report includes forward looking statements. Often, but not always, forward looking statements can be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", "outlook" and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of the Company, anticipated production or activity commencement dates and expected costs or production outputs. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs of production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits, and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory environment, environmental conditions including extreme weather conditions, recruitment and retention of key personnel, industrial relations issues and litigation. Forward looking statements are based on the Company and management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control. Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law, including any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.



#### **COMPETENT PERSONS STATEMENTS**

#### **Hera and Federation Mineral Resource Estimates**

Compilation of the drilling database, assay validation and geological interpretations for the Hera and Federation Mineral Resource Estimates were completed by Adam McKinnon, BSc (Hons), PhD, MAusIMM, who is a full-time employee of Aurelia Metals Limited. The Hera and Federation Mineral Resource Estimates were prepared by Timothy O'Sullivan, BSc (Hons), MAusIMM, who is a full-time employee of Aurelia Metals Limited. Both Dr McKinnon and Mr O'Sullivan have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr McKinnon and Mr O'Sullivan consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### **Hera Ore Reserve Estimate**

The Ore Reserve Estimate was compiled by Justin Woodward, BEng (Mining), MAusIMM, who is a full-time employee of Aurelia Metals Limited. Mr Woodward has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Woodward consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### **Peak Mineral Resource Estimate**

Compilation of the drilling database, assay validation and geological interpretations for the Peak Mineral Resource Estimate were completed by Chris Powell, BSc, MAusIMM, who is a full-time employee of Peak Gold Mines Pty Ltd. The Mineral Resource Estimate has been prepared by Mr Powell who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Powell consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### **Peak Ore Reserve Estimate**

The Ore Reserve Estimate was compiled by Justin Woodward, BEng (Mining), MAusIMM, who is a full-time employee of Aurelia Metals Limited. Mr Woodward has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Woodward consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### **Dargues Mineral Resource Estimate**

Compilation of the drilling database, assay validation and geological interpretations for the Dargues Mineral Resource Estimate was completed under the supervision of Timothy O'Sullivan, BSc (Hons), MAusIMM, who is a full-time employee of Aurelia Metals Limited. The Mineral Resource Estimate for Dargues was prepared by Mr O'Sullivan. Mr O'Sullivan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr O'Sullivan consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### **Darques Ore Reserve Estimate**

The Ore Reserve Estimate was compiled by Justin Woodward, BEng (Mining), MAusIMM, who is a full-time employee of Aurelia Metals Limited. Mr Woodward has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Woodward consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

#### Nymagee Mineral Resource Estimate

Compilation of the drilling database, assay validation and geological interpretations for the Mineral Resource update were completed by Adam McKinnon, BSc (Hons), PhD, MAuslMM, who is a full time employee of Aurelia Metals Limited. The Mineral Resource Estimate has been prepared by Arnold van der Heyden, BSc, MAuslMM (CPGeo), MAIG, who is an employee of H&S Consultants Pty Ltd. Both Dr McKinnon and Mr van der Heyden have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr McKinnon and Mr van der Heyden consent to the inclusion in this report of the matters based on their information in the form and context in which it appears.



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# 1.0 PEAK MINERAL RESOURCE AND ORE RESERVE STATEMENT

#### 1.1 SUMMARY

Aurelia has updated the MRE and Ore Reserve Estimate for its 100% owned Peak Mine in NSW. The estimate incorporates results from resource delineation drilling and mining depletion subsequent to 30 June 2020. The estimates are reported as at 30 June 2021 in accordance with the JORC Code 2012.

The updated MRE (Table 13 and Table 14) represents a 51% tonnage increase over the previous estimate. The change reflects mining depletion, updated NSR parameters, inclusion of the Gladstone and Dapville deposits and additional material identified from infill and extensional drilling programs including those at the Kairos and Great Cobar deposits.

Table 13. Peak Mine copper MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	2,700	2.3	1.1	0.2	0.1	8
Indicated	5,900	1.2	1.8	0.1	0.1	6
Inferred	5,600	0.8	2.0	0.1	0.2	9
Total	14,000	1.2	1.8	0.1	0.1	7

Note: The Peak Mine MRE is inclusive of Ore Reserves. The MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 14. Peak Mine lead-zinc MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	730	2.9	0.4	4.1	5.0	26
Indicated	1,200	1.8	0.3	5.3	6.6	26
Inferred	1,000	1.0	0.3	6.3	8.8	37
Total	2,900	1.8	0.3	5.3	6.9	29

Note: The Peak Mine MRE is inclusive of Ore Reserves. The MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

The 2021 Peak Ore Reserve Estimate presented in Table 15 and Table 16 has been derived from the Peak Mine MRE using material from the Measured and Indicated classifications, with the addition of mining dilution as appropriate for the mining methodology.

Table 15. Peak Mine copper Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Proved	940	200	2.4	1.2	0.2	0.2	4
Probable	740	170	1.6	1.3	0.1	0.1	6
Total	1,700	190	2.1	1.2	0.2	0.1	5

Note: The Peak copper Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$140-A\$170/t NSR for stoping depending on mine area. Values are reported to two significant figures which may result in rounding discrepancies in the totals.



Table 16. Peak Mine lead-zinc Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Proved	340	360	3.7	0.4	5.7	7.1	25
Probable	670	270	2.2	0.3	5.2	6.2	22
Total	1,000	300	2.7	0.3	5.4	6.5	23

Note: The Peak copper Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$155/t NSR for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

#### 1.2 INTRODUCTION

Updated Mineral Resource and Ore Reserve estimates have been prepared for the Peak Mine located near Cobar, NSW. The updated total Measured, Indicated and Inferred Mineral Resource (Table 13) is reported using an A\$120/t NSR cut-off. The MRE includes all blocks within the volumes produced by Deswik CAD Stope Optimiser (SO) software but excludes material mined or sterilised by nearby mining. The reported estimates include an internal dilution component.

The 2021 Mineral Resource and Ore Reserve estimates incorporate mining depletion, updated NSR parameters, inclusion of the Gladstone and Dapville deposits, additional material identified from infill and extensional drilling programs and current mine designs. There are also results outstanding from the Great Cobar drill program which had not been received at the date of the preparation of the MRE.

#### 1.3 MINERAL RESOURCE ESTIMATE

The Peak Mine deposits are considered epigenetic Cobar-style mineralisation that are controlled by major fault zones and subsequent spurs and splays. Mineralisation is hosted in metasediments and rhyolite. The economic minerals are contained within quartz stockworks and breccias. The deposits are polymetallic in nature with variable gold, copper, silver, lead and zinc mineralisation.

Mineralisation is defined by underground and surface diamond core and reverse circulation percussion (RC) drilling. Drill core has been sampled on nominal one metre intervals using both whole core and half core sampling. All samples from core are assayed in certified commercial laboratories. Samples are routinely assayed for up to 34 elements using ICP-AES with a four-acid digest. Gold is assayed using a 50g fire assay. Aurelia has maintained a detailed QA/QC system during its sampling and assaying processes.

Wireframes for Mineral Resource estimation are constructed using a 0.1g/t Au and/or 0.1% Cu-Pb-Zn threshold. Samples are composited to one metre intervals.

Ordinary kriging (OK) is used for estimation of Cu, Pb, Zn, Ag, Bi, Fe and S. Multiple indicator kriging (MIK) is used where there is significant gold mineralisation and a high co-efficient of variation (CV). OK is used for gold in other domains. MIK is considered an appropriate estimation method for the gold grade distribution at Peak Mine because it accounts for changing spatial continuity at different grade ranges. The estimation is performed with three passes of increasing dimension that dictates the Measured, Indicated and Inferred Mineral Resource classifications. First pass search radii are typically between 3m x 15m x 15m and 3m x 20m x 25m in Easting, Northing and elevation respectively, depending on the style of mineralisation. Further details on the MRE are contained in JORC Table 1 in the Appendix to this statement.

A NSR value was calculated for each block after estimation. The NSR is used to assign an economic value to the polymetallic mineralisation. The NSR methodology (detailed under Ore Reserves) takes into account recoveries associated with each of the process streams, which include production of base metal concentrates and gold recovery through gravity and leaching processes. The estimate is also based on metal prices, exchange rates, freight, treatment charges, royalties and process recoveries. Metal price assumptions used in the NSR calculation are listed in Table 17. Metallurgical recoveries and concentrate grades are provided in Table 18.



Table 17. Metal price assumptions used for Mineral Resource and Ore Reserve estimates.

Commodity	Unit	Mineral Resource 2021	Ore Reserve 2021
Gold	US\$/oz	1,554	1,325
Silver	US\$/oz	18.80	17.50
Lead	US\$/t	2,280	2,050
Zinc	US\$/t	2,690	2,469
Copper	US\$/t	7,165	6,724
FX	A\$/US\$	0.73	0.73
Gold	A\$/oz	2,129	1,815
Silver	A\$/oz	25.75	23.97
Lead	A\$/t	3,123	2,808
Zinc	A\$/t	3,685	3,382
Copper	A\$/t	9,815	9,211

Table 18. Metal recovery and concentrate grade parameters.

Parameter	Mineral Resource 2021	Ore Reserve 2021
Au Recovery - Gravity	30-43%	30-43%
Au Recovery - Total	80-95%	80-95%
Ag Recovery - Total	60-80%	60-80%
Pb Recovery	60-88%	60-88%
Zn Recovery	60-68%	60-68%
Cu Recovery	75-95%	75-95%
Cu Grade - Concentrate	25%	25%
Pb Grade - Concentrate	20-55%	20-55%
Zn Grade - Concentrate	45-52%	45-52%

Following Mineral Resource estimation, a series of mineable shapes were produced by Deswik's SO software. The SO shapes were used to constrain the reported MRE. The application of the smallest mineable unit (SMU) for the SO shapes is similar to the process detailed in the 2020 Peak Mineral Resource and Ore Reserve Statement. The reported MREs include internal dilution. The MRE by deposit is reported in Table 19 and Table 20. Long sections of the Mineral Resource model are shown in Figure 3 and Figure 4.



Table 19. Peak Mine copper MRE reported by deposit and classification as at 30 June 2021.

Class	Deposit	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
	Perseverance	610	3.4	0.8	0.4	0.3	13
	Peak	750	2.8	0.6	0.3	0.2	6
	Kairos	110	3.0	1.0	0.3	0.3	7
Measured	Chesney	620	0.7	2.0	0.0	0.0	7
	New Cobar	340	2.6	0.6	0.0	0.1	4
	Jubilee	220	0.5	2.3	0.0	0.0	10
	Total Measured	2,700	2.3	1.1	0.2	0.1	10
	Perseverance	520	2.7	1.0	0.2	0.2	8
	Peak	420	3.1	0.5	0.3	0.3	5
	Kairos	210	1.2	1.3	0.2	0.3	6
Indicated	Chesney	690	0.9	1.7	0.0	0.0	6
maicated	New Cobar	510	1.9	0.9	0.1	0.1	6
	Jubilee	510	0.7	2.0	0.1	0.0	9
	Great Cobar	3,000	0.8	2.3	0.0	0.0	5
	Total Indicated	5,900	1.2	1.8	0.1	0.1	6
	Perseverance	310	2.8	0.6	0.1	0.1	7
	Peak	330	3.0	0.6	0.2	0.2	5
	Kairos	510	0.1	2.3	0.1	0.0	9
	Chesney	410	0.9	1.5	0.0	0.0	5
Inferred	New Cobar	170	1.8	0.9	0.1	0.1	5
mierrea	Jubilee	150	0.2	1.9	0.1	0.1	12
	Great Cobar	2,300	0.6	2.2	0.1	0.3	9
	Dapville	390	0.3	2.8	0.4	0.5	8
	Gladstone	1,100	0.1	2.5	0.0	0.0	10
	Total Inferred	5,600	0.8	2.0	0.1	0.2	9
Total - Peak c	opper	14,000	1.2	1.8	0.1	0.1	7

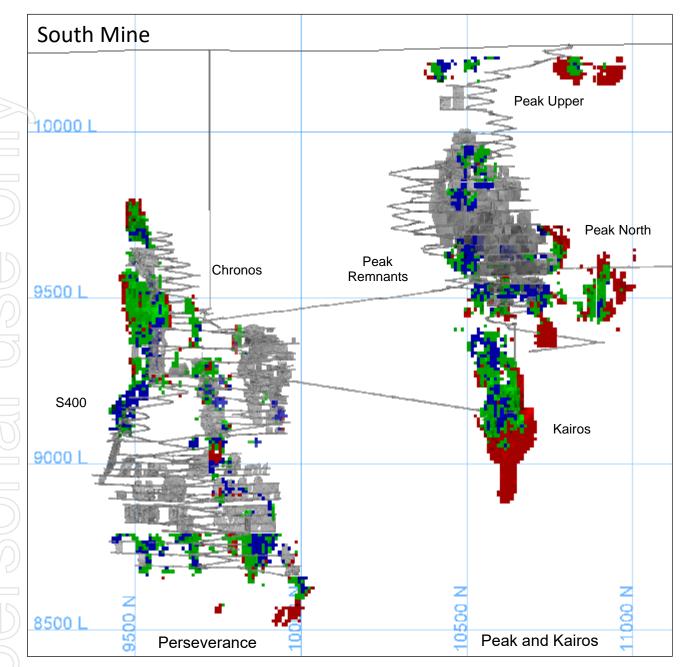
Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.



Table 20. Peak Mine lead-zinc MRE reported by deposit and classification as at 30 June 2021.

Class	Deposit	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
	Perseverance Pb-Zn	340	1.8	0.3	5.5	5.4	32
Mossuma	Peak Pb-Zn	210	2.4	0.3	1.6	3.1	26
Measured	Kairos Pb-Zn	190	5.7	0.5	4.4	6.5	14
	Total Measured	730	2.9	0.4	4.1	5.0	26
	Perseverance Pb-Zn	710	0.5	0.2	6.6	7.3	30
Indicated	Peak Pb-Zn	160	2.0	0.3	1.6	2.7	29
	Kairos PbZn	370	4.3	0.5	4.4	7.0	16
	Total Indicated	1,200	1.8	0.3	5.3	6.6	26
	Perseverance Pb-Zn	110	0.3	0.1	4.8	6.3	22
	Peak Pb-Zn	60	3.9	0.2	1.3	1.3	9
Inferred	Kairos Pb-Zn	220	2.9	0.2	4.1	7.2	16
illielleu	Great Cobar Pb-Zn	510	0.3	0.2	8.4	11.6	53
	Dapville Pb-Zn	90	0.1	1.3	3.9	4.5	33
	Total Inferred	1,000	1.0	0.3	6.3	8.8	37
	Total Interred	,					
Total - Peak I  Note: Values are		2,900	1.8  result in re	0.3 ounding dis	5.3	6.9	<b>29</b> /s.
	ead-zinc	2,900			l .	l .	





**Figure 3.** Long section facing west of the Peak South Mine showing the Measured (blue), Indicated (green) and Inferred (red) Mineral Resource classifications.



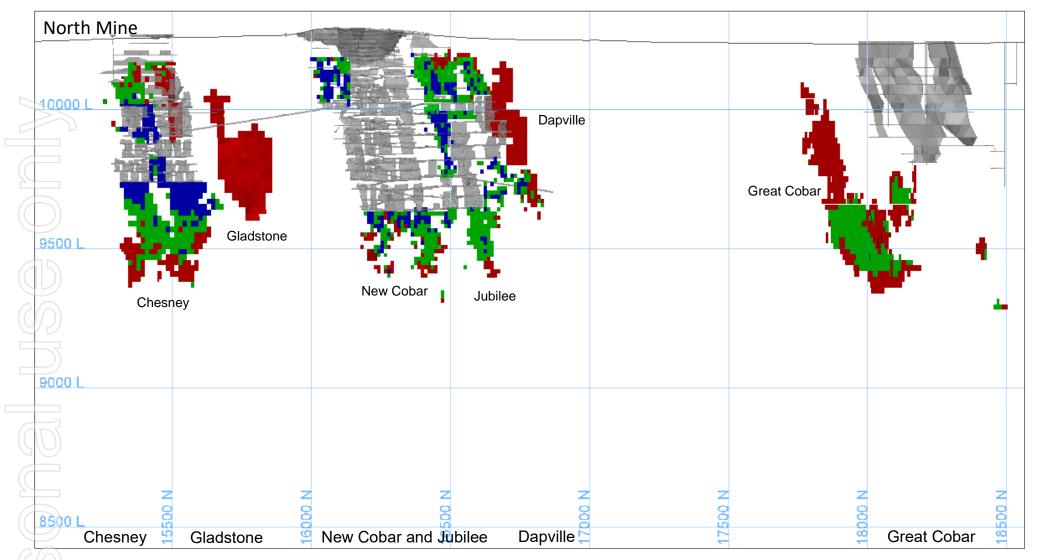


Figure 4. Long section facing west of the Peak North Mine showing the Measured (blue), Indicated (green) and Inferred (red) Mineral Resource classifications.



## 1.4 CHANGES FROM PRIOR MINERAL RESOURCE ESTIMATE

The 2021 MRE represents an increase in tonnage and contained metal over the 2020 estimate as outlined in Table 21. A number of factors have contributed to the tonnage increase.

- Mining depletion of 610kt, predominantly from the Jubilee, Perseverance, Peak and Kairos deposits.
- Revised NSR parameters based on operating conditions and updated economic assumptions.
- Updated geological models and estimations due to recent drilling results.
- Inclusion of the Dapville and Gladstone deposits.
- Great Cobar tonnage increased to 5.8Mt (43%) which contains more than 120kt of copper and 130koz of gold.
- Kairos tonnage increased to 1.6Mt (68%) inclusive of Inferred material from the recently identified Eastern Copper Lens.

Table 21. Tonnage and contained metal in the 2021 Peak Mine MRE and variance to the 2020 MRE.

Class	Tonnes (kt)	Au (koz)	Cu (kt)	Pb (kt)	Zn (kt)	Ag (koz)
Measured	3,400	260	33	35	40	1,200
Indicated	7,000	310	110	70	86	2,100
Inferred	6,600	170	120	66	95	2,700
Total	17,000	740	260	170	220	6,100
Variance to 2020 MRE	+51%	+38%	+67%	+44%	+56%	+66%

Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.

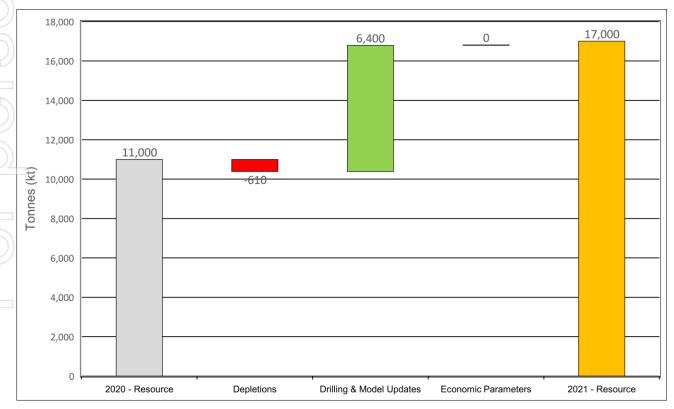


Figure 5. Change in Peak Mineral Resource tonnage relative to 30 June 2020.



# 1.5 ORE RESERVE ESTIMATE

The 2021 Ore Reserve Estimate reported by gold-copper and gold-lead-zinc deposits is shown in Table 22 and Table 23 respectively.

Table 22. Peak Mine copper Ore Reserve Estimate reported by deposit and classification as at 30 June 2021.

Class	Deposit	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
	Perseverance	310	220	3.4	0.6	0.5	0.4	1
	Peak	88	231	3.8	0.5	0.2	0.2	3
	Kairos	60	240	3.7	0.6	0.4	0.4	4
Proved	Chesney	270	170	0.8	2.1	0.0	0.0	7
	New Cobar	110	180	3.0	0.3	0.0	0.1	2
	Jubilee	100	180	0.7	2.2	0.1	0.0	11
	Total Proved	940	200	2.4	1.2	0.2	0.2	4
	Perseverance	130	200	2.9	0.7	0.2	0.1	2
	Peak	98	200	3.6	0.3	0.1	0.1	2
	Kairos	47	150	1.9	0.9	0.3	0.3	5
Probable	Chesney	230	160	0.8	1.8	0.0	0.0	6
	New Cobar	17	130	2.3	0.2	0.0	0.0	2
	Jubilee	210	160	0.7	1.8	0.1	0.0	9
	Total Probable	740	170	1.6	1.3	0.1	0.1	6
Total - cop	pper	1,700	190	2.1	1.2	0.2	0.1	5

Note: The Peak copper Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$140-170/t NSR for stoping depending on mine area. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 23. Peak Mine lead-zinc Ore Reserve Estimate reported by orebody and classification as at 30 June 2021.

Class	Mine Area	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
	Perseverance	170	280	1.6	0.3	6.9	7.0	35
Proved	Peak	3	220	4.1	0.1	0.5	0.9	3
Proved	Kairos	170	450	5.8	0.5	4.6	7.2	15
	Total Proved	340	360	3.7	0.4	5.7	7.1	25
	Perseverance	380	210	0.6	0.1	6.3	6.5	29
Probable	Peak	18	170	3.2	0.1	0.2	0.4	2
Probable	Kairos	270	350	4.3	0.4	4.0	6.2	15
	Total Probable	670	270	2.2	0.3	5.2	6.2	22
Total - lea	d-zinc	1,000	300	2.7	0.3	5.4	6.5	23

Note: The Peak lead-zinc Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$155/t NSR for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.



#### Ore Reserve Classification

The Mineral Resource classifications flagged in the geology block model formed the basis for the Ore Reserve Estimate. Mining shapes were developed from the geology block model before the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.

The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to Proved Ore Reserve and the Indicated classification was reported as the Probable Ore Reserve.

The selected mining shapes may contain a minor portion of Inferred or unclassified material. The metal value corresponding to this tonnage was removed from the Ore Reserve Estimate while the tonnage remained in the Ore Reserve Estimate as dilution at zero grade. This dilution was prorated into the Proved and Probable classifications based on the relative tonnage.

A representation of the Ore Reserve is shown in Figure 6 and Figure 7.

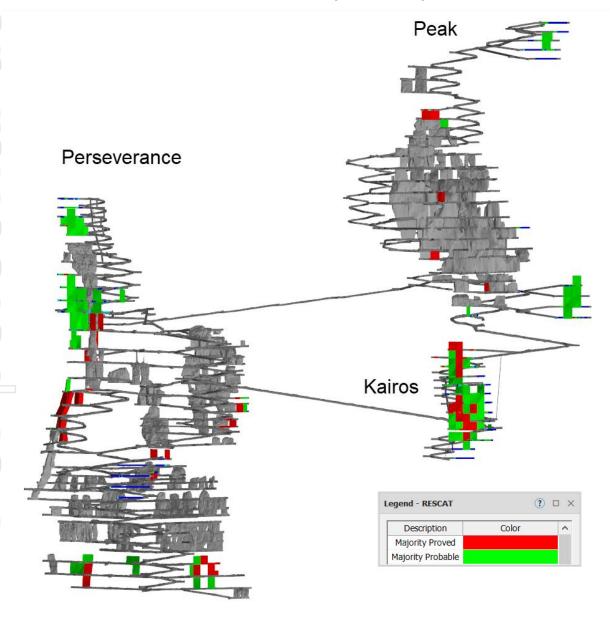


Figure 6. Long section facing west of the Peak South Mine showing Proved (red) and Probable (green) Ore Reserve classifications.



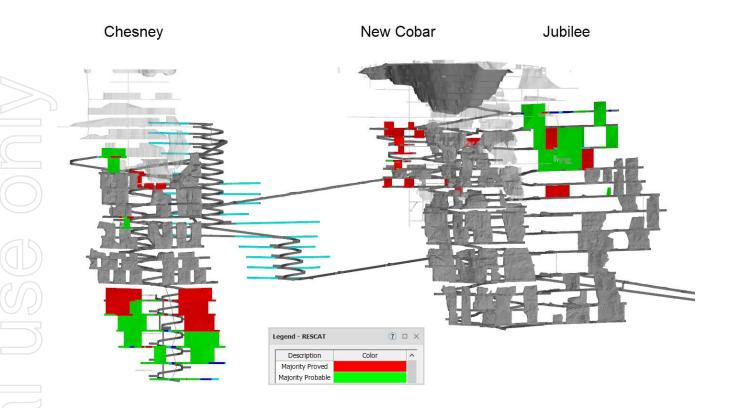


Figure 7. Long section facing west of the Peak North Mine showing Proved (red) and Probable (green) Ore Reserve classifications.

# **Mining Assumptions**

The Peak Mine uses a combination of uphole and downhole stoping with rockfill, progressing in a bottom up sequence. This mining method and Peak's mine development design were used for the Ore Reserve Estimate.

Stope shapes are a combination of current mine design shapes and stope shapes created using SO software. The mine design shapes were used in preference, and updated using the SO shapes if changes to the geology model caused material changes to the stope shapes.

Settings used in the SO included the hangingwall and footwall dilution assumptions shown in Table 24, and a minimum mining width of 2m. Stope strike lengths and heights vary across the operation and have been aligned with current mine designs.

Table 24. External dilution thickness allowances by deposit.

	Deposit	Hangingwall (m)	Footwall (m)
)	Perseverance	1.0	1.0
	S400	1.5	0.5
1	Kairos	1.0	0.5
	Others	0.5	0.5

Additional mining dilution and recovery factors have been applied. Development has 15% mining dilution applied and 100% recovery. Down-hole stoping has 5% mining dilution applied with 95% recovery. Up-hole stoping has 2% mining dilution applied with 75% recovery. Sill pillar mining has 2% mining dilution applied with 60% recovery.



#### Net Smelter Return

Peak Mine is a polymetallic operation producing gold, copper, silver, lead and zinc hence a NSR methodology has been used to calculate the economic value of a tonne of mineralised rock net of all off site costs. This calculation includes road freight, port storage, ship loading, sea freight, treatment charges and royalties. The revenue from the smelter is also net of payable metal and smelter penalties.

The NSR (A\$/t) was calculated using the following formula:

NSR = [metal grade x expected metallurgical recovery x expected payables x metal price] – [transport and treatment charges, penalties and royalties]

Metal price assumptions used in the NSR calculation are listed in Table 17. Metal prices have been based on consensus forecasts. Metallurgical recoveries and concentrate grades are outlined in Table 18.

Metallurgical recoveries are based on operating experience and near-term operating targets. The metallurgical recoveries for the Ore Reserve Estimate are consistent with existing performance at the Peak Mine.

Aurelia has in place the necessary contracts and approvals for the transportation of concentrate. The contracts are renewable on standard commercial terms. Gold and silver doré products are shipped to a receiving mint for refining under a commercial agreement. Appropriate royalties have been applied.

#### **Cut-off Values**

A NSR cut-off of A\$80/t was applied for mineralised development material. The stoping cut-off varies by deposit to reflect the relative complexity of the different mining areas. The economic viability of the NSR cut-off values has been demonstrated through cashflow modelling completed for the Peak Life of Mine plan and budget.

Table 25. Stoping NSR cut-off values by ore type and deposit.

Ore Type	Deposit	NSR Cut-off (A\$/t)
Lead-zinc	All	155
	Jubilee	140
Conner	S400	160
Copper	Perseverance Deeps	170
	All others	150

## 1.6 CHANGES FROM PRIOR ORE RESERVE ESTIMATE

Economic assumptions were updated for the preparation of the 2021 Ore Reserve Estimate. The NSR stoping cut-off values were marginally increased in line with those used in the Life of Mine plan. The most significant variances relative to the Ore Reserve Estimate are due to mining depletion and changes to the geology model (Figure 8 to 13).



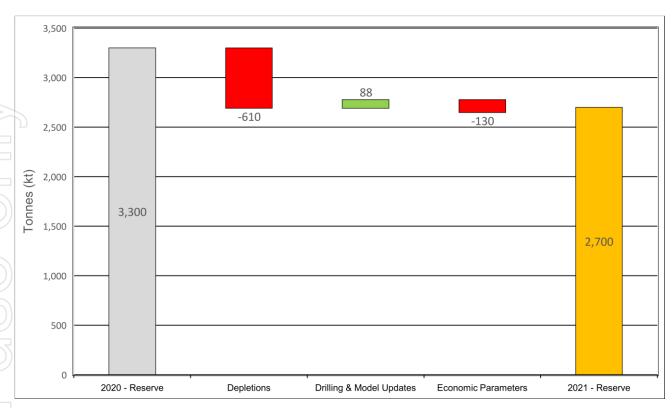


Figure 8. Change in Peak Ore Reserve tonnage relative to 30 June 2020.

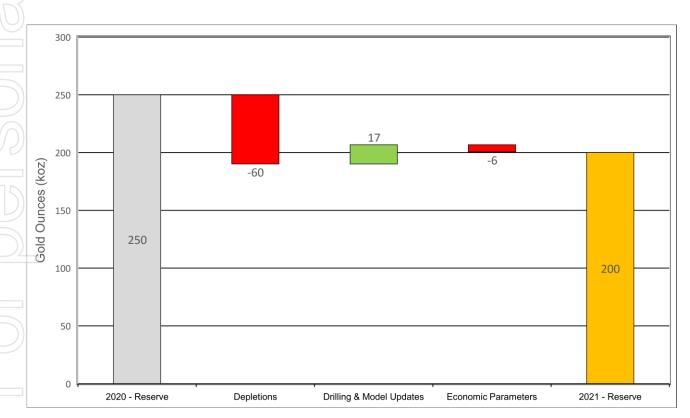


Figure 9. Change in Peak Ore Reserve gold metal (contained) relative to 30 June 2020.



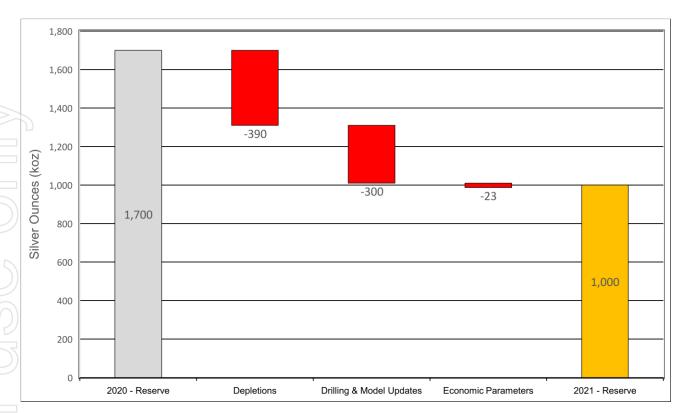


Figure 10. Change in Peak Ore Reserve silver metal (contained) relative to 30 June 2020.

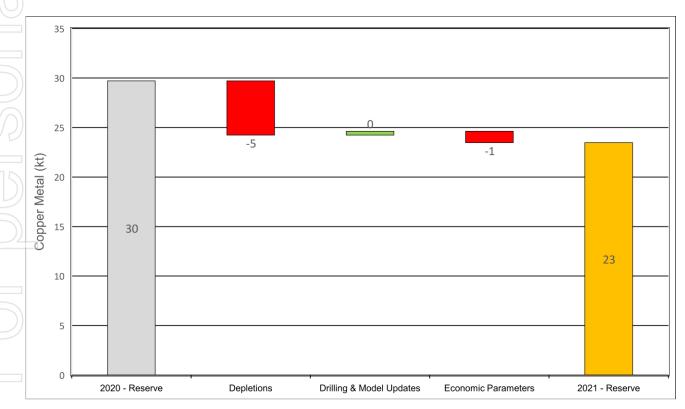


Figure 11. Change in Peak Ore Reserve copper metal (contained) relative to 30 June 2020.



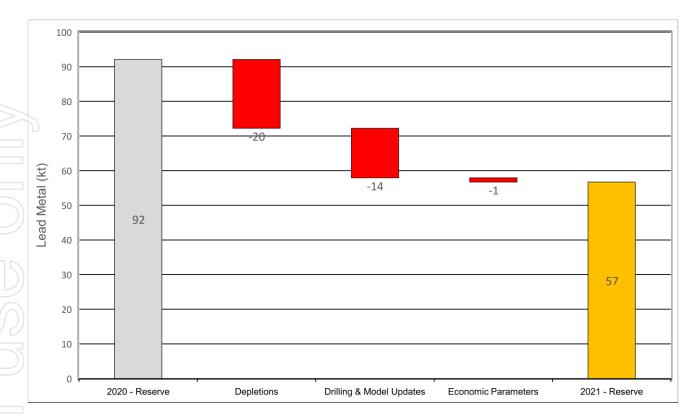


Figure 12. Change in Peak Ore Reserve lead metal (contained) relative to 30 June 2020.

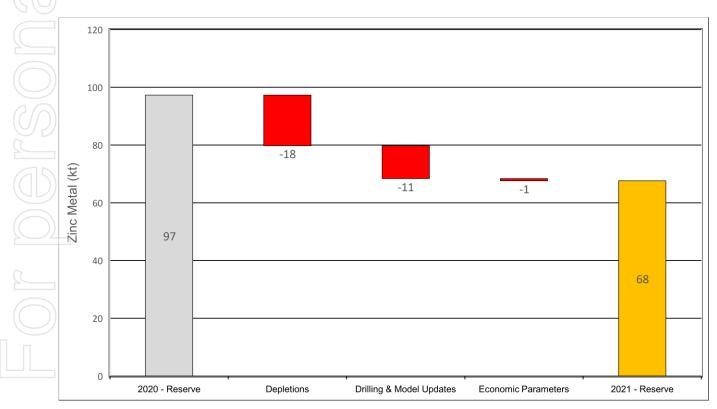


Figure 13. Change in Peak Ore Reserve lead metal (contained) relative to 30 June 2020.



# 2.0 HERA MINERAL RESOURCE AND ORE RESERVE STATEMENT

#### 2.1 SUMMARY

An updated MRE (Table 26) and Ore Reserve Estimate (Table 27) were prepared for Aurelia's 100% owned Hera gold-lead-zinc-silver mine. The estimates incorporate results from infill and extensional drilling and mining depletion subsequent to 30 June 2020. The estimates are reported as at 30 June 2021 in accordance with the JORC Code 2012.

Table 26. Hera Mine MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Measured	880	1.7	0.1	2.8	4.3	35
Indicated	500	2.1	0.1	1.8	2.6	13
Inferred	280	1.3	0.1	1.8	2.3	17
Total	1,700	1.8	0.1	2.3	3.5	25

Note: The Hera Mineral Resource is inclusive of Ore Reserves. The MRE utilises A\$100/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

The 2021 Hera Ore Reserve Estimate has been derived from the Hera Mine MRE using material from the Measured and Indicated classifications, with the addition of mining dilution as appropriate for the mining methodology.

Table 27. Hera Mine Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (g/t)
Proved	750	180	1.4	2.7	4.3	34
Probable	190	150	1.2	2.4	3.6	24
Total	940	180	1.4	2.6	4.1	32

Note: The Hera Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$100/t NSR cut-off for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

## 2.2 INTRODUCTION

An updated MRE has been completed for the Hera Mine, located five kilometres south of Nymagee, NSW. The updated MRE is reported with Measured, Indicated and Inferred classifications at an A\$100/t NSR cut-off value. The MRE includes all blocks within the volumes produced by Deswik's SO software and excludes material that has been mined or sterilised by mining. The reported estimates include an internal dilution component.

The 2021 Hera Ore Reserve Estimate (Table 27) has been derived from the Hera Mine MRE using material from the Measured and Indicated classifications with the addition of mining dilution as appropriate for the mining methodology.



### 2.3 MINERAL RESOURCE ESTIMATE

The Hera deposit is structurally controlled, closely associated with en-echelon shear zones. Mineralisation is relatively narrow with a NNW-SSE orientation and is hosted in altered metasediments. The economic minerals are contained within quartz stockworks, breccias and skarns. The deposit is polymetallic in nature with variable gold, lead, zinc, silver and copper mineralisation.

Mineralisation is defined by underground and surface diamond drilling. Samples are taken as either whole or half core and are sampled on nominal one metre intervals. All samples are assayed in certified commercial laboratories. Samples are routinely assayed for Pb, Zn, Ag, Cu, S, Fe, Sb and As by ICP-AES. Gold is assayed using a 30g fire assay. Aurelia has maintained a detailed QA/QC system during its sampling and assaying processes.

The estimation is controlled by a series of twelve wireframed solids representing mineralised lodes. Samples were composited to one metre intervals within each zone with a minimum composite length of 0.5m. In order to better reflect the contained metal within each interval, estimates were carried out on density-weighted values. Wireframed solids representing mined stopes and development were used to deplete the estimation.

Variography was carried out within eight mineralised domains including Main North, Main South, Hays South, Hays North, Far West, North Pod, East South and Western Pb-Zn. Variography for each element showed relatively high continuity along-strike and down dip but poor continuity in the orientation perpendicular to these. Five metre north-south and vertical block dimensions were chosen to reflect drill hole spacing and to provide definition needed for mine planning. Sub-blocking with minimum dimensions of 1m x 2.5m x 2.5m was permitted.

The OK method was used to estimate concentrations of Pb, Zn, Ag, Cu, Fe, S, Sb and density. MIK was used to estimate gold and arsenic. Limited top-cutting was applied to density-weighted values of Au, Pb, Zn, Ag, Cu, and As. Further details on the MRE are contained in JORC Table 1 in the Appendix to this statement.

A NSR value was calculated and applied to each block after estimation. The NSR was used to assign an economic value to the polymetallic mineralisation. The NSR methodology takes into account metal prices, exchange rates, freight, treatment charges, royalties and metallurgical process recoveries. Metal price assumptions used in the NSR calculation are listed in Table 28. Assumed metallurgical recoveries and concentrate grades are given in Table 29.

Table 28. Metal price assumptions used for Mineral Resource and Ore Reserve estimates.

Commodity	Unit	Mineral Resource 2021	Ore Reserve 2021
Gold	US\$/oz	1,554	1,325
Silver	US\$/oz	18.80	17.50
Lead	US\$/t	2,280	2,050
Zinc	US\$/t	2,690	2,469
FX	A\$/US\$	0.73	0.73
Gold	A\$/oz	2,129	1,815
Silver	A\$/oz	25.75	23.97
Lead	A\$/t	3,123	2,808
Zinc	A\$/t	3,685	3,382



Table 29. Metal recovery and concentrate grade parameters.

Parameter	Value
Au Recovery - Gravity	15-82%
Au Recovery - Total	62-94%
Ag Recovery - Gravity	6%
Ag Recovery - Total	91%
Pb Recovery - Concentrate	95%
Zn Recovery - Concentrate	95%
Pb + Zn Grade - Concentrate	55%

A series of mineable shapes were generated using Deswik's SO software to constrain the MRE for reporting. The application of the smallest mineable unit (SMU) for the SO shapes is similar to the process detailed in the 2020 Hera Mineral Resource and Ore Reserve estimates. The reported MRE is reported inclusive of internal dilution in Table 30.

Table 30. Hera Mine MRE reported by zone and classification as at 30 June 2021.

Class	Zone	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
	Main North	72	1.5	0.3	2.4	3.0	14
	Main South	98	2.7	0.1	1.3	1.9	6
Measured	Hays North	130	1.7	0.1	2.2	3.0	10
	Hays South	35	3.2	0.0	1.4	1.6	7
Measureu	Far West	310	2.0	0.2	3.1	4.9	21
	Far West Deeps	28	1.8	0.1	1.7	2.7	10
	North Pod	210	0.7	0.1	3.9	6.6	99
	<b>Total Measured</b>	880	1.7	0.1	2.8	4.3	35
	Main North	74	2.7	0.1	1.9	2.8	10
	Main South	140	2.3	0.1	1.4	1.5	7
	Hays North	82	1.6	0.0	1.7	2.8	9
Indicated	Hays South	12	2.3	0.0	1.0	1.5	5
indicated	Far West	110	1.5	0.1	2.6	4.1	15
	Far West Deeps	33	2.1	0.1	1.4	2.2	8
	North Pod	55	2.7	0.1	1.7	2.8	35
	Total Indicated	500	2.1	0.1	1.8	2.6	13
	Main North	30	2.0	0.1	1.5	2.9	8
	Main South	43	1.7	0.2	1.5	1.6	8
	Hays North	32	2.5	0.0	0.8	1.9	7
	Far West	3	2.4	0.1	1.6	2.4	7
Inferred	Far West Deeps	1	2.1	0.0	1.0	1.0	8
merrea	North Pod	3	1.2	0.1	3.6	4.5	57
	Main SE	63	1.3	0.2	2.5	1.1	13
	Western PbZn	41	0.1	0.1	2.3	4.2	13
	Outside	61	1.1	0.1	1.6	2.6	40
	Total Inferred	280	1.3	0.1	1.8	2.3	17
Total		1,700	1.8	0.1	2.3	3.5	25



Classifications were predominately based on the search passes used to estimate the blocks. This nominally equates to a drill hole spacing of 15x15m for Measured, 30x30m for Indicated and 60x60m for Inferred classifications. A data location accuracy factor, as described in Section 3 Estimation and Modelling Techniques of the appended Hera Table 1, was also used to inform block classifications. Adjustments to drill density confidence levels were made for several isolated mineralised areas based on geological understanding and the Competent Person's judgement following discussion with Aurelia personnel. The classification of certain areas in Main South was downgraded due to poor reconciliation of adjacent mined stopes.

A long section of the MRE coloured by classification is shown in Figure 14.

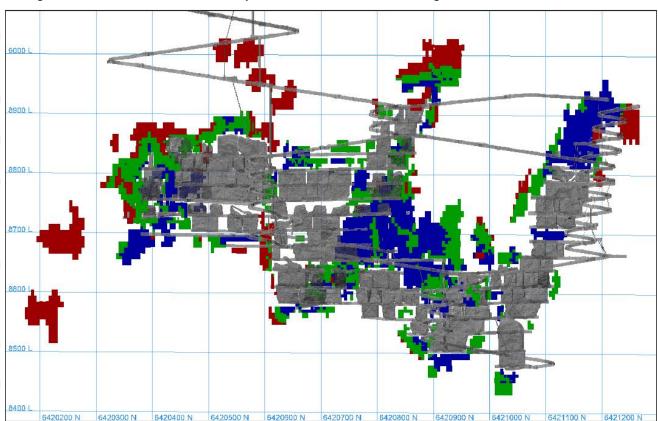


Figure 14. Long section facing west showing the distribution of Measured (blue), Indicated (green) and Inferred (red) Mineral Resources

### 2.4 CHANGES FROM PRIOR MINERAL RESOURCE ESTIMATE

The 2021 MRE contains more tonnage and contained metal than the prior 2020 estimate as outlined in Table 31. Changes to the reported MRE include:

- Mining depletion: Tonnage decreased by 560 kt due to mine production and sterilisation.
- **Economic parameters:** Tonnage increased because of the combined changes in metal price assumptions and lowering of the reporting cut-off value from \$120/t NSR to \$100/t NSR.
- Model update: Infill and extensional drilling programs have identified areas of additional
  mineralisation but also led to removal of mineralisation from the upper section of North Pod.
  The drill programs also promoted previous Inferred material to the higher confidence Indicated
  and Measured classifications.



Table 31. Tonnage and contained metal in the 2021 Hera Mine MRE and variance to the 2020 MRE.

Class	Tonnes (kt)	Au (koz)	Cu (kt)	Pb (kt)	Zn (kt)	Ag (koz)
Measured	880	49	1	25	38	990
Indicated	500	34	1	9	13	200
Inferred	280	12	0	5	6	150
Total	1,700	95	2	39	58	1,300
Variance to 2020 MRE	+18%	+28%	+30%	-11%	-14%	-25%

Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Changes between the 2020 and 2021 MREs are illustrated in Figure 15.

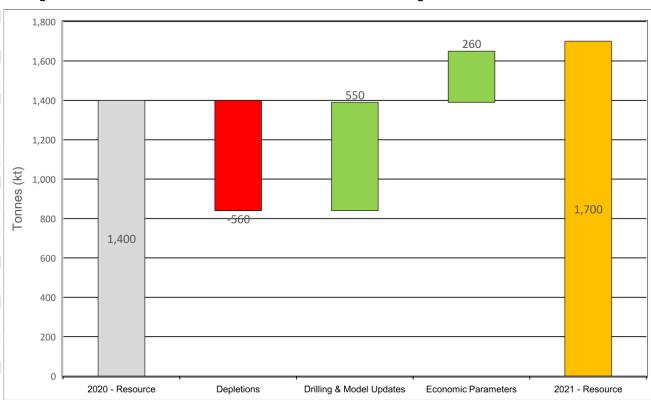


Figure 15. Change in Hera Mineral Resource tonnage relative to 30 June 2020.

# 2.5 ORE RESERVE ESTIMATE

The Ore Reserve Estimate for the Hera Mine is presented in Table 27.

#### Ore Reserve Classification

The Mineral Resource classifications flagged in the geological block model formed the basis for the Ore Reserve Estimate. Mining shapes were developed from the geological block model before the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.

The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to the Proved Ore Reserve and the Indicated classification was reported as the Probable Ore Reserve.



The selected mining shapes may contain a minor portion of Inferred or unclassified material. The metal value corresponding to this tonnage was removed from the Ore Reserve Estimate while the tonnage remained in the Ore Reserve Estimate as dilution at zero grade. This dilution was prorated into the Proved and Probable classifications based on the relative tonnage.

A graphical representation of the 2021 Ore Reserve is shown in Figure 16.

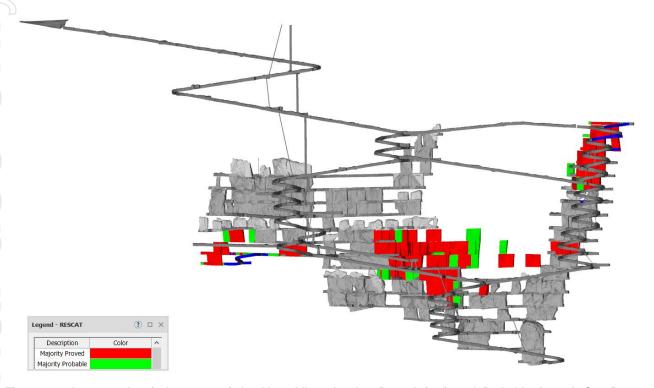


Figure 16. Long section facing west of the Hera Mine showing Proved (red) and Probable (green) Ore Reserve classifications.

#### Mine Design and Assumptions

Hera uses a bottom-up longhole stoping mining method with rockfill. This mining method and Hera's mine development design was used for the Ore Reserve Estimate.

Stope shapes were created using Deswik's SO software with 0.4m hangingwall and footwall dilution allowances and 15m strike length at a minimum 2m mining width. Additional mining dilution and recovery factors were then applied. For development, 15% mining dilution and 100% recovery was assumed. 10% mining dilution with 95% recovery was applied to down-hole stopes while 2% mining dilution with 75% recovery was used for up-hole stopes. Sill pillar mining used 2% mining dilution with 60% recovery.

#### **Net Smelter Return**

A NSR calculation was used to assign an economic value to the polymetallic mineralisation. The NSR was calculated as:

NSR = [metal grade x expected metallurgical recovery x expected payability x metal price] – [transport and treatment charges, penalties and royalties]

Metal price assumptions used in the NSR calculation are listed in Table 28. Metal prices were based on consensus forecasts. The metallurgical recoveries and concentrate grades in Table 29 are based on operating experience and near-term operating targets. The metallurgical recoveries for the Ore Reserve Estimate are consistent with existing performance at Hera Mine.



#### **Cut-off Values**

A NSR cut-off value of A\$100/t was applied for material to be extracted by stoping methods and A\$80/t for development. The stoping cut-off value adopted for the 2021 Ore Reserve Estimate was lowered relative to the prior estimate to reflect a reduced requirement for development mining and higher proportion of stoping production from established mining levels. The economic viability of the lower cut-off value has been demonstrated through cashflow modelling completed for the Hera Life of Mine plan and budget.

#### 2.6 CHANGES FROM PRIOR ORE RESERVE ESTIMATE

Economic and metallurgical recovery assumptions were updated for the 2021 Ore Reserve Estimate. The NSR cut-off value was reduced and the mine plan amended using new geological information. The most significant change to the Ore Reserve Estimate is due to mining depletion (Figure 17 to Figure 21).

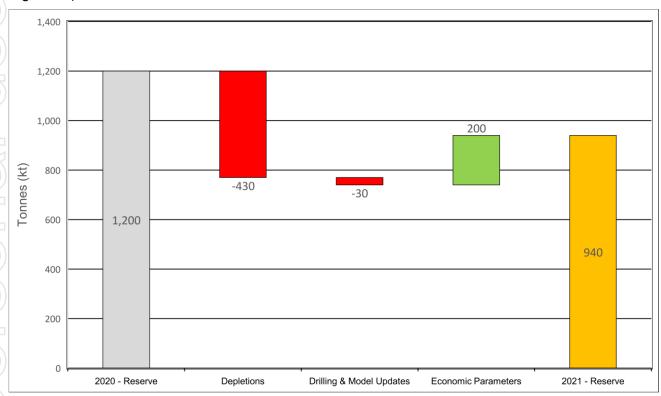


Figure 17. Change in Hera Ore Reserve tonnage relative to 30 June 2020.



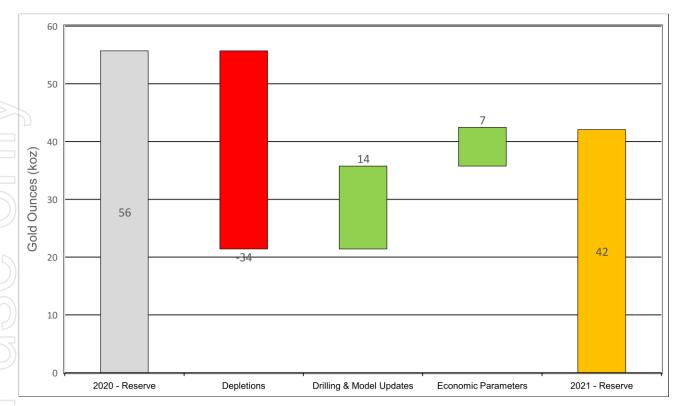


Figure 18. Change in Hera Ore Reserve gold metal (contained) relative to 30 June 2020.

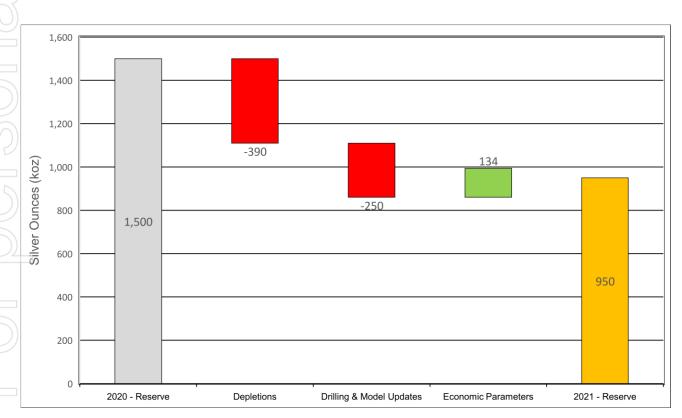


Figure 19. Change in Hera Ore Reserve silver metal (contained) relative to 30 June 2020.



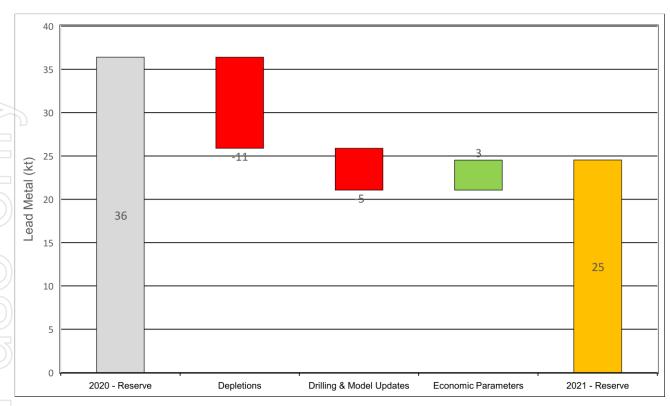


Figure 20. Change in Hera Ore Reserve lead metal (contained) relative to 30 June 2020.

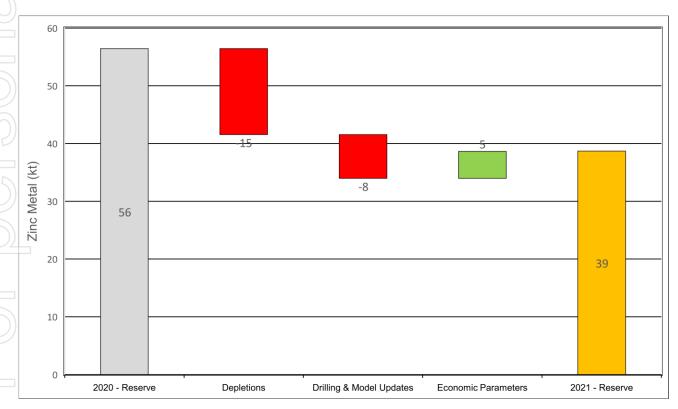


Figure 21. Change in Hera Ore Reserve zinc metal (contained) relative to 30 June 2020.



# 3.0 DARGUES MINERAL RESOURCE AND ORE RESERVE STATEMENT

## 3.1 **SUMMARY**

Updated Mineral Resource and Ore Reserve estimates were prepared for the Dargues Mine in NSW (Table 32 and Table 33). The estimates incorporate results from infill and extensional drilling subsequent to 30 June 2020, operating experience and depletion since the commencement of mining. The estimates are reported as at 30 June 2021 in accordance with the JORC Code 2012.

Table 32. Dargues Mine MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Au (koz)
Measured	380	5.8	70
Indicated	1,200	4.8	180
Inferred	570	5.1	94
Total	2,100	5.1	350

Note: The MRE is inclusive of Ore Reserves. The MRE is reported using a 2g/t Au cut-off. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

The 2021 Dargues Ore Reserve Estimate has been derived from the Dargues Mine MRE using material from the Measured and Indicated classifications, with the addition of mining dilution as appropriate for the mining methodology.

Table 33. Dargues Mine Ore Reserve Estimate as at 30 June 2021.

Class	Tonnes (kt)	NSR (A\$/t)	Au (g/t)	Au (koz)
Proved	230	280	6.1	46
Probable	540	210	4.5	79
Total	770	230	5.0	120

Note: The Dargues Ore Reserve Estimate utilises an A\$80/t NSR cut-off for development and A\$135/t NSR cut-off for stoping. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

#### 3.2 INTRODUCTION

An updated MRE has been completed for the Dargues Reef deposit at Majors Creek, located 60 kilometres southeast of Canberra and 12 kilometres south of Braidwood. The 2021 Mineral Resource and Ore Reserve estimates are the inaugural estimates prepared under Aurelia's ownership of the Dargues Mine. The 2020 "Diversified Minerals - Dargues Gold Mine Mineral Resource and Ore Reserve Statement" ASX announcement by Aurelia on 13 November 2020 reported estimates prepared by Diversified Minerals.

The 2021 estimates use information from the first full year of mine production supported by surface and underground diamond drilling performed under Aurelia's ownership. Some results from the 2021 drill program had not been received at the time of MRE preparation.

The 2021 Dargues Ore Reserve Estimate (Table 33) has been derived from the Dargues Mine MRE using material from the Measured and Indicated classifications with the addition of mining dilution as appropriate for the mining methodology.

#### 3.3 MINERAL RESOURCE ESTIMATE

The Dargues Reef deposit is located within the Early Devonian Braidwood Granodiorite in the Eastern Lachlan Fold Belt. The Lachlan Fold Belt traverses eastern Australia from Tasmania to Queensland.



It is described as a composite orogenic belt which has been subjected to four episodes of folding, strong compression and uplift.

Mineralisation occurs in numerous discrete, fracture-controlled sulphide lodes situated within intense zones of phyllic alteration. The lodes are steeply dipping (80-90°) and have a variable strike from E-W to ENE-WSW. The main zones of mineralisation occur on the northern side of a parallel diorite dyke with some minor mineralisation sporadically developed on the southern margin. The mineralisation and dyke appear to be disrupted by an interpreted fault, or set of faults, one of which is situated in the position of a N-S trending water course.

For most mineralised zones within the deposit, the wireframes have been used as hard boundaries for the interpolation of gold grades. This is to ensure only gold grades within each wireframe were used to estimate the block inside the same wireframe. Domain 8a and 8b used soft boundaries where samples from both domains were used. The OK method was used for the estimation of gold, silver, copper, sulphur, bismuth and arsenic grades. A total of three interpolation passes were used to populate the block model.

The search ellipse distance and orientation were selected for each domain based on the variograms. The orientation of the search ellipse and variogram models were controlled by coding the block model with local anisotropy to best reflect the local orientation of the mineralised structures.

The Mineral Resource has been classified into three categories using a combination of drill density, search pass and geological interpretation confidence. In order to avoid generating a "spotted dog" classification, wireframes have been created for each domain that use the preceding assumptions as a guide to produce workable volumes. A breakdown of the Mineral Resource in each classification is shown in Table 32. The assigned Mineral Resource classifications along the deposit is depicted in Figure 22.

The Dargues MRE utilises a 2 g/t Au cut-off with assumed metallurgical recoveries and concentrate grades given in Table 34 and Table 35.

Table 34. Metal price assumptions used for Mineral Resource and Ore Reserve estimates.

Commodity	Unit	Mineral Resource 2021	Ore Reserve 2021
Gold	US\$/oz	1,555	1,325
FX	A\$/US\$	0.73	0.73
Gold	A\$/oz	2,129	1,815

Table 35. Metal recovery and concentrate grade parameters.

Parameter	Ore Reserve 2021
Au fixed tail grade	0.2 g/t
Au recovery	80-98%
S concentrate grade	43%
Au concentrate grade	>30 g/t



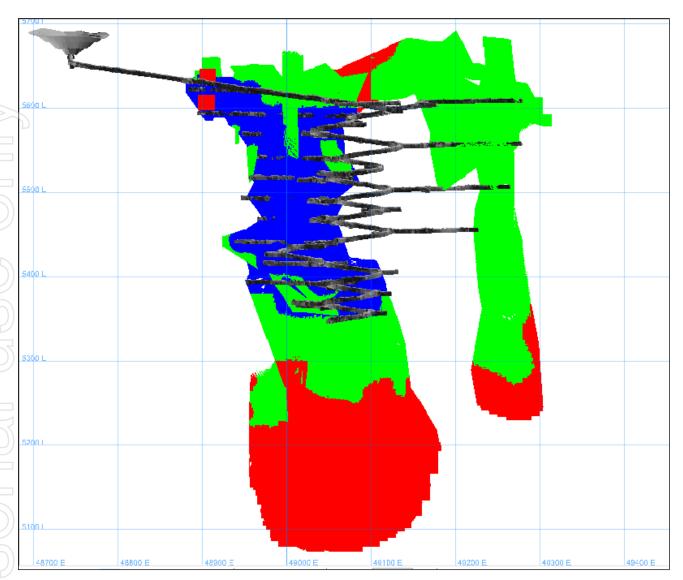


Figure 22. Long section looking north showing the Measured (blue), Indicated (yellow) and Inferred (red) Mineral Resource.

# 3.4 CHANGES FROM PRIOR MINERAL RESOURCE ESTIMATE

The 2021 MRE represents an increase in tonnage and contained metal over the published 2020 estimate as outlined in Table 36 and Figure 23. Changes to the reported MRE include:

- Presentation of the MRE on a depleted basis since the commencement of mining versus the undepleted 2020 MRE.
- Depletion of 400kt due to mining including material extracted prior to 30 June 2020.
- Updated geological models and estimations due to drilling results, including from the inaugural underground infill drill program, and production performance.



Table 36. Tonnage and contained metal in the 2021 Dargues Mine MRE and variance to the 2020 MRE.

Class	Tonnes (kt)	Au (g/t)	Au (koz)
Measured	380	6.0	70
Indicated	1,200	4.8	180
Inferred	570	5.1	94
Total	2,100	5.1	350
Variance to 2020 MRE	+33%	-25%	0%

Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.

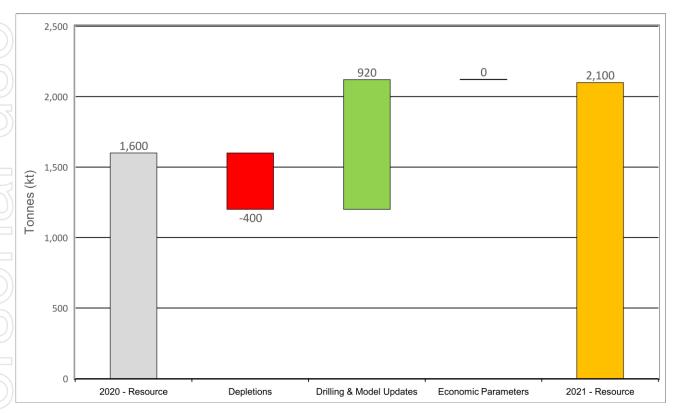


Figure 23. Changes in Dargues Mineral Resource tonnage relative to 30 June 2020.

#### 3.5 ORE RESERVE ESTIMATE

The Ore Reserve Estimate is shown in Table 33.

#### Ore Reserve Classification

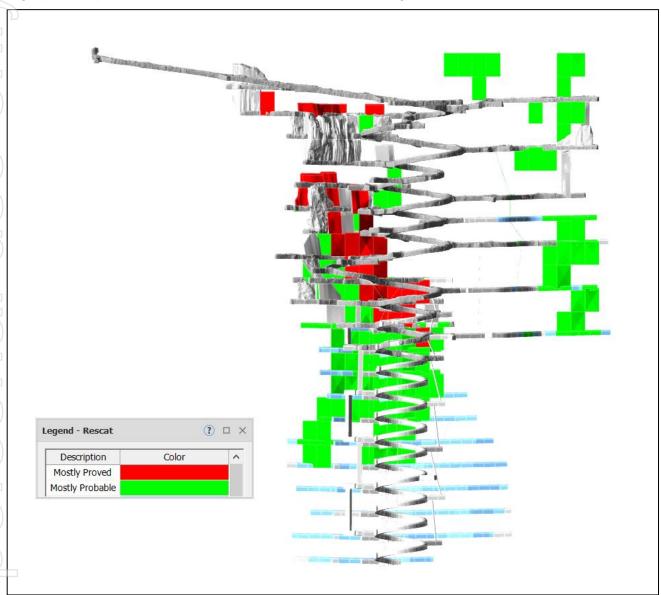
The Mineral Resource classifications flagged in the geological block model formed the basis for the Ore Reserve Estimate. Mining shapes were developed from the geological block model before the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.

The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to the Proved Ore Reserve and the Indicated classification was reported as the Probable Ore Reserve.



The selected mining shapes may contain a minor portion of Inferred or unclassified material. The metal value corresponding to this tonnage was removed from the Ore Reserve Estimate while the tonnage remained in the Ore Reserve Estimate as dilution at zero grade. This dilution was prorated into the Proved and Probable classifications based on the relative tonnage.

A graphical representation of the Ore Reserve is shown in Figure 24.



**Figure 24.** Long section facing north of the Dargues Mine showing Proved (red) and Probable (green) Ore Reserve classifications.

## Mine Design and Assumptions

The Dargues Mine uses a combination of uphole and downhole stoping methods with hydraulic backfill, progressing in a bottom up sequence. This mining method and Dargue's mine development design was used for the Ore Reserve Estimate.

Stope shapes were created using Deswik's SO software with 0.4m hangingwall and footwall dilution allowances and 15m strike length at a minimum 2m mining width. Additional mining dilution and recovery factors were then applied. For development, 15% mining dilution and 100% recovery was assumed. 2% mining dilution with 95% recovery was applied to down-hole stopes while 2% mining dilution with 90% recovery was used for up-hole stopes. Sill pillar mining used 10% mining dilution with 85% recovery.



Some manually designed stope shapes were included in areas of higher geological complexity. These shapes used the operational mining dilution and recovery estimates for the various stoping types. These include remnant stoping (30% mining dilution, 70% recovery), longitudinal stoping (15% mining dilution, 95% recovery), transverse stoping (10% mining dilution, 95% recovery) and narrow stoping (25% mining dilution, 95% recovery).

#### Net Smelter Return

A NSR calculation was used to assign an economic value to the mineralisation. The NSR was calculated as:

NSR = [metal grade x expected metallurgical recovery x expected payability x metal price] – [transport and treatment charges, penalties and royalties]

Metal price assumptions used in the NSR calculation are listed in Table 34. Metal prices were based on consensus forecasts. The metallurgical recoveries and concentrate grades in Table 35 are based on operating experience and near-term operating targets. The metallurgical recoveries for the Ore Reserve Estimate are consistent with existing performance at the Dargues Mine.

#### **Cut-off Values**

A NSR cut-off value of A\$135/t was applied for material to be extracted by stoping methods and A\$80/t for development. The economic viability of the cut-off value has been demonstrated through cashflow modelling completed for the Dargues Life of Mine plan and budget.

# 3.6 CHANGES FROM PRIOR ORE RESERVE ESTIMATE

Economic assumptions were updated for the 2021 Ore Reserve Estimate. A NSR cut-off value was introduced, and the mine plan amended using new geological information. The most significant change to the Ore Reserve Estimate is due to mining depletion (Figure 25 and Figure 26).

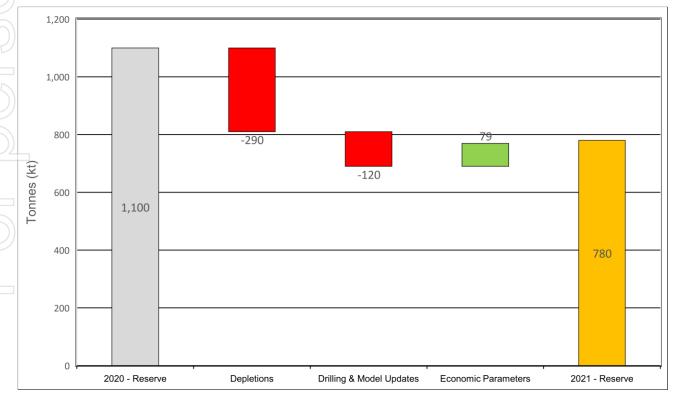


Figure 25. Change in Dargues Ore Reserve tonnage relative to 30 June 2020.



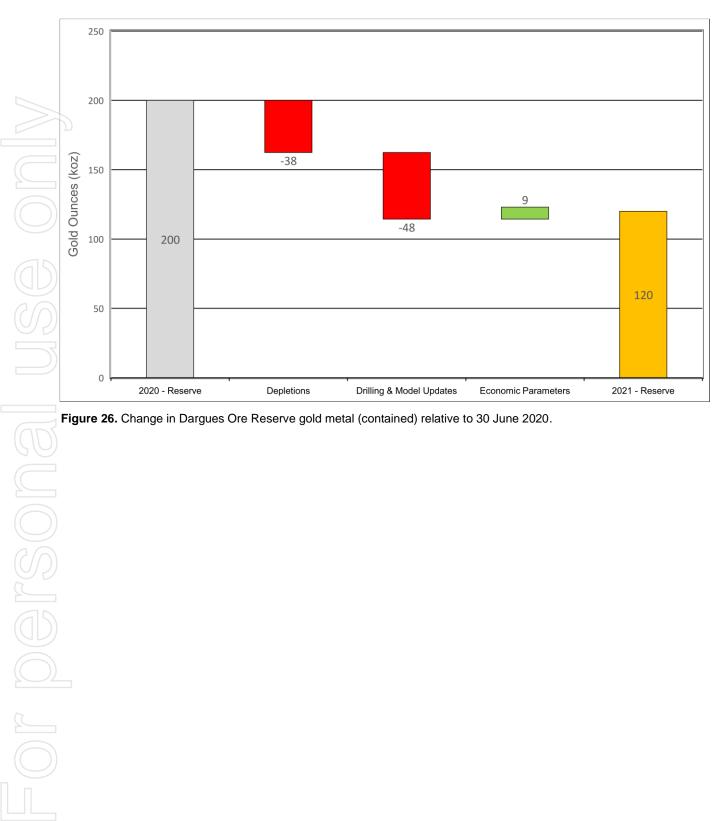


Figure 26. Change in Dargues Ore Reserve gold metal (contained) relative to 30 June 2020.



# 4.0 NYMAGEE MINERAL RESOURCE ESTIMATE

## 4.1 SUMMARY

Aurelia reports a MRE for its 95% owned Nymagee Project in NSW that is unchanged from the 2020 Estimate. The Nymagee Project MRE was completed in accordance with the guidelines of the JORC Code 2012 and is reported as at 30 June 2021. Full details for the Nymagee Project MRE are contained in the JORC Table 1 of the 2019 Mineral Resource and Ore Reserve Statement (released to the ASX on 22 July 2019). A summary of the MRE is given in Table 37 with the metal price assumptions and metallurgical parameters used in the estimate presented in Table 38 and Table 39, respectively.

Table 37. Nymagee Project MRE as at 30 June 2021.

Class	Tonnes (kt)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Indicated	1,400	2.3	0.8	1.5	18
Inferred	40	1.6	0.2	0.5	10
Total	1,500	2.3	0.8	1.5	18

Note: The Nymagee Project Resource Estimate is unchanged from the 2020 Estimate. It utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Net Smelter Return (NSR) is an estimate of the net recoverable value per tonne including offsite costs, payables, royalties and process recoveries. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

Table 38. Metal price and exchange rate assumptions used for the 2021 Nymagee MRE (unchanged from 2020).

Commodity	Unit	Mineral Resource 2021				
Silver	US\$/oz	18.80				
Lead	US\$/t	2,280				
Zinc	US\$/t	2,600 7,165 0.74				
Copper	US\$/t					
FX	\$A/\$US					
Silver	A\$/oz	25.75				
Lead	A\$/t	3,123				
Zinc	A\$/t	3,685				
Copper	A\$/t	9,815				

Table 39. Nymagee Project metallurgical parameters used for the 2021 MRE.

Metallurgical domains	2021 Assumptions
Copper dominant mineralisation	93-96% recovery for copper 0% recovery for lead 0% recovery for zinc 64% recovery for silver
Polymetallic mineralisation	59% recovery of copper 88% recovery for lead 89% recovery for zinc 77% recovery for silver



# 5.0 FEDERATION MINERAL RESOURCE ESTIMATE

#### 5.1 SUMMARY

The Federation deposit is located ten kilometres south of the Company's operating Hera Mine near Nymagee, NSW. The 30 June 2021 MRE (Table 40) is reported in accordance with the guidelines of the JORC Code 2012 and supersedes the February 2021 estimate that was reported to the ASX on 23 February in the announcement "Updated Federation Mineral Resource Estimate".

Table 40. Federation Deposit MRE as at 30 June 2021.

Class	Tonnes (kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)
Indicated	1,500	2.2	0.4	6.1	10.1	8
Inferred	3,500	0.3	0.3	5.2	9.0	7
Total	5,100	0.9	0.3	5.5	9.3	7

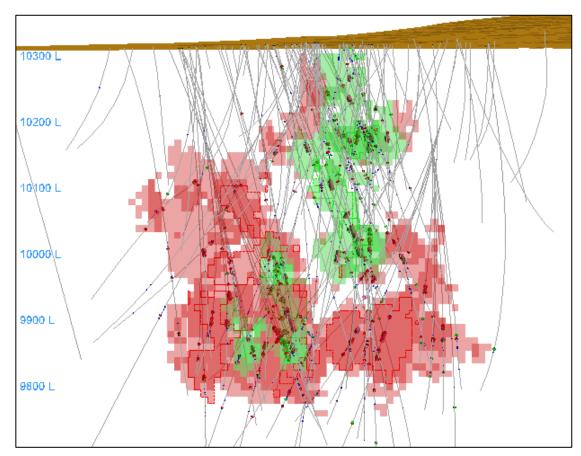
Note: Federation Deposit MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals.

#### 5.2 INTRODUCTION

The updated Indicated and Inferred MRE is reported at an A\$120/t NSR cut-off. It includes an additional 18,000m of drilling data since the February 2021 MRE with this new information informing an updated geological interpretation and Mineral Resource model. The new drilling data has resulted in tighter domaining of the gold mineralisation. That combined with the higher overall MRE tonnage, has resulted in a lower reported gold grade.

Long-sectional and cross-sectional views of the Federation Mineral Resource model are shown in Figure 27 and Figure 28.





**Figure 27.** Long sectional view of the Federation Mineral Resource model showing drilling and surface topography and Indicated (green) and Inferred (red) Mineral Resource classifications.

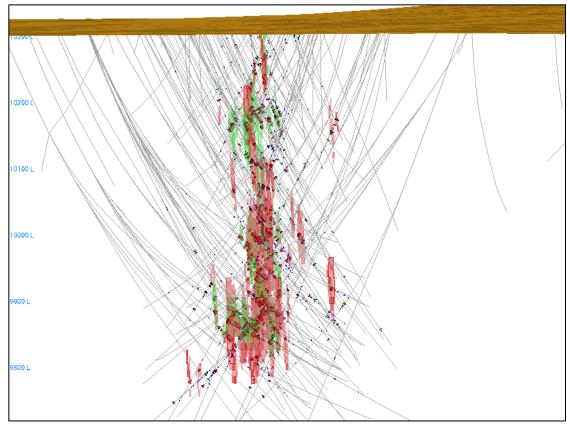


Figure 28. Cross sectional view of the Federation Mineral Resource model showing drilling and surface topography and Indicated (green) and Inferred (red) Mineral Resource classifications.



## 5.3 MINERAL RESOURCE ESTIMATE

The Federation deposit is located 15km south of the historic copper mining town of Nymagee and 10km south of Aurelia's operating Hera Mine in central western NSW. Mineralisation at Federation is epigenetic and structurally controlled with several steeply dipping vein breccia/massive sulphide lenses developed in the centre of a broad northeast-southwest striking corridor of quartz—sulphide vein stockwork mineralisation. The mineralisation is hosted by fine-grained sedimentary rocks and is best developed within open upright anticline closures in areas of strong rheology contrast imposed by early stratiform alteration.

Massive sulphide and sulphide breccia base metal mineralisation is typically zinc-rich and associated with intense cross-cutting black chlorite alteration in the lower parts of the known deposit, with silicasulphide dominant infill in the upper parts. Moderate to high grade gold mineralisation is best developed in a steeply plunging shoot in the northeast of the deposit, with recent drilling also highlighting high grades in other parts of the deposit. Late bedding-parallel faults have been identified that may have caused some brittle offset within the system. These structures possibly started as extensional faults and could have been important in focusing hydrothermal fluids during alteration and mineralisation.

Geological and structural interpretation of the Federation deposit has been updated based on new information gained from recent drilling programmes. The interpretation is based on drill core logging that captures lithology, alteration, mineralisation style and orientation, weathering and major structures.

Several broad wireframes were produced for the purposes of the estimation. The boundaries between these zones were based on a combination of geology, structure, mineralisation orientation and weathering. Exploratory data analysis (EDA) was then performed on these wireframed domains to optimise the number of domains used in the estimation. The final domains used the best representation of mineralisation orientation, structures and weathering as well as limiting the extrapolation of very high gold, lead and zinc grades into zones of lower grade background mineralisation.

The block model was set up on a rotated grid to honour the main mineralisation orientation. Parent block dimensions are 2x10x10m (X, Y, vertical respectively). The 10m Y and vertical block dimensions were chosen to reflect drill hole spacing and to provide adequate definition for mine design. The shorter 2m X dimension was used to reflect the narrow mineralisation width and down hole data spacing. Discretisation was set to 2x5x5m (X, Y, vertical respectively).

Samples were composited to nominal 1.0m intervals whilst honouring the domain wireframes. The minimum composite length was set to 0.5m.

Variography was carried out using the software program Isatis.neo on the 1.0m composites. Each domain was estimated separately using only data from within that domain. The orientation of the search ellipse and variogram models were controlled by coding the block model with local anisotropy to best reflect the local orientation of the mineralised structures.

The concentrations of gold, silver, lead, zinc, copper, iron, sulphur and antimony were estimated on density weighted values to better reflect the contained metal within each interval.

All estimates were carried out using dynamic interpolation so that the orientation of the search ellipse and variogram models was aligned parallel to the local mineralisation orientation.

The density weighted concentration of gold was estimated using the MIK method. MIK is considered an appropriate estimation method for the gold grade distribution because it specifically accounts for the changing spatial continuity at different grades through a set of indicator variograms at a range of grade thresholds. It also reduces the need to use the practice of top cutting.

The density weighted concentrations of silver, lead, zinc, copper, iron, sulphur and antimony were estimated using the OK method. Density was also estimated using OK on drill hole data. OK is considered appropriate because the grades are reasonably well structured spatially. Vulcan software was used for both the MIK and OK dynamic estimates.



Each block was assigned as either fresh or oxidised based on a base of complete oxidation surface (BOCO) created from the drill hole logs and assay data.

A three pass search strategy was used for estimation. Each pass used a search ellipse with four radial sectors. The maximum number of samples per sector was set to four with a maximum of six data per sector for each pass. Additional search parameters were:

- Pass 1: 5x35x50m search, 8-24 samples, minimum 3 drill holes used, maximum 10 data per hole
- Pass 2: 10x70x100m search, 8-24 samples, minimum 2 drill holes used, maximum 10 data per hole
- Pass 3: 15x100x150m search, 4-24 samples, minimum 1 drill holes used, maximum 10 data per hole

Minimal grade cutting was applied to silver, lead, zinc, copper and arsenic on a domain-by-domain basis in order to reduce the influence of extreme values on the estimates. The top cut values were chosen by assessing the high end distribution of the grade population within each domain and selecting the value at which the distribution became erratic.

Following the estimation of zinc, lead, gold, silver and copper, a Vulcan software script was run to calculate the NSR value for each cell in the block model. The SO software was used to generate shapes representing mineable areas. A vertical stope orientation method was used with orientation in the XZ plane. The optimisation region has been aligned to the block model. Section length was set at 5m, level height 10m, no hangingwall or footwall dilution, 2m minimum stope width and 8m stope pillars. The cell centreline evaluation method was used targeting a constant cut-off of \$120/t NSR. The NSR is a value field that allows the software to seek to maximise the total value within the mining shape above the nominated cut-off value. Mining shapes having a value greater than the cut-off NSR value were considered to have reasonable prospects for eventual economic extraction economic and were therefore reported in the MRE. The resulting MRE is reported in Table 40.

# Metallurgical, Metal Price and Equivalency Assumptions

The Federation MRE was reported using a NSR cut-off value to determine the proportion of the deposit having reasonable prospects for eventual economic extraction. The NSR methodology is used at Aurelia's operating mines in the region and considers metallurgical recoveries assumed with each of the product streams, along with metal prices, payabilities, exchange rates, freight, treatment charges and royalties.

The formula for calculating the NSR is as follows:

NSR = [metal grade x expected metallurgical recovery x expected payability x metal price] – [transport and treatment charges, penalties and royalties]

Metal prices and exchange rates adopted for the NSR calculations are shown in Table 41.

Table 41. Metal price and exchange rate assumptions used for the June 2021 Federation MRE.

Commodity	Unit	Mineral Resource June 2021		
Gold	US\$/oz	1,554		
Silver	US\$/oz	18.80		
Lead	US\$/t	2,280		
Zinc	US\$/t	2,690		
Copper	US\$/t	7,165		
FX	\$A/\$US	0.73		
Gold	A\$/oz	2,129		
Silver	A\$/oz	25.75		
Lead	A\$/t	3,123		
Zinc	A\$/t	3,685		
Copper	A\$/t	9,815		



Mineralogical analysis and metallurgical test work programs have been performed on samples from Federation deposit to evaluate the potential for sequential flotation of copper, lead and zinc minerals to produce separate concentrates and to confirm gold deportment to doré and base metal concentrates.

Mineralogical analysis of Federation drill core samples has shown a very similar sulphide mineralogy to Hera, dominated by iron bearing sphalerite and galena with lesser chalcopyrite, pyrrhotite and pyrite. Gold is also similar in occurrence to Hera, tending to be irregularly distributed and present as discrete (often visible) grains not uniquely associated with any specific sulphide phase.

Recent metallurgical test work results, performed as part of a Scoping Study, confirmed the viability of producing saleable copper, lead and zinc concentrates from samples of Federation mineralisation. No concentrate penalty elements were identified. Given the positive results of the recent test work programs, a process flowsheet with crushing, grinding, gravity gold and sequential flotation producing gold doré and separate copper, lead and zinc concentrates has been assumed. The recovery and concentrate parameters adopted in the Federation NSR and zinc equivalency calculations are shown in Table 42.

Table 42. Metal recovery and concentrate grade parameters.

Parameter	Value				
Copper Recovery to Copper Concentrate	Calculated on a fixed tail grade of 0.1% Cu				
Lead Recovery to Lead Concentrate	85%				
Zinc Recovery to Zinc Concentrate	85%				
Gold Recovery to Doré	55%				
Gold Recovery to Copper Concentrate	10%				
Gold Recovery to Lead Concentrate	5%				
Gold Recovery to Zinc Concentrate	10%				
Silver Recovery to Doré	1%				
Silver Recovery to Copper Concentrate	15%				
Silver Recovery to Lead Concentrate	60%				
Silver Recovery to Zinc Concentrate	5%				
Copper Grade in Copper Concentrate	18%				
Lead Grade in Lead Concentrate	65%				
Zinc Grade in Zinc Concentrate	55%				

Very minor near surface oxide and transitional mineralisation is present at Federation and is included in the MRE. Metallurgical recoveries for gold and silver in these zones was assumed to be 85%, consistent with other operations in the area. Further metallurgical test work is underway to improve the understanding of metallurgical recoveries from mineralisation in the oxide zone. It has been assumed that no base metals will be economically recoverable from the oxide zone.



**Table 43.** Federation Deposit MRE reported by oxidation type and classification.

		Tonnes			Grade				Co	ontained	Metal		
Weathering	Class	(kt)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (g/t)	Au (koz)	Cu (kt)	- · · ·			
	Indicated	52	4.9	0	0	0 1.4 8 0				0	0	2	
Oxide	Inferred	19	4.6	0	0	0	1.6 3 0 0 0 1 1.4 11 0 0 3						
	Total	71	4.8	0	0	0	1.4	11	0	0	0	3	
	Indicated	1,500	2.1	0.4	6.3	10	8.1	100	6	94	150	390	
Fresh	Inferred	3,500	0.3	0.3	5.2	9.0	7.1	29	9	180	320	800	
	Total	5,000	8.0	0.3	5.5	9.4	7.4	130	15	280	470	1,200	
	Indicated	1,500	2.2	0.4	6.1	10	8	110	6	94	160	390	
Total	Inferred	3,500	0.3	0.3	5.2	9.0	7	32	9	180	320	800	
	Total	5,100	0.9	0.3	5.5	9.3	7	140	15	280	470	1,200	

Note: Federation Deposit MRE utilises A\$120/t NSR cut-off mineable shapes that include internal dilution. Values are reported to two significant figures which may result in rounding discrepancies in the totals. Estimates may not sum due to rounding. Pb, Zn and Cu are not reported for oxide material as they are unlikely to be recoverable.

#### Mineral Resource Classification

The MRE classification is based on drilling density, estimation passes and confidence in the geological interpretation.

Material drilled on a nominal 25m spacing and estimated in the first estimation pass has been classified as Indicated. Material that has a nominal drill hole spacing of less than 50m, estimated in either pass 1 or 2 and not meeting the criteria for Indicated has been reported with an Inferred classification. All remaining blocks are coded as unclassified. At this stage no mineralisation has been classified as Measured.

# Mining Method and Cut-off Value

The Company has adopted an A\$120/t NSR value as an appropriate cut-off value based on the potential for underground mining using a stope and backfill method similar to that employed at the Company's operating Hera and Peak Mines. MREs for the Company's operations at Hera and Peak are reported at comparable cut-off values. It is anticipated that mineralisation would be processed through facilities at the Hera or Peak Mines.

## Other Modifying Factors Considered in the Mineral Resource Estimate

# Study status

- The Company completed a Scoping Study on the development of the Federation deposit in March 2021 and is currently undertaking a Feasibility Study.
- The Scoping Study considered a range of factors related to a potential mine development at the Federation site including (but not limited to) site access and layout, mining methods, mine design, production schedules, mineralogy and metallurgical test work, minerals processing flowsheets, tailings management, power supply, human resources, project approvals and capital requirements. These considerations have informed the MRE.

#### **Cut-off parameters**

- The cut-off value used in the MRE is based on extensive operational experience at the Company's mining operations, particularly the nearby Hera Mine.
- The cut-off value considers sustaining capital, development, stoping, haulage, processing and administration expenditure and realisation charges that include metal content payability, concentrate transport, penalties and royalties.



# Mining factors and assumptions

- The method of extraction assumed for the Federation deposit is long hole stoping over 25m sub-levels, consistent with the nearby Hera operation. Stope backfilling was assumed.
- Geotechnical studies conducted as a part of the Scoping Study have indicated similar geotechnical conditions to those at the Hera Mine. Minimum stoping widths of 3m have been assumed.
- The MRE contains only internal dilution.

# Metallurgical factors and assumptions

- Metallurgical test work has included XRD mineralogical analysis, optical mineralogy, gold deportment by MLA, Bond Abrasion Index (BAI) determinations, SMC tests, Bond Ball Mill Work Index determinations, bulk rougher and cleaner flotation test work, sequential copperlead-zinc flotation test work, concentrate specification tests and gravity gold test work.
- Metallurgical samples were taken from 13 different locations across the Federation deposit to ensure representivity.
- A process flowsheet with crushing, grinding, gravity gold and sequential flotation producing gold doré and separate copper, lead and zinc concentrates has been demonstrated by this test work.
- The process flowsheet is similar to the beneficiation techniques used for ores at the Hera and Peak Mines.
- Process recovery and concentrate grade assumptions are listed in Table 42.
- Test work to date has not identified any deleterious elements that would cause a penalty in the sale of the concentrate products.

## **Environment**

- The Company is proposing to leverage established infrastructure at the Hera Mine which has all environmental and statutory approvals and licenses required for its current operations.
- The Company has commenced baseline environmental monitoring and test work at the Federation site to contribute to an environmental impact assessment to support regulatory approval for a full mine development.
- Waste rock storage and characterisation has been considered as a part of the Scoping Study.

# Infrastructure

- The Scoping Study proposed a site layout that included a box cut and portal, haul roads, ROM and waste rock stockpiles, workshop and offices, water management structures and other supporting infrastructure.
- Processing of material from the Federation deposit is proposed to leverage the existing infrastructure at the Hera Mine where ore processing and tailings facilities are established.

#### **Tenure**

- The Federation prospect is located within Exploration Licence 6162 held by Hera Resources
  Pty. Ltd. (a wholly owned subsidiary of Aurelia Metals Limited). At the time of reporting there
  were no known impediments to operating in these areas.
- Pending the outcome of the current Feasibility Study, the Company intends to apply for a mining lease and development consent.

# 5.4 CHANGES FROM PRIOR MINERAL RESOURCE ESTIMATE

The June 2021 MRE represents an increase in tonnage and contained metal over the June 2020 estimate (Table 44). The tonnage reported in the updated MRE has increased substantially (Figure 29) with the inclusion of new data received from infill and extensional drilling that has improved the geological understanding of the deposit, identified areas of continuous mineralisation and supported conversion of previously Inferred material to the Indicated classification.



Table 44. Tonnage and contained metal in the June 2021 Federation Deposit MRE and variance to the 2020 MRE.

Class	Tonnes (kt)	Au (koz)	Cu (kt)	Pb (kt)	Zn (kt)	Ag (koz)
Indicated	1,500	110	6	94	160	390
Inferred	3,500	32	9	180	320	800
Total	5,100	140	15	280	470	1,200
Variance to 2020 MRE	+97%	+107%	+100%	+41%	+36%	+58%

Note: Values are reported to two significant figures which may result in rounding discrepancies in the totals.

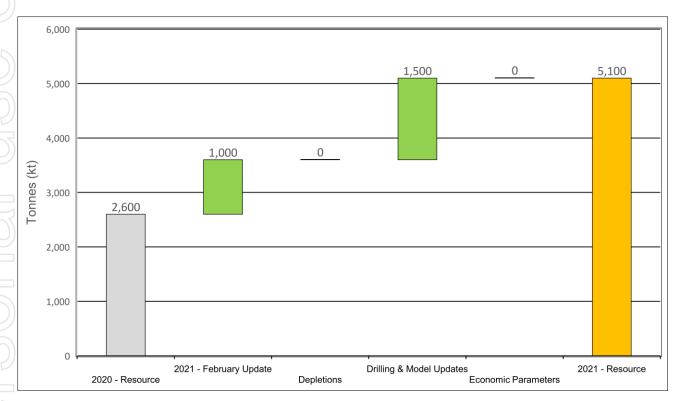


Figure 29. Change in Federation Mineral Resource tonnage relative to 30 June 2020.



# APPENDIX 1 - PEAK JORC Code 2012 (Table 1) - Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Section 1 Peak Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

	Criteria	JORC Code explanation Commentary	
	Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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>The Mineral Resources are predominantly based on diamond drill holes in fresh rock with 10 The core is mostly BQ or LTK48 over the measured and indicated portions and is whole core intervals. NQ2 core is used for underground exploration and evaluation and is half core same the remaining half core is quartered if metallurgical samples are required.</li> <li>PGM has employed Swick Mining Services since 2008 as their preferred underground drilling quality in core handling.</li> </ul>	e sampled at metre pled in metre intervals.
7		<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>A continuous series of pre-numbered bags is employed so that duplication of sample number control of core yard systems for ledger generation and specific gravity. All samples are analy sample weights show consistency with regards to core recovery. Standards are submitted a with every submission. A blank is submitted at the beginning of every batch. Silica flushes are around visible gold observations. Standard fails are subject to re-assay. A selection of pulps ore intervals for re-assay at another lab as a comparison of repeatability and lab precision. Tregularly inspected and aligned so the core is cut in even halves.</li> </ul>	vsed for specific gravity. t a frequency of 1 in 20 re used between samples is taken yearly from the
		<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report. 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> <li>Up to 100% of the core can be sampled but is generally restricted to all intervals which have and shearing. Sampling is continuous and perpendicular to strike of the lodes reported.</li> <li>The entire metre of whole BQ or half NQ is completely crushed to 3mm and 100g is riffle spl passing 75 microns. All gold assays are 50g fire assay (Method Au – AA26) with a detection base metals by 4 acid digest (Method ME-ICP61) with detection levels of: Ag-0.5ppm, Cu-0.1ppm, Zn-0.01ppm, S-0.01%, Fe-0.01%. Over limit analysis is by OG62- with sulphur over results and the core can be sampled but is generally restricted to all intervals which have and shearing.</li> </ul>	it and pulverised to 90% level of 0.01ppm and 01ppm, Pb-0.01ppm, Bi- ange by method S-IR08 at alysis at PGM by wet
	Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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> <li>The majority of samples are core samples using a variety of sizes (LTK48, BQ, NQ2 and HQ spacing, depth and angle of hole. The holes are surveyed every 30m with a 15m and end of are drilled with a jumbo mounted LM90 diamond rig supplied by SMS drilling. A proportion of surface areas making up the Mineral Resource is low.</li> </ul>	hole survey. The holes
	Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Drillers record core loss while drilling with core blocks in the run. Location of loss is recorded sheet. Sample weights of the assayed intervals are assessed to give quantitative estimate or</li> </ul>	
9		<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Overall it is expected that 98% recovery should be achieved in difficult drilling. In good drilling expected.</li> </ul>	g 100% recovery is
	72 == 15	<ul> <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> <li>In RC drilling efforts are made to reduce the amount of fines lost. Core loss in diamond core fractured or sheared rock. Where these conditions exist around or within ore zones there is p however such conditions are not confined to ore zones. The relationship between sample re- not been assessed.</li> </ul>	potential for grade loss



Logging	•	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.	Lithological information is gathered to 10cm intervals into tables defining lithology, mineralisation, alteration and shear. Mine delineation is not oriented so structural measurements are taken in relation to the regional foliation which is considered to be constantly orientated. Broader stratigraphical and structural units are captured in an interpretation table. All of the deposits have defined structural zones across strike. Major lithologies are wireframed to ensure continuity of the interpretation.
			Exploration core is oriented so structural measurements can be taken.
	•	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.  The total length and percentage of the relevant	Rock mass quality information, to support engineering considerations, are logged and Q primed is estimated. Further to rock mass quality data, rock strength data is gathered for mining studies. Metallurgical samples are initially recovered as part of exploration or evaluation programmes from either half or quarter core.
	•	intersections logged.	All core is photographed. The core is photographed using a mobile frame over individual trays ensuring that light and focus conditions remain constant. All core and underground faces are photographed wet. Structural measurements are taken against the dominant regional S2 foliation based on quality of observation. Visual estimates of minerals in percent are checked against assay data. Magnetic susceptibility is recorded for specific intervals during exploration programs. Three equidistant measurements at 0.2, 0.5 and 0.8m along each metre are averaged.
115			All core and chips are 100% logged for lithology, stratigraphy, mineralisation, alteration, RMQ, structure and shear.
Sub-sampling	•	If core, whether cut or sawn and whether quarter, half or	LTK48 and BQ core is whole sampled so no subsampling is done on delineation drilling.
techniques and sample preparation		all core taken.  If non-core, whether riffled, tube sampled, rotary	NQ2 and HQ core is half core sampled and cut with an Almonte automatic saw leaving the other half of the core for possible re-assay or metallurgical use.
		split, etc. and whether sampled wet or dry.	RC drill holes were sampled in 1, 2 and 4 metre intervals depending on the purpose of the hole. An exploration RC hole would normally be sampled initially in 4m composites and followed up with 1m samples for anomalous intervals.
	•	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Both the riffle splitter and spears have been used in these subsampling instances.
	•	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	For the New Cobar pit the RC drilling was sampled at 1m and 2m intervals using a riffle splitter through the ore and had four meter composites in waste zones. All samples were dry sampled. The amount of Mineral Resource attributed to areas dominated by RC drilling is minor and usually omitted from the Mineral Resource by exclusion.  For a sample of core being assayed for grade the same regime is followed as explained in sampling techniques above. RC samples are split to a 300 gram sample so no further reduction is necessary at the lab.
	•	Measures taken to ensure that the sampling is representative of the in situ material collected, including	Audits of PGMs core yard facilities by external sources have suggested few improvements to the system currently employed.
		for instance results for field duplicate/second- half sampling.	Measures to ensure sample representivity are outlined under sampling techniques. Twinning holes and second half core sampling is adopted during exploration programmes.  Variability and nugget effects produces complications when sampling for coarse gold have been address by PGM.  The sample size of drill core is adequate to capture gold at the micron size range. The ore bodies with the higher CV's
<u>10</u>	•	Whether sample sizes are appropriate to the grain size of the material being sampled.	are drilled at a closer spacing to minimise risk.



	Quality of assay data and laboratory test		The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  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.  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.	Samples dry for 12 hours at 104°C in oven. Samples are crushed to <3mm and pulverised to 90% passing 75um in and LM5 pulveriser. 250 grams of sample is scooped from the bowl. Sizing tests are performed every 10 samples. Barren wash is used between samples. 50 grams is scooped from the 250 grams for fire assay. 4 acid digest is used to determine base metals. Fire assay and four acid digest are methods considered as total element analysis. Acid leach tests are performed on waste used for surface works where necessary.  The suite of elements assayed and the lad methods used are considered adequate for Mineral Resource reporting.  No geophysical, spectral or hand held XRF methods have been used.  A blank is submitted at the start of every hole. Standards are submitted at a frequency of 1 in 20. Standard fails are followed up with 10 sample repeats adjacent to the standard that failed. Replicates and duplicates are done by ALS at a frequency of 1 in 20. Standards, replicates and duplicates are graphed at regular intervals to determine accuracy and precision. The standards are supplied by Gannet Holdings Pty Ltd and Geostats. Standards have been both matrix matched and non-matrix matched. Between 300 and 500 pulps are selected from ore samples and sent for check assay at another lab annually.
4	Verification of sampling and assaying		The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Extreme high grades (>100ppm Au) are repeated as a matter of course. The database is used by all geologists and engineers on the PGM site. A third party audit is performed annually and includes analysis of the data. During annual pulp checks certain intersections are repeated in full.  Physical and electronic copies exist of drill designs, downhole surveys and assay data. Raw laboratory data is filed as it comes from the lab. The assay .CSV file from the lab is manipulated by an excel add-in routine to suit the load query in the geological database "Drillview". The database has a verification sequence which checks end of holes and overlapping intervals. All data entry procedures are documented. Historic hard copies are stored in a fire proof room. Electronic data is backed up weekly monthly and yearly and stored in a fire proof safe on site.  Default low grades are used for unassayed intervals in the estimation composite.
-	Location of data points	•	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.  Specification of the grid system used Quality and adequacy of topographic control.	Surface drill hole collars are initially located using hand held GPS to ±5m. Upon completion collars are located with differential GPS to ±5cm. Underground collars are picked up by the mine surveyor (collar position and dip/azimuth) using a Total station Theodolite. Downhole surveys are taken using a reflex camera. Eastman single shot cameras were phased out in 2007. Readings with abnormal magnetics are flagged unreliable in the database. The reflex camera is used for multi shot where required and giro cameras ore used in highly magnetic ground. Check surveys are done weekly in a test bed on surface. Reliability is checked in Excel. A resurvey is done if out of limits.  PGM uses a metric mine grid that is -15° 31' 38.72201 degrees to MGA grid. There is an additional 10,000.4m added to the AHD.  The PGM grid was aligned with the state MGA grid in Feb 2009. Existing surface survey control consists of two baselines each with two high order stations registered with SCIMS on both the Peak and New Cobar leases. All exploration holes and topographic features are fixed using RTK GPS



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Data spacing and distribution	•	Data spacing for reporting of Exploration Results.  Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  Whether sample compositing has been applied.	Underground drill hole spacing, for Ore Reserves is between 10m and 30m spacing depending on the type and complexity of the mineralisation. Surface exploration results are replaced by delineation drilling as a mine progresses to depth. Drill spacing away from the main mineralised lodes is generally wider spaced and dependent on the stage of exploration.  The classification scheme is based on the estimation search pass for gold in the case of gold deposits and copper or lead-zinc for base metal deposits. Generally, Pass 1 = Measured; Pass 2 = Indicated; Pass 3 = Inferred. This scheme is effectively an index of local data density.  The classification is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data. QAQC ensures that data quality is consistently high and holes with unreliable data are removed for resource estimation.  The classification appropriately reflects the Competent Person's view of the deposits and is considered consistent with the 2012 JORC code. The majority of the drill holes are sampled at one metre intervals and compositing is at 1m intervals.
Orientation of data in relation to Geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	All ore bodies are near vertical. The drill hole orientation is designed to be across the width of the lode. This is adequate where the mineralised structures are sub-parallel to the regional foliation.  Underground mapping has located some structures that are sub-parallel to the drilling direction. The drilling density off-sets any bias associated with such intercepts and additional drilling from other directions has been done. These structures are generally secondary to the main lode and of short strike length.
Sample security	•	The measures taken to ensure sample security	Core is stored in a lockable yard within the Peak site. The Peak site has 24 hour manned gates and requires swipe card access given only to Peak personnel. Samples are placed in tied calico bags with sample numbers that provide no information on the location of the sample.
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data	H&S Consultants audited PGMs core yard in 2008. No concerning issues arose in regards to the procedures of core mark up, photography, RQD measurement, cutting, core density, packaging and dispatch. Continuous improvements have been made by PGM with the implementation of roller racks, air conditioned sampling sheds, re-plumbing of water supply to the racks and the introduction of blue metal as a blank check.  Drill hole data is reviewed by H&S Consultants during the Mineral Resource audits and measures of drill hole deviation and assay ranges are scrutinised and verified.



Section 2 Peak Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

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> </ul>	In August 2012 a notice of application for determination of native title was made in central NSW which encompall of Peak Gold Mines mineral tenements. Legal advice indicated that Crown land may be claimable, so exploin has been delayed over this land tenure until it can be established if native title has been extinguished or if an agreement with the claimants will be required. This effects areas within EL5933 (Wrightville Common & Kaloog Regeneration Ore Reserve) and EL7355 (Cumbine State Forest). The following table is a list of tenements hele or part by PGM.				
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a	Tenement No	Name	Ownership		
	licence to operate in the area.	CML6	Fort Bourke Hill	PGM 100%		
	,	CML7	Coronation/Beechworth	PGM 100%		
		CML8	Peak to Occidental	PGM 100%		
		CML9	Queen Bee	PGM 100%		
		ML1483	Fort Bourke Hill	PGM 100%		
		MPL854	Dam	PGM 100%		
		EL5933	Peak	PGM 100%		
		EL6149	Mafeesh	PGM 100%		
		EL6401	Rookery East	PGM 100%		
		EL7355	Nymagee East	PGM 100%		
		EL8060	Nymagee North	PGM 100%		
		EL8523	Margaret vale	PGM 100%		
		EL8548	Narri	PGM 100%		
		EL8567	Kurrajong	PGM 100%		
		EL5982	Norma Vale	PGM 75%, Zintoba 25%		
		EL6127	Rookery South	PGM 83%, Lydail 17%		
		expenditure commitm	nents, environment permitting ar	ownership, including reporting obligated rehabilitation. All tenements are h	eld securely	
Exploration done by other	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	estimate. Such holes	were drilled by the New Occide	oles pre 1960 remain selected for the ntal Mining Company and the like.		
parties		Newgold and Aurelia	ownership which is concurrent v	ction were drilled during CRA, Whe with the modern era of mining and h alytical techniques for assaying.	aton River, Goldcorp, ence there is greater	
Geology	Deposit type, geological setting and style of mineralisation.	fault zones (Rookery Group of sedimentary quartz stockworks an	Fault System) and subsequent y units displaying lower green so d breccias. The breccia matrix a lymetallic with gold, copper, silve	or Style" mineralisation and are contributed and splays. The faults are with hist facies alteration. The economic are combinations of quartz, sedimenter, lead and zinc occurring in paralles.	nin of the Devonian-Nurri minerals are contained wit t, rhyolite and sulphide. The	



		For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
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> </ul>	roi the purpose of reporting Ore Reserves and Mirreral Resources this Section is not applicable.
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
)	dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> </ul>	
	hole length.	
	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	<ul> <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> </ul>	
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
between mineralisation widths and	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	
intercept lengths	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	
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>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Balanced reporting	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.



Other substantive exploration data	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

Section 3 Peak Estimation and Reporting of Mineral Resources (Criteria listed in section1, and where relevant in section 2, also apply to this section)

Criteria  Database integrity	JORC Code explanation  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.  Data validation procedures used.	Commentary  Samples are dispatched in a pre-numbered series of calico bags and database programming prevents duplication of sample numbers. The data collection programs and storage are Microsoft Access based. Table fields are selected from drop down menus. Data transfer from logging software to the main database is electronic and data is extracted from the database to mine design software (Vulcan) digitally.  Validation for overlapping intervals and end of hole checks are part of the database function for all tables and all errors are reported. Visual inspection of data is performed in Vulcan mine software and checks such as univariate statistics are analysed for meaningful ranges consistent with the assay returns.  PGM is currently changing to a more robust and auditable database (Geobank).
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>	Prior to Aurelia metals ownership of PGM, H&S Consultants performed visits and annual resource audits on site. During these visits, the core yard and mine areas were inspected and discussion were held with PGM personnel about the geology and mineralisation of the deposits. The Competent Person concluded that data collection and management were being performed in a professional manner. Chris Powell is a full-time employee of PGM and has worked there since 2006; he has occupied the role of Resource Geologist at PGM for the last eight years. The processes of sample taking, processing and auditing has not changed since. Since Aurelia has had ownership the recruitment of senior personnel to head office and site has added to the expertise of the group and positive opinion of the processes adopted by PGM has been reinforced.
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</li> </ul>	There is a high degree of confidence in the geological interpretation of the deposits within the mineral resources at PGM because these are generally well drilled and have good underground access. The majority of data is interpreted from diamond drill with underground mapping incorporated into the interpretation.  There is limited scope for alternative interpretations in a few areas; these alternatives could have a significant effect locally but are unlikely to impact the global resources.  Geology guides and controls Mineral Resource estimation in a number of ways. All deposits have visual indications of mineralisation, including quartz veining, chlorite alteration, brecciation, silica flooding, and presence of sulphide minerals.



	Minoral Page use actimation
	<ul> <li>Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> <li>Domains for estimation are defined by these visual parameters in combination with grade thresholds of either 0.1 g/t Au and/or 0.1 % base metal. Internal waste is carried in some domains. There is generally a sharp contact to mineralisation on one wall of the lenses and a gradational boundary on the other wall and along strike. There is also a strong correlation between the regional foliation and orientation of mineralised structures. Mineralisation in the Peak Mine corridor occurs in narrow, steeply dipping ore shoots with a general north-south strike to mine grid. These are often associated with lithological contacts, such as the rhyolite-shale contact at Perseverance.</li> </ul>
	Factors affecting the continuity both of grade and geology include the steep north-south regional foliation, local and regional faults, and lithology. Metal grades have much lower continuity than the host stratigraphy and this suggests that specific combinations of geological features are required to produce economic metal accumulations. There is, however, a tendency for multiple metal deposits to form along favourable geological trends.
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> <li>Perseverance, Peak, New Cobar and Chesney the lode dimensions best describe the extent as there is mineral resource across the extents of the ore zone.</li> <li>Perseverance – various lenses including Chronos, S400 and Zone D - 600x12x900m, starting at 660m below surface</li> <li>Kairos – 200x10x400m, starting at 800m below surface and mineralogical continuity with Peak remnants.</li> <li>New Cobar/Jubilee – 600x9x1000 from surface</li> <li>Great Cobar – 800x20x1000 from surface</li> <li>Gladstone – 600x10x700 from surface</li> <li>Dapville – 200x10x500 from surface</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, maximum distance of extrapolation from data points.</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 byproducts.</li> <li>Estimation of deleterious elements or other nongrade 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>Entimation of selective mining units.</li> <li>Estimation techniques applied are multiple indicator kriging (MIK) and ordinary kriging (OK). MIK has been used for gold where there is significant gold mineralisation and a highly skewed grade distribution. Presently the direction is for OK for all elements.</li> <li>OK is considered appropriate cutting and domaining. More detailed models are produced for mining purposes. MIK was considered appropriate cutting and domaining. More detailed models are produced for mining purposes. MIK was considered appropriate for gold at PGM because it deals with highly skewed grade distributions.</li> <li>Domains generally have soft boundaries between mineralisation and hard boundaries against waste.</li> <li>All estimates used a fixed estimation search and variogram model orientations, although dynamic interpolation has recently well and the search passes, with initial search radii typically between 3x15x15m and 3x20x25m in Easting, Northing and elevation respectively, depending on the style of mineralisation. Sample requirements for the initial search radii are related to average sample spacing. In the plane of mineralisation, block size is no less than half the sample spacing in the better drilled areas. Blocks are typic</li></ul>
	<ul> <li>Any assumptions about correlation between variables.</li> <li>Estimates were generated using Vulcan software.</li> </ul>



Moisture	<ul> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <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> <li>Whether the tonnages are estimated on a dry basis</li> </ul>	<ul> <li>While gold is the main commodity of interest at PGM, economic quantities of copper, silver, lead and zinc are recovered as by-products. All these elements are estimated and included in NSR calculations, so their value is accounted for in the Mineral Resource estimates.</li> <li>A number of potentially deleterious elements are estimated, including bismuth, sulphur and iron. Sulphur estimates are used as a guide to sulphide dust ignition during blasts, while bismuth can be a contaminant in sulphide concentrates. Sulphur and iron could be used in the characterisation of acid mine drainage. Lead and zinc can be penalties in copper concentrates but are usually blended out during processing.</li> <li>Mineral Resource estimates are reported within mineable shapes generated from an SSO run in Deswik. The minimum mineable size is 10m long, 10m high, and 2m wide, which is the effective minimum selective mining unit. Single blocks without adjacent support are taken out of resource.</li> <li>No specific assumptions are made regarding the correlation of variables during estimation as each element is estimated independently. Some elements do show moderate to strong correlation in the drill hole samples, such as bismuth and gold, and lead and zinc. The similarity in variogram models effectively guarantees that this correlation is preserved in the estimates.</li> <li>The geological interpretation controls the resource estimates through the estimation domain boundaries, which incorporate the relevant geological features.</li> <li>Models are validated in a number of ways, including visual and statistical comparisons of block and drill hole grades, examination of grade-tonnage data, comparison with previous models and reconciliation against mine production. Models are reconciled against mine production on a monthly basis and against previous estimates annually, so the Mineral Resource estimates do take appropriate account of this data.</li> <li>Tonnages are estimated on a dry weight basis. Moisture content has not been d</li></ul>
Mosture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	samples is not performed as part of the density measurement process. The samples are all fresh rock samples with very low porosity and permeability. Samples are air dried and moisture content is considered negligible.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade is a Net Smelter Return (NSR) value, which is used to assign a dollar value to the complex polymetallic mineralisation. An NSR cut-off of AUD\$120 per tonne was chosen to define Mineral Resources because this value is considered to have reasonable prospects of economic extraction in the medium term. The Peak Mine is an operating mine and the NSR calculation is well developed and informed. All elements included in the NSR calculation are currently being recovered and sold. Full details on the NSR parameters are contained within the body of the report.
Mining factors or assumptions	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.	PGM has been successfully operating for more than 20 years so the mining methods and parameters are well established. The mining methods are a combination of long hole stope retreat with loose rock fill, modified Avoca mining, and transverse sequential mining with cement and loose rock fill.  The block model estimates include any internal dilution within each block. The Mineral Resource mineable shapes are the effective minimum selective mining unit and can include some sub-economic as additional internal dilution. The minimum selective mining unit is 10m long, 10m high, and 2m wide.  Additional external dilution and recovery factors are incorporated into the Ore Reserve conversion process, based on mining technique and local ground conditions.



Metallurgical factors or assumptions	<ul> <li>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.</li> <li>PGM has been successfully operating for more than 20 years so the metallurgical methods and parameters are based on actual processing performance. PGM ore bodies are largely free milling ore types. Metallurgical samples are submitted as part of all feasibility studies. Further metallurgical samples have been tested during the mine life to update recoveries and grinding indexes. Well known recovery factors, concentrate factors, commodity prices and refining and freight costs are built into the NSR formulas.</li> </ul>
Environmental factors or assumptions	As a mine operating for over 20 years, all necessary environmental approvals are in place for the current mining operations at PGM. Regulatory approvals for the Great Cobar project are in progress.  As a mine operating for over 20 years, all necessary environmental approvals are in place for the current mining operations at PGM. Regulatory approvals for the Great Cobar project are in progress.  All waste and process residues will continue to be disposed of in a responsible manner in existing facilities and in accordance with the mining license conditions.  Most waste rock is used to fill underground voids except that needed for surface projects. Where waste rock is used for surface projects all efforts are made to ensure it is of low sulphide bearing rock and thus of low acid drainage potential. PGM has procured testing for acid producing potential in the past on waste samples.  PGM has procured testing for acid producing potential in the past on waste samples.  PGM has procured testing for acid producing potential in the past on waste samples.
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), 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</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different</li> </ul> Every sample that is assayed at PGM also has density determined by the Archimedes method. Most of the measurements are completely representative of the assay intervals. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different Discuss assumptions for bulk density estimates used in the evaluation process of the different



Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <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>	The classification scheme is based on the estimation search pass for gold in the case of gold deposits and copper or lead-zinc for base metal deposits. Generally, Pass 1 = Measured; Pass 2 = Indicated; Pass 3 = Inferred. This scheme is effectively an index of local data density.  The classification is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data. QAQC ensures that data quality is consistently high and holes with unreliable data are removed for resource estimation.  The classification appropriately reflects the Competent Persons' view of the deposits.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Until recently, H&S Consultants audited all PGM resource estimates on an annual basis from 2012. In most cases, these audits found no obvious material issues with the PGM models. PGM has been proactive in implementing recommendations during the audit process.  Log and script files are available, documenting all aspects of the Vulcan estimation process and form an audit trail.
Discussion of relative accuracy/ confidence	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 Mineral 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.	The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource categories. This has been determined on a qualitative, rather than quantitative, basis, and is based on the estimator's experience with a number of deposits at PGM and similar deposits elsewhere. The main factors that affect the relative accuracy and confidence of the estimate are the drill hole spacing and the style of mineralisation.  The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis of the Ore Reserves are those classified as Measured and Indicated Mineral Resources only.  Data for reconciliation between the resource model and mine production is available from 2010. The resource is
	<ul> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	evaluated by intersecting the models with the final surveyed stope shapes, while mine production is the reconciled mill performance. This comparison takes into account factors such as dilution, under-break, over-break and development.  Tonnage is reconciled to the mill.  The average grade call factors from production records since July 2017 are shown below with respect to the five economic minerals. These factors indicate that the models are conservative.  Gold under-call 25%  Silver under-call by 16%  Copper over-call by 7%  Lead under-call by 6%  Zinc under-call by 4%



Section 4 Peak Estimation and Reporting of Ore Reserves (Criteria listed in section 1, and where relevant in sections 2 & 3, also apply to this section)

Criteria	JORC Code explanation	Commentary				
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	The Ore Reserve estimate is prepared from the Mineral Resource Estimate reported at 30 <sup>th</sup> June 2021.  The Mineral Resource Estimate is inclusive of the Ore Reserve Estimate.				
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>	The Ore Reserve Estimate was completed by Justin Woodward who is the Principal Mining Engineer at Aurelia Me and is regularly onsite at Peak.				
Study status  Cut-off parameters	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.  The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.  The basis of the cut-off grade(s) or quality parameters applied.	The operation has undergone a Life-of-Mine Plan process, and a Budget process. All matters relating operation of the Peak Mine have been considered during these processes.  The operation has undergone a Life-of-Mine Plan process, and a Budget process. All matters relating operation of the Peak Mine have been considered during these processes.				
O		Table 45.Stoping NSR Cut-offs Ore Type	s by ore type and deposit  Deposit	NSR Cut-off (A\$/t)		
		Lead-zinc	All	155		
			Jubilee	140		
) )		0	S400	160		
2		Copper				
		34,50	Perseverance Deeps	170		



# Mining factors or assumptions

- The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).
- The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.
- The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre- production drilling.
- The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).
- The mining dilution factors used.
- The mining recovery factors used.
- Any minimum mining widths used.
- The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
- The infrastructure requirements of the selected mining methods.

Peak is an operating mine. The Life-of-Mine and Budget processes include Inferred Mineral Resource. The inclusion of the Inferred material is not material to the financial viability of the operation.

Peak uses a combination of uphole and downhole stoping with rockfill, progressing bottom up. This mining method and Peak's mine development design was used for the Ore Reserve Estimate.

Stope shapes are a combination of current Peak mine design shapes, and stope shapes created using Deswik CAD Stope Optimiser software. The Peak mine design shapes were used in preference, and updated using the Stope Optimiser shapes if changes to the geology modelling caused material changes to the stope shapes.

Settings used in the Stope Optimiser include hanging wall and footwall dilution assumptions as shown in Table 24, and a minimum mining width of 2m. Stope strike lengths and heights vary across the operation, and have been aligned with the current mine designs. Sublevel intervals vary from 25m to 50m across the mine areas.

Table 46.External dilution thickness allowances by deposit.

Deposit	Hangingwall	Footwall
Perseverance	1.0	1.0
S400	1.5	0.5
Kairos	1.0	0.5
Others	0.5	0.5

The following additional mining dilution and recovery factors have been applied. Development has 15% mining dilution applied and 100% recovery. Down-hole stoping has 5% mining dilution applied with 95% recovery. Up-hole stoping has 2% mining dilution applied with 75% recovery. Sill pillar mining has 2% mining dilution applied with 60% recovery.

# Metallurgical factors or assumptions

- The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.
  - Whether the metallurgical process is well-tested technology or novel in nature.
- The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.
- Any assumptions or allowances made for deleterious elements.
- The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a

Material is to be processed through the existing Peak Gold ore processing facility with a nominal throughput rate of 800ktpa. Gold and Silver are recovered in gravity circuit with Knelson concentrator. This is further concentrated in an intensive leach reactor and smelted to produce gold doré bars. Gold, silver and copper are also recovered as copper concentrate in a conventional flotation circuit. Lead, zinc and silver are also recovered as a bulk concentrate in a conventional flotation circuit.

All metallurgical assumptions are based on current operation processing criteria. The main deleterious elements present at the Peak Mine deposits are Silica (SiO<sub>2</sub>), Iron (Fe), Sulphur (S) and bismuth (Bi). Rhyolitic rocks have up to 80% SiO<sub>2</sub> and contribute to airborne contaminants as well as being a contaminant in the concentrate. Iron is present in most of the sulphides treated and it also dilutes the concentrate. Sulphur is estimated and high concentrations are monitored for the prediction of sulphide dust explosions. Pyrrhotite is an iron sulphide and increases cyanide consumption as it oxidises easily. Pyrrhotite also tends to plate other minerals and can obstruct gold, lead and zinc from processing efficiently. Bismuth is a penalty in the concentrate and high levels can be present in the copper deposits.

Metallurgical recovery assumptions are shown in the table below.



	whole.		e metal recovery assum	ptions
	<ul> <li>For minerals that are defined by a specification, has</li> </ul>	Metal	Recovery	
	the Ore Reserve estimation been based on the	Gold	80-95%	
	appropriate mineralogy to meet the specifications	Silver	60-80%	
		Copper	75-95%	
		Lead	60-88%	
		Zinc	60-68%	
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Peak Gold Mines Pty Ltd (PGM) (a subsidiary of Aurelia Metals) own and operate the Peak Mine which includes active underground and opencut deposits or complexes. The Peak Mine has all environmental, statutory and soc approvals and licenses to operate. The Development Consent for the Peak mining complex and all associated minerocessing and auxiliary infrastructure and activities was granted on 22 February 2022 (T3-4 CD:TB). The Development Consent for the New Cobar opencut was granted on 4 July 2000 (LDA99/00:022). The Development Consent for New Cobar underground was granted on 19 July 2004 (2004/LDA-00003). All Development Consents have been granted for ongoing operations and do not expire.  Regulatory approvals for the construction of an exploration decline to the Great Cobar project have been granted State Significant Development application for Development Consent to mine the Great Cobar deposit has been and is pending determination (SSD-10419). No Great Cobar material has been included in this Ore Reserve Estate Cobar project has several mining leases including Consolidated Mining Leases (CML) 6, 7, 8 and 9, ML 1483 and 1483 are constructed in the Great Cobar material has been included in the Great Cobar project has been and is pending determination (SSD-10419).		
		mining leases. All mand not owned by P	ining related infrastructu GM. CML 6 expires in 2	4. All mining related activities and infrastructure are contained within these re is contained within land owned by PGM. The mining lease areas include 034. CML 7 expires in 2025. CML 8 expires in 2033. CML 9 expires in 2027. In 2041. MPL 854 expires in 2022.
Infrastructure	The existence of appropriate infrastructure:	All surface infrastruc	ture required for the full	extraction of the Ore Reserve is in place.
	availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	accesses and rises a the Life-of-Mine Plan	are required for the full en and Budget processes	
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital and Operatir of-Mine and Budgeti		nated based on historical actual costs, and forecast costs, as part of the Life-
	<ul> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious</li> </ul>			s elements. All deleterious elements are expected to remain within ed to cashflow estimations.
	<ul><li>elements.</li><li>The derivation of assumptions made of metal or</li></ul>	Metal Price and excl forecasts.	nange rate assumptions	have been benchmarked against industry peers, and based on consensus



Revenue factors	commodity price(s), for the principal minerals and co-products.  The source of exchange rates used in the study.  Derivation of transportation charges.  The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.  The allowances made for royalties payable, both Government and private.  The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.  The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Table 48. Peak Metal Gold Silver Copper Lead Zinc AUD/USD	Mine metal pric Unit Oz Oz t t t	te and exchange USD  1,325  17.50  6,724  2,050  2,469  0.73	ge rate Assumptions
Market assessment  Economic	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract</li> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	transport contraction renegotiated and silver of the refined metal market.  Peak's concentrational sold into market.  Peak is an operational sold in the market.	ets are renewalthually.  Horé products pals are either de lates are trucked rikets in Asia.  Tating mine. The models are bas	roduced on site livered into her did to Hermidale e Life of Mine ed on a combi	approvals for the transportation of concentrate to agreed clients. The discommercial terms. The concentrate offtake agreements are generally are shipped to receiving Mint for refining under a refining agreement and dige book commitments and contracts or sold directly into the spot gold pook, NSW, then rail-hauled to Port-Botany before being transferred to ships.  Plan, and Budgeting process includes the completion of cashflow models. Ination of historical actual costs, and forecast future costs. The cashflow ralue.



Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	PGM is in full operation and has all environmental and social approvals and licenses to operate the existing mines. The project continues to meet the reporting requirements under the terms of the project approval and as such remains in good standing with all regulatory authorities. There are no ongoing agreements in place that are required for ongoing operations. However, PGM does negotiate access agreements as required (e.g. for exploration activities).  A State Significant Development application for Development Consent to mine the Great Cobar deposit has been made and is pending determination (SSD-10419). This application included a Social Impact Assessment and
		significant consultation with the local community, individuals and businesses likely to be impacted by the proposed development. No Great Cobar material has been included in this Ore Reserve Estimate.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	Regulatory approvals for the construction of an exploration decline to the Great Cobar project have been granted. A State Significant Development application for Development Consent to mine the Great Cobar deposit has been made and is pending determination (SSD-10419). No Great Cobar material has been included in this Ore Reserve Estimate.
	Any identified material naturally occurring risks.	
	The status of material legal agreements and marketing arrangements.	
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the Ore Reserve is contingent.	
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The Mineral Resource classifications flagged in the geology block model formed the basis for the Ore Reserve Estimate. Mining shapes were developed from the geological block model then the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to Proved Ore Reserve, and the Indicated classification was reported as the Probable Ore Reserve.
		The selected mining shapes may contain a minor portion of Inferred or unclassified material. The metal value corresponding to this tonnage was removed from the Ore Reserve estimate while the tonnage remained in the Ore Reserve Estimate as dilution at zero grade. This dilution was prorated into the Proved and Probable classifications based on the relative tonnage. The result appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	No external audit or review of this Ore Reserve Estimate has been completed.



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Discussion of relative accuracy/	The Peak Ore Reserve Estimate has a high level of confidence and accuracy.
confidence	The operating history gives confidence that the factors used to determine the Ore Reserve Estimate are well
	understood.



# APPENDIX 2 - HERA JORC Code 2012 (Table 1) - Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves Section 1 Hera Sampling Techniques and Data (Criteria in this section apply to all succeeding section)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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> </ul>	Diamond core drilling was used in the Hera Mineral Resource Estimates.  Core samples were defined during logging to honour geological and mineralogical boundaries, cut in half by diamond saw, with half core sent to external laboratories. Whole core sampling has also been employed at Hera.
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	Sampling and QAQC procedures are carried out using Aurelia Metal's protocols as per industry best practice. Drilling is oriented perpendicular to the strike of the mineralisation as much as possible to ensure a representative sample is collected.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Diamond drilling was used to obtain core samples of nominally 1m, but with a range between 0.5-1.5m. Core samples are cut in half, dried, crushed and pulverised to 85% passing 75 microns. This is considered to appropriately homogenise the sample. Au was assayed by 30g fire assay with AAS finish, (Method Au – AA25) with a detection level of 0.01ppm. For base metals a 0.5g charge is dissolved using Aqua Regia Digestion (Method ICP41-AES) with detection levels of: Ag-0.2ppm, As-2ppm, Cu-1ppm, Fe-0.01%, Pb-2ppm, S-0.01%, Zn-2ppm. Over limit analysis is by OG46- Aqua Regia Digestion with ICP-AES finish. Since April 2016, whole core is used as a representative sample and the determination of the mineralisation in the material is as above. Coarse gold samples greater than 0.2g/t are re-assayed by screen fire assay (method Au-SCR22AA) to improve representivity of gold assays.  The method used is:  For samples up to 2kg screen the entire sample  For samples between 2-4kg screen with 1 riffle split  For samples > 4kg samples screen with 2 riffle splits  The sub-splits from the pulp residue are split using a riffle splitter to obtain the most representative sub-split possible. As the splitters generate a 50:50 split, the exact weight of sample used is based on the starting weight of the sample.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	Drilling is by diamond coring. Surface holes generally commence as PQ core until fresh rock is reached. The PQ rods are left as casing then HQ or NQ coring is employed. Underground holes are LTK60 or NQ-sized drill core from collar.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Measured core recovery against intervals drilled is recorded as part of geotechnical logging. Recoveries are greater than 95% once in fresh rock.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Surface holes use triple tube drilling to maximise recovery. Underground LTK60/NQ core is double tube drilling.  The relationship between sample recovery and grade has not been assessed.
	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.	



		Output is a selected and and a selected by the selected as a selected as
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>Systematic geological and geotechnical logging is undertaken. Data collected includes:</li> <li>Nature and extent of lithologies.</li> <li>Relationship between lithologies.</li> <li>Amount and mode of occurrence of ore minerals.</li> <li>Location, extent and nature of structures such as bedding, cleavage, veins, faults etc.</li> <li>Structural data (alpha &amp; beta) are recorded for orientated core.</li> <li>Geotechnical data such as recovery, RQD, fracture frequency, qualitative IRS, microfractures, veinlets and number of defect sets. For some geotechnical holes the orientation, nature of defects and defect fill are recorded.</li> <li>Bulk density by Archimedes principle at regular intervals.</li> <li>Magnetic susceptibility recorded at 1m intervals for some holes as an orientation and alteration characterisation tool.</li> <li>Both qualitative and quantitative data is collected. All core is digitally photographed</li> <li>100% of all recovered core is geologically and geotechnically 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 dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling 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</li> </ul>	Core is sawn with half core submitted for assay. Sampling is consistently on one side of the orientation line so that the same part of the core is sent for assay. PQ core is ¼ sampled. Since April 2016, entire cores have been sent for assay to improve representivity, especially for gold.  Samples are dried crushed and pulverised to 85% passing 75 microns. This is considered to appropriately homogenise the sample to allow subsampling for the various assay techniques.  Certified Standard Reference Materials and blanks are inserted at least every 15 samples to assess the accuracy and reproducibility. Silica flush samples are employed after each occurrence of visible gold. The results of the standards are to be within ±10% variance, or 2 standard deviations, from known certified result. If greater than 10% variance the standard and up to 10 samples each side are re-assayed. ALS conduct internal check samples every 20 samples for Au and every 20 for base metals. These are checked by Aurelia employees. Assay grades are compared with mineralogy logging estimates. If differences are detected a re-assay can be carried out by either: ¼ core of the original sample interval, re-assay using bulk reject, or the assay pulp. Submission of pulps, and coarse rejects to a secondary laboratory (Genalysis, Intertek, Perth) to assess any assay bias.  Second-half sampling is occasionally undertaken. Core samples are cut in ½ for downhole intervals of 1m, however, intervals can range from 0.5-1.5m. This is considered representative of the in-situ material. The sample is crushed and pulverised to 85% passing 75 microns. This is considered to appropriately homogenise the sample. Rejects are
Quality of assay data and laboratory test	<ul> <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> </ul>	Sample sizes are considered appropriate. If visible gold is observed in surface drilling, gold assays are undertaken by both a 30g fire assay and a screen fire assay using a larger portion of the sample (up to several kg).  Standard assay procedures performed by a reputable assay lab (ALS Group) were undertaken. Gold assays are initially by 30g fire assay with AAS finish, (method Au-AA25). Ag, As, Cu, Fe, Pb, S, Zn are digested in aqua regia then analysed by ICPAES (method ME-ICP41). Comparison with 4 acid digestion indicate that the technique is considered total for Ag, As, Cu, Pb, S, Zn. Fe may not be totally digested by aqua regia but near total digestion occurs.  Not applicable as no geophysical tools were used in the determination of assay results. All assay results were generated by an independent third party laboratory as described above.



Verification of sampling and assaying  Location of data points	•	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.  The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.  Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.  Specification of the grid system used Quality and adequacy of topographic control.	Certified reference material or blanks are inserted at least every 15 samples. Standards are purchased from Certified Reference Material manufacture companies: Ore Research and Exploration, Gannet Holdings Pty Ltd and Geostats Pty Ltd. Standards were purchased in foil lined packets of between 60g and 100g. Different reference materials are used to cover high grade, medium grade and low grade ranges of elements: Au, Ag, Pb, Zn Cu, Fe, S and As. The standard names on the foil packages were erased before going into the pre numbered sample bag and the standards are submitted to the lab blind.  The raw assay data forming significant intercepts are examined by at least two company personnel.  Twinned holes have been used in various sections of the Hera orebody to establish grade variability.  Drill hole data including meta data, any gear left in the drill hole, lithological, mineral, survey, sampling and occasionally magnetic susceptibility is collected and entered directly into a Logchief database using drop down codes. When complete the Logchief database XML file is emailed to an external geological database administrator, the data is validated and uploaded into an SQL database.  Assay data is provided by ALS via .csv spreadsheets. The data is validated using the results received from the known certified reference material. Using an SQL based query the assay data is merged into the database. Hard copies of the assay certificates are stored with drillhole data such as drillers' plods, invoices and hole planning documents.  Surface drill hole collars are initially located using hand held GPS to ±5m. Upon completion collars are located with differential GPS to ±5cm. All underground drill holes are picked up by the mine surveyor using a Total Station Theodolite (TST).  Drill holes are downhole-surveyed from collar to the end of hole by drilling personnel using downhole survey tools which include: Eastman, Proshot, Ranger, Reflex, Pathfinder and EZ-Trac. Drill holes are surveyed by single shot camera during drilling at
Data spacing and			All coordinates are based on Map Grid Australia zone 55H.  Topographic control is considered adequate. There is no substantial variation in topography in the area with a maximum relief of 50m present. Local control within the Hera and Nymagee Mine areas is based on accurate mine surveys.  Final drill spacing for stope definition drilling ranges between 10-20m spacing within the mineralised structures. Drill
distribution	•	Data spacing for reporting of Exploration Results.  Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  Whether sample compositing has been applied.	spacing away from the main mineralised lodes is generally wider spaced and dependent on the stage of exploration.  The mineralised lodes reported are currently classified as Inferred, Indicated and Measured consistent with the number of drill holes intersecting the lode and with the classifications applied under the 2012 JORC code.  Sample compositing is not applied.



Orientation of data in relation to geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drilling is orientated to cross the interpreted, steeply dipping mineralisation trend at moderate to high angles. Holes are drilled from both the footwall and hangingwall of the mineralisation. The use of orientated core allows estimates of the true width and orientation of the mineralisation to be made.  No sample bias due to drilling orientation is known.
Sample security	•	The measures taken to ensure sample security	Chain of custody is managed by Aurelia Metals. Samples are placed in tied calico bags with sample numbers that provide no information on the location of the sample. Samples are transported from site to the assay lab by courier or directly delivered by Aurelia metals personnel
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data	An audit and review of the sampling regime at Hera was undertaken by H&S Consultants in November 2015. Recommendations from this review form part of the current sampling practices at Hera

Section 2 Hera Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

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>	The Hera Deposit along with the Hebe, Zeus and Athena Prospects are located on ML1686. The land comprising ML1686 is part of "The Peak" property which is a perpetual lease held by Hera Resources Pty Ltd (a wholly owned subsidiary of Aurelia Metals).  Production of the first 250,000 ounces of gold from the Hera Deposit is subject to a 4.5% royalty payable to CBH Resources Ltd. as part of the purchase of the project. North Pod extends onto ML1746. ML1746, has a surface exclusion of 100m, is directly north and adjoins ML1686. ML1746 is currently granted to Hera Resources Pty Ltd. EL6162, exploration lease surrounding both ML1686 and ML1746, is granted to Hera Resources Pty Ltd.  ML1686 is a granted mining lease that expires in 2034; ML1746 is a granted mining lease with a 100m surface exclusion, which expires December 2037.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The area has a 50-year exploration history involving reputable companies such as Cyprus Mines, Buka, ESSO Minerals, CRAE, Pasminco, Triako Resources, CBH Resources and YTC Resources. Previous exploration data has been ground truthed where possible. Historic drill hole collars have been relocated and surveyed. Most of the drill core has been relocated and re-examined and resampled. This is particularly the case in older drilling where Au assays were sparse or non-existent.



Geology	Deposit type, geological setting and style of mineralisation.	All known mineralisation in the area is epigenetic "Cobar" style. Deposits are structurally controlled quartz + sulphide
		matrix breccias grading to massive sulphide. In a similar fashion to the Cobar deposits, the Nymagee deposits are located 1km to 3km to the west of the Rookery Fault, a major regional structure with over 300km strike length. The deposits are about the boundary of the Devonian Lower Amphitheatre Group and the underlying Roset Sandstone. Both units show moderate to strong ductile deformation with tight upright folding coincident with greenschist facies regional metamorphism. A well-developed sub vertical cleavage is present.
		The deposits are located in high strain zones. Metal ratios are variable but there is a general tendency for separate Pb+Zn+Ag±Au±Cu and Cu+Ag±Au ore bodies. These are often in close association with the Pb+Zn lenses lying to the west of the Cu lenses. At Hera Zn is usually more abundant than Pb.
		Formation temperatures are moderate to high. At Hera the presence of Fe-rich sphalerite, non- magnetic pyrrhotite and cubanite indicates formation temperatures between 350°C and 400°C. Recognised at Hera are quartz + K-feldspar veins, scheelite, and minor skarn mineralogy which suggest a possible magmatic input. Deposit timing is enigmatic. The main mineralisation occurs as brittle sulphide matrix breccias with silicification grading to ductile massive sulphides that crosscut both bedding and cleavage. Recent age dating on micas and galena gives an age of ~385Ma for the Hera deposit.
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> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	<ul> <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> </ul>	
	<ul> <li>dip and azimuth of the hole</li> </ul>	
	<ul> <li>down hole length and interception depth</li> </ul>	
	<ul> <li>hole length.</li> </ul>	
	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	<ul> <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> </ul>	
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	



Relationship	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
between mineralisation widths and intercept	<ul> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> </ul>	
lengths	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	
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>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Balanced reporting	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
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         <ul> <li>size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul> </li> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	
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# Section 3 Hera Estimation and Reporting of Mineral Resources (Criteria listed in section1, and where relevant in section 2, also apply to this section)

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>	All geological data is stored electronically with limited automatic validation prior to upload into a database, managed off site by Maxwell GeoServices. The master drill hole database is located on an SQL server, which is backed up on a daily basis.  The drill hole database was provided as a Microsoft Access database. Adjustments, such as compositing and top cutting, were carried out programmatically so a transcript of any changes is recorded and has been checked.  Basic drill hole database validation completed include:  Intervals were assessed and checked for duplicate entries, sample overlaps, intervals beyond end of hole depths and unusual assay values.  Downhole geological logging was also checked for interval overlaps, intervals beyond end of hole depths and inconsistent data.
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>	Dr McKinnon, who takes responsibility for the data underpinning the Mineral Resource Estimate, works full time at Aurelia Metals and has visited the site on numerous occasions. Dr McKinnon has a thorough understanding of the geology and data on which the Mineral Resource Estimate is based.  Timothy O'Sullivan, who takes responsibility for the estimated grades, tonnages and classification, has conducted regular site visits to review data collection, drilling procedures and to discuss interpretation and domaining.
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>	A purely geological model of the Hera deposit has not been produced as there are no obvious lithological marker units to allow a lithology/stratigraphy model to be constructed.  The mineralisation at Hera, indicated by elevated gold, silver, lead, zinc and sulphur grades, appears to be structurally controlled and is associated with shearing, brecciation and quartz veining.  Aurelia produced a total of 12 wireframe solids that represent volumes of mineralisation over AUD\$2 NSR. These zones form coherent, sub-parallel, nominally tabular bodies and are well supported by drilling. The highest metal grades tend to occur in the core of each lode with generally gradational boundaries to the country rock; sharp boundaries appear to be uncommon. There is a broad envelope of alteration associated with the mineralisation, which includes the development of sericite, chlorite, silica and pyrrhotite.  The low value boundary was suggested to Aurelia by H&S Consultants following a review of an in-house estimate at the end of 2015. H&S Consultants believe that it is important that the threshold for mineralisation is at least one order of magnitude below the economic cut-off grade because otherwise the estimates are likely to be conditionally biased.  The twelve solid wireframes representing mineralised domains were treated as hard boundaries during estimation of all elements except arsenic. This means that blocks inside a particular domain were estimated using only data from inside that domain. Blocks and data that lie outside of all of the mineralised domain wireframes were treated as a single additional domain. Variogram models were produced for each of the domains with sufficient data and search ellipse orientations were defined for each domain individually.  Arsenic mineralisation appears antithetic to gold, silver, lead, zinc mineralisation. A single wireframe solid was created, encompassing the North Pod mineralised zone, to define a zone of enriched arsenic mineralisation. This wireframe was treated as a hard boundary wh



		Recent work indicates that the mineralisation may be concentrated within a skarn horizon although H&S Consultants is not fully aware of the evidence to support this. This alternative interpretation of the geology is very unlikely to impact estimated Mineral Resources as mineralised domains are based on zones of elevated assay grades and these zones are unlikely to change due to a change in the deposit genesis model.
		A fault, observable in underground developments, cross cuts the deposit at the southern end of Main North and is interpreted to off-set Main South by about 25 m to the west.
Dimensions	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.	The reported Mineral Resources at Hera span a length of around 870 m and consist of nine en echelon volumes that dip steeply to the west-southwest. The plan width of the Mineral Resource varies from 2 m to 70 m (including internal low grade zones) with individual stopes reaching up to 25 m wide. The upper limit of the reported estimates occurs at a depth of around 130 m from surface and the lower limit of the Mineral Resource extends to a depth of 560 m below the surface.
Estimation and modelling technique	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	The concentrations of gold, silver, lead, zinc, copper, iron, sulphur, arsenic and antimony were estimated on density weighted values in order to better reflect the contained metal within each interval. The estimated density weighted concentrations were then divided by the estimated density to produce grade estimates for each block.
<b>D</b>	extrapolation from data points.     The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.  The assumptions made regarding recovery of byproducts.	The density weighted concentration of gold was estimated using Multiple Indicator Kriging (MIK). The gold grades at Hera exhibit a highly positively skewed distribution with coefficients of variation within each domain of over 5. The gold estimates at Hera therefore show extreme sensitivity to a small number of high grades. MIK is considered an appropriate estimation method for the gold grade distribution at Hera because it specifically accounts for the changing spatial continuity at different grades through a set of indicator variograms at a range of grade thresholds. It also reduces the need to use the practice of top cutting. Arsenic was also estimated using MIK due to the highly positively skewed distribution of arsenic grades.
	<ul> <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</li> </ul>	The density weighted concentrations of silver, lead, zinc, copper, iron, sulphur and antimony were estimated using Ordinary Kriging. Density was also estimated using Ordinary Kriging on drill hole data. Ordinary Kriging is considered appropriate because the coefficients of variation were generally low to moderate and the grades are reasonably well structured spatially.
	the search employed.	Vulcan software was used for both the MIK and Ordinary Kriging estimates.
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between</li> </ul>	Hera currently utilises two processing routes namely; a gold and silver doré and a lead-zinc concentrate that also includes silver credits. It is assumed that recoveries will continue at the current level.
(70)	<ul> <li>variables.</li> <li>Description of how the geological interpretation was used to control the Mineral Resource estimates.</li> </ul>	The gold, silver, lead and zinc estimates are considered to be of economic significance. The iron, sulphur, arsenic and antimony estimates are not considered to be of economic significance, with sulphur, arsenic and antimony being potentially deleterious.
	<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>	A data location accuracy factor was estimated because Aurelia have found evidence in underground developments that some surface drill holes have deviated a significant distance from the planned and surveyed drill hole traces. Aurelia provided a list of drill holes for which the location of the drillhole traces was known with a high degree of confidence. These drill holes consisted of all underground drill holes and surface drill holes that had been located in underground development. The relative contribution to estimates of samples with a high degree of confidence in their location was estimated and used to modify the Mineral Resource classification as described below.
		Samples were composited to nominal 1.0 m intervals, whilst honouring the mineralised domain wireframes. The minimum composite length was set to 0.5 m.



		A three pass search strategy was used for estimation. Each pass used a search ellipse with four radial sectors. The maximum number of samples per sector was set to four with a maximum of 8 data per sector for each pass. Additional search parameters are given below:
		<ol> <li>3x20x20m search, 16-32 samples, minimum 4 drill holes used, maximum 6 data per hole</li> <li>5x35x35m search, 16-32 samples, minimum 4 drill holes used, maximum 6 data per hole</li> <li>9x60x75m search, 8-32 samples, minimum 2 drill holes used, maximum 8 data per hole</li> </ol>
		The maximum distance of extrapolation of estimates from data points is 70 m.
		The drill hole spacing at Hera is difficult to quantify due to the irregular distribution of collars, which is largely a result of underground collar locations being limited to development. In general, drill hole spacing is around 20 m along strike and down dip. Composite length is 1 m. The block model was set up on a rotated grid to honour the historic mine grid rotation. Parent block dimensions are 2x5x5 m (X, Y, vertical respectively). The five metre Y and vertical block dimensions were chosen to reflect drill hole spacing and to provide definition requested for mine planning. The shorter two metre X dimension was used to reflect the narrow mineralisation and downhole data spacing. Discretisation was set to 2x5x5 (X, Y, vertical respectively).
		No assumptions were made regarding the correlation of variables during estimation as each element is estimated independently.
		Variography was carried out using the software program Isatis.neo on the one metre composited. Each domain was estimated separately using only data from within that domain. The orientation of the search ellipse and variogram models were controlled by coding the block model with local anisotropy to best reflect the local orientation of the mineralised structures.
		Each domain was estimated separately using only data from within that domain. The orientation of the search ellipse was varied to reflect the orientation of the mineralisation in each domain.
		Grade cutting was applied to gold, silver, lead, zinc on a domain by domain basis in order to reduce the impact of extreme values on the Mineral Resource estimates. The top-cut values were chosen by assessing the high end distribution of the grade population within each domain and selecting the value at which the distribution became erratic.
		Top-cuts were not applied to arsenic or antimony composites although top-cutting may be warranted. These elements are considered to be potentially deleterious.
		The final H&S Consultants block model was reviewed visually and it was concluded that the block model fairly represents the grades observed in the drill holes. The model was also validated the block model statistically using histograms and summary statistics.
		The estimates were compared to the previous Mineral Resource estimate produced by H&S Consultants in July 2020. That estimate was produced following essentially the same methodology as the estimates presented here. Significant additional drilling and mining has occurred between the July 2020 and current Mineral Resource estimate. Despite minor differences the two models agree well. Aurelia personnel consider that the current Mineral Resource Estimate takes appropriate account of previous estimates.
sture	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 weight basis.
	ature	or with natural moisture, and the method of



Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade is a Net Sm mineralisation in order to sim	elter Return (NSR) value, which is olify reporting.	s used to as	sign a dollar valu	e to the polymetallic
		A NSR cut-off of AUD\$100 w prospects of extraction in the	as selected by Aurelia. Material at medium term.	this cut-off	is considered by	Aurelia to have reasonable
		recoveries associated with eaconcentrate (that also include treatment charges and royalti associated with royalties, progiven. The estimation formula	d the NSR estimation is well develor of the two processing routes; residual of the two processing routes; residual of the NSR also takes es. The metal recoveries and metal recoveries and metal recovering and transport are consider is complex as it takes into account reason the formula is not provide the new provided that is not provided the new provided that the NSR estimation is not provided that the NSR estimation is well developed to the NSR estimation is not provided that the NSR estimation is not provided that the NSR estimation is not provided to the NSR estimation is not provided that the NSR	namely produce a account of all prices use red to be cont the two prices.	uction of Au and a the metal price, e ed in the NSR est ommercially sensi- rocessing routes	Ag doré and Pb-Zn exchange rates, freight and timation are given below. Costs tive to Aurelia and are not and the recoveries and costs
		Assumed metal recoveries:				
			Parameter	202	21 Recovery	
15			Gold Recovery - Gravity	l.	15-82%	
			Gold Recovery - Total		62-94%	
			Silver Recovery - Gravity		6%	
(2)			Silver Recovery - Total		91%	
==			Lead Recovery - Concentrate		95%	
))			Zinc Recovery - Concentrate		95%	
		Assumed metal prices:				
			Metal 2	020 Price (US\$)	2021 Price (US\$)	
			Gold (oz)	1,554	1,554	
			Silver (oz)	18.80	18.80	
			Lead (t)	2,280	2,280	
			Zinc (t)	2,600	2,690	
			ISR estimation are currently being are not being used in the NSR cal		and sold. Copper	concentrations are not being
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating	Hera currently uses longhole practical shapes that were de long, 25 m high, with a minim	bench stoping. The reported Mine signed using Deswik's Stope Sha um mining width of 3 m.	ral Resourc pe Optimise	es are limited to l er. The Smallest N	block centroids that lie within Mineable Unit (SMU) is 5 m



	Mineral Resources. Where no assumptions have been made, this should be reported.	The reported Mineral Resources include all estimated blocks that lie within the practical shapes and therefore include internal dilution. Additional external mining dilution may be incurred during mining.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no assumptions have been made, this should be reported.	Hera is an operating mine and the assumptions about metallurgical amenability are based on actual performance of the mill over a period of time. Processing recoveries have been shown to consistently meet or exceed those quoted above.
Environmental factors or assumptions	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.	It assumed that process residue disposal will continue to take place in existing facilities at Hera Mine, which are currently licensed for this purpose.  Waste rock will continue to be utilised at Hera as stope fill. Any remaining waste will be added to surface dumps.  All waste and process residue disposal will continue to be done in a responsible manner and in accordance with the mining license conditions.
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> </ul>	Dry bulk density is measured on-site using an immersion method (Archimedes principle) on selected core intervals for full 1.0 m assay samples. A total of 4,021 density measurements have been taken from drill core at the Hera deposit.  Samples are weighed before and after oven drying overnight at 110°C to determine dry weight and moisture content.  Measured density values show that the density of the rock at Hera varies significantly. The density variations are largely due to sulphide mineralisation which has the effect of increasing density. Aurelia estimated the density data for drillhole intervals that had not been subjected to density measurements by calculating the normative mineralogy of each sample, and then species weighting the density estimation. This approach takes into account the density differences between galena, sphalerite, chalcopyrite, pyrrhotite and gangue and compares well with the actual measurements.
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, 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>	The MRE classification is based on drilling density, estimation passes and confidence in the geological interpretation.  The estimation was constrained within the SO designs to report the MRE by selecting mineralisation that may have reasonable prospects for eventual economic extraction. Material drilled on a nominal 15m spacing and estimated in the first pass, has been classified as Measured. Material drilled on a nominal 22.5m spacing and estimated in the first estimation pass, has been classified as Indicated. Material that has a nominal drill hole spacing of less than 50m, estimated in either pass 1 or 2 and does not meet the criteria for Indicated has been reported with an Inferred classification. All remaining blocks are coded as unclassified.  The Competent Person considers this classification approach appropriate for the Hera deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This Mineral Resource estimate has not been externally reviewed.  The modelling process is based on the previous modelling process implemented by H&S Consultants.



Discussion of relative accuracy/ confidence	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	The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource categories. This has been determined on a qualitative, rather than quantitative, basis, and is based on experience with a number of similar deposits in the Cobar region. The main factor that affects the relative accuracy and confidence of the Mineral Resource estimate is sample data density due to the high variability in gold grades.
	accuracy of the Mineral Resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the	The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis are those classified as Measured and Indicated Mineral Resources.
	factors that could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Overall, the silver, lead, zinc and copper estimates compare reasonably well to ROM production records although there are some large differences on individual stopes. The estimates for gold show even more variability when compared to individual stope production records and appear to underestimate the gold content by about 21% overall.

Section 4 Hera Estimation and Reporting of Ore Reserves (Criteria listed in section 1, and where relevant in sections 2 & 3, also apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	The Ore Reserve estimate is prepared from the Mineral Resource Estimate reported at 30 <sup>th</sup> June 2021.  The Mineral Resource Estimate is inclusive of the Ore Reserve Estimate.
Reserves	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Ore Reserve Estimate was completed by Justin Woodward who is the Principal Mining Engineer at Aurelia Metals, and is regularly onsite at Hera.
	If no site visits have been undertaken indicate why this is the case.	
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.  The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to	The mine is currently in operation.  The operation has undergone a Life-of-Mine Plan process, and a Budget process. All matters relating to the ongoing operation of the Hera Mine have been considered during these processes.



		convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	
C	Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	A NSR cut-off of A\$100/t was applied for material to be extracted by stoping methods and A\$80/t for development. The stoping cut-off value adopted for the 2021 Ore Reserve Estimate was lowered relative to the prior estimate to reflect a reduced requirement for development mining and higher proportion of stoping production from established mining levels. The economic viability of the lower cut-off value has been demonstrated through cashflow modelling completed for the Hera Life of Mine plan and budget.
			Cut-off values consider development, stoping, haulage, and processing. Costs beyond the mine gate including concentrate haulage, port facilities, shipping, treatment charges, penalties and royalties are netted from revenues of gold and concentrates and form the NSR estimates.
	Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e.	Hera is an operating mine. The Life-of-Mine and Budget processes include Inferred Mineral Resource. The inclusion of the Inferred material is not material to the financial viability of the operation.  Hera uses a bottom-up longhole stoping mining method with rockfill. This mining method and Hera's mine development
75		either by application of appropriate factors by optimisation or by preliminary or detailed design).	design was used for the Ore Reserve Estimate.
	))	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Stope shapes were created using Deswik's SO software with 0.4m hangingwall and footwall dilution allowances and 15m strike length at a minimum 2m mining width. Additional mining dilution and recovery factors were then applied. For development, 15% mining dilution and 100% recovery was assumed. 10% mining dilution with 95% recovery was applied to down-hole stopes while 2% mining dilution with 75% recovery was used for up-hole stopes. Sill pillar mining used 2%
	5)	<ul> <li>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre- production drilling.</li> </ul>	mining dilution with 60% recovery.
		<ul> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> </ul>	
		The mining dilution factors used.	
		The mining recovery factors used.	
76		<ul> <li>Any minimum mining widths used.</li> </ul>	
		<ul> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> </ul>	
		<ul> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	
fe	Metallurgical actors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The Ore Reserve Estimate is predicated on the existing Hera ore processing facility with a nominal throughput rate up to 480ktpa. It incorporates gravity, flotation and a concentrate leach to produce a gold and silver doré and a Pb/Zn concentrate.
		<ul> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> </ul>	All metallurgical assumptions are based on current operation processing criteria.
75		The nature, amount and representativeness of metallurgical test work undertaken, the nature of	The main deleterious elements present at Hera ore body is Silica (SiO <sub>2</sub> ) >3%, iron (Fe) >10% and arsenic. All deleterious elements are expected to remain within tolerances and no penalties have been applied to cashflow estimations.



		the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.  • Any assumptions or allowances made for deleterious elements.  • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.  • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications	Table 49. Hera Mine metal recovery assumptions  Metal Recovery  Gold 62-94%  Silver 91%  Lead 95%  Zinc 95%
	Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Hera is an operating mine, with all environmental, statutory and social approvals and licenses to operate. The Development Consent for the Hera mine and all associated mining, processing and auxiliary infrastructure and activities was granted on 31 July 2012. Modification 1 for the construction of a powerline between the Hera Mine and Hera Mining Village was subsequently approved on 11 July 2013 (MP10_0191 MOD1). Modification 2 for a change to the concentrate haulage route was subsequently approved on 21 November 2014 (MP10_0191 MOD2). Modification 3 for an increase to the production rate, change to the site layout and increase to the life of mine was subsequently approved on 25 February 2016 (MP10_0191 MOD3). Modification 4 for an extension of the underground mining area to the north was subsequently approved on 21 September 2019 (MP10_0191 MOD4). Modification 5 for an increase to the concentrate haulage rate and changes to the tailings storage facility was subsequently approved on 3 December 2019 (MP10_0191 MOD5). Modification 6 for the transport of ore and waste between Hera Mine and Peak Mine, acceptance of the Federation Bulk Ore Sample, the development of a borrow pit and extension to the life of mine was subsequently approved on 18 June 2021 (MP10_0191 MOD6). The Development Consent MP10_0191 MOD6 expires on 31 December 2025.  The Hera Deposit is located on ML1686 and ML1746. The land comprising ML1686 is part of "The Peak" property which is a perpetual lease held by Aurelia Metals (or their subsidiaries). ML1746 grants Aurelia Metals the rights to the Hera Deposit 100m below ground level. This encompasses the northern area approved by MP10_0191 MOD4. There are no surface rights associated with ML1746. ML1686 is a granted mining lease that expires in 2034. ML1746 is a granted mining lease that expires in 2037.
	Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All surface infrastructure required for the full extraction of the Ore Reserve is in place.  Ongoing sustaining capital and infrastructure underground including declines, level accesses, escapeways, vent accesses and rises are required for the full extraction of the Ore Reserve Estimate. These works have been included in the Life-of-Mine Plan and Budget processes.
FOR	Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or</li> </ul>	Capital and Operating costs have been estimated based on historical actual costs, and forecast costs, as part of the Life-of-Mine and Budgeting process.  No allowance has been made for deleterious elements. All deleterious elements are expected to remain within tolerances and no penalties have been applied to cashflow estimations.  Metal Price and exchange rate assumptions have been benchmarked against industry peers, and based on consensus forecasts.



Revenue factors	commodity price(s), for the principal minerals and co- products.  The source of exchange rates used in the study.  Derivation of transportation charges.  The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.  The allowances made for royalties payable, both Government and private.  The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.  The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Resources Ltd. as part of the	oz 1,325 oz 17.50 t 2,050	
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> </ul>	transport contracts are ren Gold and silver doré produ	ce all necessary contracts and approvals for the transportation of concentrate to clients. The renewable on standard commercial terms. The concentrate offtake agreement is life of mine.  oducts produced on site are shipped to receiving Mint for refining under a refining agreement and either delivered into hedge book commitments and contracts or sold directly into the spot gold	
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.  NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Inputs to these models are	ine. The Life of Mine Plan, and Budgeting process includes the completion of cashflow models. are based on a combination of historical actual costs, and forecast future costs. The cashflow positive Net Present Value.	
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.			
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:			



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		Any identified material naturally occurring risks.	
		The status of material legal agreements and marketing arrangements.	
		The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the Ore Reserve is contingent.	
	Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The Mineral Resource classifications flagged in the geological block model formed the basis for the Ore Reserve Estimate. Mining shapes were developed from the geological block model then the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.
		The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to the Proved Ore Reserve and the Indicated classification was reported as the Probable Ore Reserve.
	<u> </u>		The selected mining shapes may contain a minor portion of Inferred or unclassified material. The metal value corresponding to this tonnage was removed from the Ore Reserve estimate while the tonnage remained in the Ore Reserve Estimate as dilution at zero grade. This dilution was prorated into the Proved and Probable classifications based on the relative tonnage.
			The result appropriately reflects the Competent Person's view of the deposit.
	Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	No external audit or review of this Ore Reserve Estimate has been completed.
	Discussion of relative		The Hera Ore Reserve Estimate has a high level of confidence and accuracy.
	accuracy/ confidence		The operating history of Hera gives confidence that the factors used to determine the Ore Reserve Estimate are well understood.
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## APPENDIX 3 - DARGUES JORC Code 2012 (Table 1) - Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Section 1 Dargues Sampling Techniques and Data (Criteria in this section apply to all succeeding section)

Ē	Criteria		ORC Code explanation	Commentary
	Sampling techniques	•	Nature and quality of sampling (e.g. 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.	The Dargues deposit has been historically sampled from diamond drillholes and RC holes. Drill spacing between 20m and 50m defined the mineralisation which extended to 80m on the deposit margins.  Recent underground exploration and resource definition uses NQ2 diamond core. Recent surface diamond drilling is undertaken at HQ and NQ core sizes. Core is logged and processed in a built for purpose under-cover facility. Half core is sampled in intervals greater than 0.2 metres to a maximum of 1 metre in length. HMR Drilling Services is the underground drilling contractor and Mitchell Services is the surface diamond drilling contractor.
	)	•	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sample intervals for diamond core are determined by trained Geologists with checks in place within logging software to prevent sample interval overlap or sample number duplication. Intervals are defined by the presence of sulphides or alteration assemblage. When half-core is sampled, the same side of core is always sampled, to avoid potential bias from the core saw operator. Coreblock errors determined during core mark-up are corrected by the drilling contractor. Pulps are retained to conduct re-assay at umpire laboratories as a comparison of repeatability to the preferred laboratory. Certified blank material is inserted every 20th sample. Core shed processes and procedures are constantly refreshed and reviewed to ensure consistent logging and sampling among individual staff.
15		•	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Historically, RC samples were collected as 1 m or 2 m composite spear samples. Mineralised zones were sampled at 1 m intervals from a rig mounted riffle splitter. Core samples were taken at 1 m intervals or at geological boundaries. The majority of sample preparation and analysis for CRC and Unity Mining was by ALS Chemex's laboratory in Orange, NSW, with three batches of samples going through the SGS laboratory in West Wyalong, NSW. MOL samples were assayed by ALS Chemex's lab in Orange. Umpire assays had been analysed by Genalysis, Perth. All samples were assayed using the Fire Assay technique with a 50g charge (Au-AA26) and AAS finish.  Recent diamond drilling was half-core sampled in intervals greater than 0.2 metres to a maximum of 1 metre in length to ensure sufficient sample size, but also show variability across broad mineralised intervals. The samples were prepared and assayed at On Site Laboratory Services, Bendigo, Victoria. The laboratory is registered under ISO 9001:2015 and operates in accordance with ISO/IEC17025 under the National Association of Testing Authorities, Australia (NATA). All samples were assayed using the Fire Assay technique with a 25g charge (PE01S) and AAS finish.
	Drilling techniques	•	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	Historically, RC drilling utilised a 47/8 inch face-sampling bit. Diamond drilling by CRC and Unity Mining used HQ core from surface to fresh rock and then oriented NQ2 core to end of hole. Historic core drilling used either NQ or BQ core (DDH1-9), BQ core (DRU1-10) or HQ from surface to fresh rock with NQ to end of hole (DRS1-8).  Recent underground exploration and resource definition uses NQ2 diamond core, core is orientated by Reflex ACTIII Ori Tool.  Recent surface diamond used HQ core from surface to fresh rock and then oriented NQ core to end of hole, surface diamond core is orientated by a Reflex Orientation Tool.
	Drill sample recovery	•	Method of recording and assessing core and chip sample recoveries and results assessed.  Measures taken to maximise sample recovery and ensure representative nature of the samples.	Core recoveries are noted by the drilling contractor and then confirmed by the logging geologist, core loss is recorded in the logging software. All core was routinely checked by the logging geologist using core blocks and rod counts to determine the depth. There were no major issues. Information from the diamond drilling does not suggest that there is a correlation between recoveries and grade. Diamond drill core from this deposit generally has a high recovery.



	•	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.	
Logging	•	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.  Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.  The total length and percentage of the relevant intersections logged.	All historic holes were logged for a combination of geological and geotechnical attributes. All holes were logged by qualified geologists. Lithology, mineralisation, texture, veining, weathering and alteration information were recorded. The total length of all holes was logged in detail.  Recent underground and surface diamond drill holes are logged for the entire length of holes, capturing lithological information and alteration type, defining the boundaries of each rock type and alteration type. Zones of sulphide mineralisation are recorded, estimating mineral species and quantity through these zones. Core is orientated, alpha and beta angles are captured on structures where possible, if an alpha or beta angle cannot be captured, the character and down hole depth of the structure is recorded. Rock quality designation (RQD) is recorded for all diamond drill holes.  Diamond drill core is photographed in a built for purpose photography station.
Sub-sampling techniques and sample preparation	•	If core, whether cut or sawn and whether Quarter, half or all core taken.  If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.  For all sample types, the nature, quality and appropriateness of the sample preparation technique.  Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.  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.  Whether sample sizes are appropriate to the grain size of the material being sampled.	Historically, diamond drill core was ½ split using a core saw and generally sampled at 0.5 to 1 m intervals within defined geological (mineralised) boundaries. For RC holes, 1m samples were collected in a plastic bag through a properly designed cyclone. A 1 m or 2 m length composite sample was collected by using a trowel or ridged plastic spear and submitted for analysis. Upon receipt of assay results the original composite sample was re-split and submitted for repeat analysis.  Quality control standards, blanks and duplicates were routinely included with the drilling samples by the CRC Exploration Team. The QAQC protocols implemented for the CRC and Unity Mining drilling programs included: Insertion of a reference sample (commercial batch standards) for every 25 samples; Insertion of a blank at the start of every hole submitted, as well as at the end of strongly mineralised intervals as determined by the controlling geologist; Pulp repeats sent to umpire laboratory.  Field duplicate sampling was completed by passing the bulk reject sample from the plastic bag through a riffle splitter. In addition, 4 core was routinely submitted. Duplicate sample intervals were designated by the geologist.  Recent diamond drill core was half- split using an Almonte core saw and generally sampled at 0.2 metre to 1 metre intervals within defined geological (mineralised) boundaries.  Quality control standards, blanks and duplicates are routinely included with the drilling samples by the Dargues mine geologists. The QAQC protocols implemented include: Insertion of a certified reference sample for every 20 samples.  Insertion of a blank for every 20 samples.  Pulp repeats sent to umpire laboratory.  Standards and Blanks are inserted on every 20th sample, standard fails may result in re-assay. Standards and blank materials are supplied by Geostats Pty Ltd.
Quality of assay data and laboratory test	•	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model,	Historically, Analysis for Au was completed using Fire Assay (Au-AA26) with AAS finish. Analysis for Ag, As, Bi, Cu, Mo, Pb, S, and Zn was completed using the aqua regia technique (ICP-AES).  Recent samples are oven dried for a minimum of 12 hours at >100 degrees Celsius. Samples are crushed, then pulverised to >90% passing 75 micron. Analysis for Au was completed using 25gm Fire Assay (PE01S) with AAS finish. Analysis for S was completed using LECO (IR-01S).



	•	reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Pty. Ltd with exception of G908-3 which was sourced from Geostats Pty. Ltd. Standards were inserted into a calico sample bag at every 25th sample submitted resulting in a sufficient amount data collected to ensure quality control of the samples. Historically, blank standard was produced from using unaltered granite material from RC chips and core. As stated by Runge 2010 "This presents a problem in that the accuracy of the standard cannot be relied upon with the vast majority of the 54 assays returning						
			Standard	Target	StDev	+1 StDev	+2 StDev	-1 StDev	-2 StDev
			G913-9	Grade 4.91	0.17	5.08	5.25	4.74	4.57
			G914-10	10.26	0.38	10.64	11.02	9.88	9.5
			G307-4	1.4	0.06	1.46	1.52	1.34	1.28
			54Pa	2.9	0.11	3.01	3.12	2.79	2.68
			Blank	0	0	0	0	0	0
Verification of sampling and assaying	•	The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	the site visit by F fans from single verification of as data was collect logging and sam Recent drill hole holes are not de	Runge. No anoma locations results i says with logged ed either as paper apling methods was intersections have med to be requir	lies were discoven adjacent minera geology was com rogs or as generas reviewed by Ruee been reviewed red for grade-cont	red. No twinning of alised intersections pleted by Runge a ic logging program inge and Conarco by site geologists a rol infill holes.	f holes was condu- coccurring as close nd Conarco with rame. This data wa and are considere and principal level	cted by CRC althe as 4m at shallon major discrepas then imported in the dot on the dot o	the company. Twinn
Location of data points	•	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.	geological databelectronic and physical copies and raw data frodatabase is rest Historic drillhole Design Pty Ltd. rehabilitated and these holes. Red	pase are backed under the laboratory of documents are on the laboratory of ricted to trained procedures have been where possible hid therefore could recent underground.	p on regular intensical copies of doc scanned and filed are filed electronic ersonnel. a accurately surve storical collars we not be surveyed. F and surface drill h	cuments are filed a d as an electronic b cally and backed up yed in MGA94 grice are also located an Previously DGPS s	e servers and external stored within a backup if not alread on regular interval by licensed surveyed by Braurveyed coordinateurately surveyed	ernal servers. Hol i secure part of the dy done so. Laborals. All data entre eyors, Bradley Stadley, although no tes transformed if by qualified site:	e plans exist as both ne geology department pratory submission for y to the geological



		•	Specification of the grid system used Quality and adequacy of topographic control.	Historic drillholes have been downhole surveyed using Eastman camera or Gyro instruments. Diamond holes were originally surveyed every 30m or 50m by single shot Eastman camera, whilst RC holes were only surveyed for dip at bottom of hole and halfway down hole (with an assumed azimuth at the collar based on the rig set-up). Downhole Surveys Pty Ltd has resurveyed all Cortona Resources (CRC) diamond core holes (DREX038-043 and DREX083-085) using a Flexit Gyrosmart tool and has re-entered the RC holes (DREX045-082 and DREX086-118) where possible. Historic holes up to DREX014 generally have nominal surveys, although some have a single Eastman survey at the end of hole. Recent underground and surface diamond drill holes are downhole surveyed using a Reflex survey instrument in 30m increments until end-of-hole, where a final survey is taken. Surveys with high magnetic readings may be discarded, however is rarely an issue within and around the deposit.  DGM uses a mine grid that is determined by: Easting MGA minus 700,000 Northing MGA minus 6,000,000 Elevation AHD plus 5,000  The topography was generated using LIDAR data.  A wireframe of the historic underground workings has been produced from historic mapping, shaft surveys and drillhole intersections. As-built mine working wireframes are produced by the mine surveyor.
	Data spacing and distribution	•	Data spacing for reporting of Exploration Results.  Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  Whether sample compositing has been	Drill spacing is between 20 m and 50 m for the majority of the deposit and up to 80 m on the margins of the deposit. The data spacing and the distribution is sufficient to determine geological and grade continuity as determined by the JORC code 2012. Data density is also sufficient for well-structured variograms for the defined mineralised domains. A composite length of 1m was selected after analysis of the raw sample lengths.
	Orientation of data in relation to geological structure	•	applied.  Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have	The orientation of the drilling is approximately perpendicular to the strike and dip of the mineralisation and therefore should not be biased.  There are no known biases caused by the orientation of the drill holes.
	Sample security  Audits or	•	introduced a sampling bias, this should be assessed and reported if material.  The measures taken to ensure sample security	Drill core is kept on site and sampling and dispatch of samples is conducted as per on-site procedures. Transport is either by the company employee's or by a registered transport company. The Dargues Mine site is a secured, 24-hour operation with access requiring an escort or swipe-card provided by Dargues Mine.  Runge reviewed original laboratory assay files and compared them with the database. Minor errors were found.
*	reviews	•	The results of any audits or reviews of sampling techniques and data	Runge reviewed original laboratory assay files and compared them with the database. Milnor errors were found.



Section 2 Dargues Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

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>	The Dargues deposit is located wholly within ML1675 which lies entirely within EL8372. These licences are 100% owned by Big Island Mining Pty Ltd, a wholly owned subsidiary of Aurelia Metals. The Mining Lease (ML1675) is due for expiry on 12th April 2045 while EL8372 is due for expiry on 20th May 2021 (renewal pending).  The tenements are currently in good standing and there are no known impediments to operating in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Other companies to have held the project include Diversified Minerals Pty Ltd, Unity Mining, Cortona Resources, Moly Mines Limited (MOL), Hibernia Gold Pty Ltd, Horizon Pacific Limited, Amdex Mining Limited, Ominco Mining NL, Otter Exploration NL, Esso Exploration and Production Australia Inc. and Broken Hill South Limited.
Geology	Deposit type, geological setting and style of mineralisation.	The Braidwood Granodiorite intrudes the Silurian Long Flat Volcanics to the west and Ordovician sediments to the east. Cutting the Braidwood Granodiorite are numerous major structures trending ESE and SE which are clearly visible on regional aeromagnetic images of the area. These linear structures are represented by much of the drainage. The placer alluvial Au mineralisation occurs in the sediments deposited in these drainage systems.  The known primary Au mineralisation in the bedrock occurs in mostly E, NE and ESE trending sub-vertical quartz reefs within the roof of the granodiorite pluton (Gordon, Feb 2006).  The unaltered granodiorite is a light coloured, equigranular granodiorite containing plagioclase, k-feldspar, quartz, hornblende, minor chlorite-altered biotite and accessory magnetite, apatite, sphene, zircon and trace pyrite.  Mineralisation at Dargues occurs as a number of discrete, fracture-controlled sulphide lodes situated within intense zones of phyllic alteration (silica-chlorite and lesser epidote and sericite). The lodes are steeply dipping (80 - 90 degrees) and have a variable strike from E-W to ENE-WSW. The main zones of mineralisation (commonly referred to as the Big Blow and Main Lode) occur on the northern side of a parallel diorite dyke with some minor mineralisation sporadically developed on the southern margin. The mineralisation and dyke are synonymous with the dominant fault orientations of the region, an E-W striking vertical set and a ENE-WSW set, dipping steeply to the SSE.  The sulphide lodes are generally 0.5 m to 10 m wide (true width) and up to 200 m long, and display a distinctive zonal alteration assemblage. The lodes are generally comprised of potassium felspar-albite-pyrite+/-chlorite-sericite-silica-carbonate with the alteration assemblage extending up to 60 m from the lodes. The main sulphide mineral is pyrite, although chalcopyrite, sphalerite and other sulphides are also present. Gold values are directly linked to pyrite content (ranging from 5% to 30%). The gold grai



	Drill hole Information  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:		The Dargues drilling data number of holes in the D Table 51: Summary of d	Pargues Project are	ea as well as the nu			region. Table <b>51</b> outlines the	
			easting and northing of the drill hole collar	Hole Type	In Pro	ject	In Reso		
			elevation or RL (Reduced Level –		No. Holes	No. Meters	No. Holes	No. Meters	
			elevation above sea level in metres) of	Diamond (DD)	137	35,232	109	27,157	
			the drill hole collar	RC	263	31,357	143	18,908	
			<ul> <li>dip and azimuth of the hole</li> </ul>	RC/DD	2	880	2	880	
			<ul> <li>down hole length and interception depth</li> </ul>	Total	402	67,469	254	46,945	
			o hole length.						
		•	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	and percussion holes. A expected mine grade an suggests that at grades	Q-Q plot shows the d confirms there is below 0.5 g/t gold, 0 g/t gold, diamond	nere is good correlat is little bias and that b RC samples have b d drilling samples ha	ion between 0.5 ar both types of holes nigher grade. This i ve higher grades w	nd 30 g/t gold. This is should be used for t is expected due to go which is also expecte	enerally having a larger sample d due to core samples having a
1	Data aggregatio n methods	•	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	All intersection grades have been length weighted.  Small high grade results within a broader mineralised zone have been reported as included intervals.  Metal equivalent values have not been used for reporting exploration results.					
		•	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.  The assumptions used for any reporting of metal equivalent values should be clearly						
75	1		stated.						
	Relationship between mineralisation widths and intercept lengths	•	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').						om the north and the south well understood, enabling true



Diagrams	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.	Ruby Lode  Ruby Lode  Plums Lode  Figure 30. Plan view showing all mineralised domains.
Balanc ed reporti ng	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Other substanti ve exploratio n data	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
Further work	<ul> <li>The nature and scale of planned further work (e.g. 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>	There are possible extensions to Main Lode and also to Plums Lode with both lodes open at depth and along strike.  Further drilling would be required to identify this potential.



Section 3 Dargues Estimation and Reporting of Mineral Resources (Criteria listed in section1, and where relevant in section 2, also apply to this section)

Criteria	JORC Code Explanation	Commentary
Database integrity	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.      Data validation procedures used.	All geological data is stored electronically into an access database. The master drill hole database is located on an SQL server, which is backed up on a daily basis.  Adjustments, such as compositing and top cutting, were carried out programmatically so a transcript of any changes is recorded and has been checked.  Basic drill hole database validation completed include:  Intervals were assessed and checked for duplicate entries, sample overlaps, intervals beyond end of hole depths and unusual assay values.  Downhole geological logging was also checked for interval overlaps, intervals beyond end of hole depths and inconsistent data.
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>	Timothy O'Sullivan, who takes responsibility for the estimated grades, tonnages and classification, has conducted regular site visits to review data collection, drilling procedures and to discuss interpretation and domaining.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.  Nature of the data used and of any assumptions made.  The effect, if any, of alternative interpretations on Mineral Resource estimation.  The use of geology in guiding and controlling Mineral Resource estimation.  The factors affecting continuity both of grade and geology.	There is strong confidence in the geological interpretation. This is based on the relatively close spaced drill holes which exhibit continuity of structure as well as grade.  Geological mapping and drilling have confirmed clear geological structure resulting in generally continuous, robust wireframes.  The deposit is comprised of multiple sub-vertical ore lenses. Minor variations may occur but is not considered material. The lithology model for this deposit is well defined and consistent.  The use of geological information obtained from drill core and RC logging was paramount to the creation of ore domains.  The majority of the orebody comprises relatively low variation of gold grades. This is with exception of the bonanza lode which was subdomained and utilised a higher top-cut gold grade.
Dimensions	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.	The Dargues Reef Au deposit extends for approximately 400m in an E-W direction. The mineralisation extends from surface to a maximum vertical depth of 590m below the surface. True width of the mineralisation varies from 2m up to approximately 12m.
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.</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> </ul>	The deposit mineralisation was constrained by wireframes constructed using an approximate 1g/t Au cut-off grade. The wireframes were applied as hard boundaries in the estimate. The concentrations of gold, silver, copper, iron, sulphur, arsenic and bismuth were estimated withing in these domains.  All estimates were carried out using dynamic interpolation so that the orientation of the search ellipse and variogram models were aligned parallel to the local mineralisation orientation.  Gold was estimated using Multiple Indicator Kriging (MIK). The gold grades at Dargues exhibit a highly positively skewed distribution with a high coefficients of variation within several domains. The gold estimation therefore show sensitivity to a small number of high grades.  MIK is considered an appropriate estimation method for the gold grade distribution because it specifically accounts for the changing



- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the Mineral Resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

spatial continuity at different grades through a set of indicator variograms at a range of grade thresholds. It also reduces the need to use the practice of top cutting.

Silver, copper, iron, sulphur, arsenic and bismuth were estimated using Ordinary Kriging. Ordinary Kriging is considered appropriate because the grades are reasonably well structured spatially.

Vulcan software was used for both the MIK and Ordinary Kriging dynamic estimates.

Only the gold estimate is considered to have economic significance, however the sulphur estimation is significant as a pyrite concentrate is the main product produced and an understanding of the sulphur distribution and gold/sulphur ratio is required to estimate volumes of concentrate produced. The silver, copper, iron, sulphur, arsenic and bismuth estimates are not considered to have economic significance, with arsenic and bismuth being potentially deleterious.

Samples were composited to nominal 1.0 m intervals, whilst honouring the domain wireframes. The minimum composite length was set to 0.5 m.

Statistical analysis and variography was carried out using the software program Isatis.neo on the one metre composited. Each domain was estimated separately using only data from within that domain. The orientation of the search ellipse and variogram models were controlled by coding the block model with local anisotropy to best reflect the local orientation of the mineralised structures.

Parent block size of 10 m (E) X 5 m (N) X 10 m (RL) (E) with subcells of 1 m by 0.5 m by 1 m. The parent block size was selected on the basis of 50% of the average drill hole spacing and geological domain geometry. Kriging neighbourhood analysis assisted with the determination of the optimum block size by analysing the kriging efficiencies, slope of regression and negative kriging weights.

A three pass search strategy was used for estimation. Each pass used a dynamic search ellipse. Additional search parameters are given below:

Pass 1: 35x35x5m search, 8-24 samples, maximum 6 data points per hole

Pass 2: 70x70x10m search, 8-24 samples, maximum 6 data points per hole

Pass 3: 150x150x25m search, 4-24 samples, maximum 6 data points per hole

Minimal grade cutting was applied to silver, copper, iron, sulphur, arsenic and bismuth on a domain by domain basis in order to reduce the influence of extreme values on the estimates. The top-cut values were chosen by assessing the high end distribution of the grade population within each domain.

Following estimation, a series of optimised wireframe designs were produced using SO. The SO designs were used to constrain the reported MRE by identifying mineralisation that may have reasonable prospects for eventual economic extraction. The smallest unit for the SO shapes was 5m long and 10m high with a minimum width of 2m. A weighted average gold value within each shape was required to be at least 2 g/t Au for inclusion in the MRE. Mineralisation outside these shapes was unclassified as it was considered unlikely to meet the criterion of eventual economic extraction.

The estimation was compared against the prior estimate performed by Conarco Consulting in March 2017. The comparison illustrated that, with the increased drill density, mineralisation variability has been better reflected in the new estimation. The comparison also illustrated that the grade tonnage profile has improved. The current estimate is considered to be an improvement on the previous estimation.

The final block model was reviewed visually and it was concluded that the block model fairly represents the grades observed in the drill holes. The estimation was also validated statistically using histograms, scatter plots, swath plots and summary statistics.



	<del>,</del>	
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters		The Mineral Resource has been reported at a 2 g/t Au cut-off based on assumptions about economic cut- off grades and geological continuity.
Mining factors or assumptions	mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.	The chosen mining method for Dargues is sublevel open stoping with hydraulic and unconsolidated backfill. The reported MRE is limited to blocks that lie within volumes generated by SO software. The smallest mining shape was set at 5m long and 10m high with a minimum width of 1.8m.  The chosen mining method is sublevel open stoping.  The reported MRE includes all estimated blocks that lie within the mining shapes and therefore include internal dilution. Additional external dilution may be incurred during mining.
Metallurgical factors or assumptions	regarding metallurgical amenability. It may not always be possible to make	It is assumed that conventional processing methods will have a recovery rate of between 80-98% based on a fixed tail grade of 0.2 g/t Au. The plant design comprises of three stage crushing; grinding circuit was a ball mill; rougher and cleaner flotation; and concentrate thickening and filtration. There will be no cyanide leaching at site. The plant will produce 355 ktpa of ore and produce on average 28,000 wet metric tons annually of gold silver pyrite concentrate for export via Port Kembla.
Environmental factors or assumptions	waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction	The project has been assessed under both the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). State and Commonwealth approval have both been granted.  The waste rock and process tailings will be stored in an appropriate storage facility on surface, some of which will be used as backfill.
Bulk density	Whether assumed or determined. If	The in situ bulk density was assigned to various domains based on 2452 results obtained from representative drill core using the Water Immersion method. The results from the individual domains are listed below.



	the measurements, the nature, size and	Table 52: Number of De	ensity Samples		
	representativeness of the samples.	Туре	2017 Es	timate	
		.,,,,,	No. Samples	Density	
		Transitional	8	2.55	
		Fresh Waste	1814	2.7	]
		Fresh Ore	571	2.79	7
		Diorite	59	2.77	
		Water Immersion metho style of mineralisation. All samples are measure	d was used with weight dr	y, weight in water and nich has resulted in 2.5	ne core has shown that the presence of voids is minor. The weight wet being recorded. This method is appropriate from the 55 t/m3 for transitional material, heralised diorite. These values were then applied to the relevant
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, confidence in continuity of geology and</li> </ul>	Reserves (JORC, 2012) The classification of Mea and statistics within each The Mineral Resource c	asured, Indicated and Infer h mineralised domain.	rred was made on the	Code for the Reporting of Identified Mineral Resources and Ore basis of continuity of structure, drill spacing, surface mapping nsity, search pass (distance and quantity of samples) and the These are listed below.
	metal values, quality, quantity and distribution of the data).  • Whether the result appropriately reflects the Competent Person's view of the deposit.	been classifier     Material drilled has been clas     Material that he for Measured     All remaining     A geological in a number of the	d as Measured. d on a nominal 25m spacir sified as Indicated. has a nominal drill hole spa or Indicated has been rep blocks are coded as uncla hterpretation confidence we he domains.	ng, estimated in the first acing of less than 50m, orted with an Inferred ossified.  as overlayed on these	classifications which may have downgraded the classification in
		prospects for eventual e	conomic extraction.		MRE by selecting mineralisation that may have reasonable te for the Dargues deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	•			metals assumed ownership of the deposit.



## Discussion of relative accuracy/ confidence

- 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 Mineral 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.
- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.
- These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource categories. This has been determined on a qualitative, rather than quantitative, basis, and is based on the estimator's experience with several similar deposits elsewhere. The main factors that affect the relative accuracy and confidence of the estimate are the drill hole spacing and the style of mineralisation and confidence in interpretation.

The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis of the Ore Reserves are those classified as Measured and Indicated Mineral Resources only.

Data for reconciliation between the resource model and mine production is available from April 2020. The resource is evaluated by intersecting the models with the final surveyed stope shapes, while mine production is the reconciled mill performance. This comparison considers factors such as dilution, under-break, over-break and development.

As production activities only commenced in April 2020, long term gold reconciliation work is not available.



Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.      Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Ore Reserve estimate is prepared from the Mineral Resource Estimate reported at 30th June 2021.  The Mineral Resource Estimate is inclusive of the Ore Reserve Estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Ore Reserve Estimate was completed by Justin Woodward who is the Principal Mining Engineer at Aurelia Metals, and is regularl onsite at Dargues.
	If no site visits have been undertaken indicate why this is the case.	
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	The mine is currently in operation.  The operation has undergone a Life-of-Mine Plan process, and a Budget process. All matters relating to the ongoing operation of the
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Dargues Mine have been considered during these processes.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	A NSR cut-off of A\$135/t was applied for material to be extracted by stoping methods and A\$80/t for development. The economic viability of the cut-off value has been demonstrated through cashflow modelling completed for the Dargues Life of Mine plan and budge
		These are marginal cut-off values assessed during the Life of Mine Planning and budget process. Cut-off values consider full operating costs which include development, stoping, haulage, processing and administration. Costs beyond the mine gate including concentrate haulage, port facilities, shipping, treatment charges, penalties and royalties are netted from revenues of gold and concentrates and form the NSR estimates.
Mining factors or assumptions	The method and assumptions used as reported in the Pre- Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by	Dargues is an operating mine. The Life-of-Mine and Budget processes include Inferred Mineral Resource. The inclusion of the Inferred material is not material to the financial viability of the operation.  Dargues uses a combination of uphole and downhole stoping with hydraulic fill, progressing bottom up. This mining method and Dargue's mine development design was used for the Ore Reserve Estimate.
	<ul> <li>optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> </ul>	Stope shapes were created using Deswik's SO software with 0.4m hangingwall and footwall dilution allowances and 15m strike lengt at a minimum 2m mining width. Additional mining dilution and recovery factors were then applied. For development, 15% mining dilutio and 100% recovery was assumed. 2% mining dilution with 95% recovery was applied to down-hole stopes while 2% mining dilution with 90% recovery was used for up-hole stopes. Sill pillar mining used 10% mining dilution with 85% recovery.

**Aurelia Metals Limited** Appendix 3



		<ul> <li>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and preproduction drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	Due to geological complexity, some manually designed stope shapes were included. These shapes have used the sites operational mining dilution and recovery estimates for the various stoping types. These include remnant stoping (30% mining dilution, 70% recovery), longitudinal stoping (15% mining dilution, 95% recovery), transverse stoping (10% mining dilution, 95% recovery), and narrow stoping (25% mining dilution, 95% recovery).  Infrastructure requirements are in place.
Metallul factors assump	or otions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the</li> </ul>	The processing plant has been operating since April 2020 and has been in continuous operation since. Gold is recovered in a high purity pyrite concentrate via conventional crushing, grinding and flotation methods. The concentrate is filtered for transport off-site for extraction of the gold.  Gold recovery is estimated based on a fixed tailings grade and verified by the test work and plant production data. Metallurgical test work indicates an overall gold recovery of 95.8%.  No deleterious elements are present in the ore.
		metallurgical domaining applied and the corresponding metallurgical recovery factors applied.  Any assumptions or allowances made for deleterious elements.  The existence of any bulk sample or pilot scale test work and	Table 53. Dargues Mine metal recovery assumptions  Metal Recovery
		such samples are considered representative of the orebody as a whole.  For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications	Gold 80-98%
Environi	mental	<ul> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options</li> </ul>	Big Island Mining Pty Ltd (BIM), a subsidiary of Aurelia Metals owns and operate the Dargues Mine (Dargues). The Dargues mine received approval on 2 September 2011 pursuant to the Environmental Planning and Assessment Act 1979 (EP&A Act). Following two appeals to the Land and Environment court, the Court subsequently granted Development Consent on 7 February 2012. Modification 1 for the use of paste fill at Dargues mine was subsequently approved on 12 July 2012 (MP10_0054). Modification 2 (MP10_0054 MOD2) to regularise changes to the layout of the Dargues mine was approved on 24 October 2013. Modification 3



		considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	(MP10_0054 MOD3) for additional infrastructure at the Dargues mine and extension of the mine life was approved on 10 August 2016. Modification 4 (MP10_0054 MOD4) to alter the location of the heavy vehicle crossing over Spring Creek was approved on 23 May 2019. The Development Consent (MP10_0054 MOD4 is due to expire on 30 June 2025.  The Dargues deposit is located on ML 1675. The land comprising ML 1675 is owned by BIM. ML 1675 is a granted mining lease that expires in 2045.			
Infrastructure	•	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All surface infrastructure required for the full extraction of the Ore Reserve is in place.  Ongoing sustaining capital and infrastructure underground including declines, level accesses, escapeways, vent accesses and rises are required for the full extraction of the Ore Reserve Estimate. These works have been included in the Life-of-Mine Plan and Budget processes.			
Costs	•	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital and Operating costs have been estimated based on historical actual costs, and forecast costs, as part of the Life-of-Mine Plan and budgeting process.			
5)	•	The methodology used to estimate operating costs.	No allowance has been made for deleterious elements. All deleterious elements are expected to remain within tolerances and no penalties have been applied to cashflow estimations.			
	•	Allowances made for the content of deleterious elements.	Metal Price and exchange rate assumptions have been benchmarked against industry peers, and based on consensus forecasts.			
	•	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.				
	•	The source of exchange rates used in the study.				
	•	Derivation of transportation charges.				
	•	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.				
$\bigcirc$	•	The allowances made for royalties payable, both Government and private.				
Revenue factors	•	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	Table 54. Dargues Mine metal price and exchange rate assumptions  Metal Unit USD  Gold oz 1,325  AUD/USD 0.73			
	•	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.				



	Market assessment	•	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	Dargues project has in place all necessary contracts and approvals for the transportation of concentrate to clients. The transport contracts are renewable on standard commercial terms. A concentrate offtake agreement has been put in place during June 2021 for a term of two years following a tender with various international traders.
		•	A customer and competitor analysis along with the identification of likely market windows for the product.	
		•	Price and volume forecasts and the basis for these forecasts.	
	Economic	•	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	Dargues is an operating mine. The Life of Mine Plan, and Budgeting process includes the completion of cashflow models. Inputs to these models are based on a combination of historical actual costs, and forecast future costs. The cashflow models demonstrate a positive Net Present Value.
		•	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	
	Social	•	The status of agreements with key stakeholders and matters leading to social licence to operate.	The Dargues mine received approval on 2 September 2011 pursuant to the Environmental Planning and Assessment Act 1979 (EP&A Act). Following two appeals to the Land and Environment court, the Court subsequently granted Development Consent on 7 February 2012. Modification 1 for the use of paste fill at Dargues mine was subsequently approved on 12 July 2012 (MP10_0054). Modification 2 (MP10_0054 MOD2) to regularise changes to the layout of the Dargues mine was approved on 24 October 2013. Modification 3 (MP10_0054 MOD3) for additional infrastructure at the Dargues mine and extension of the mine life was approved on 10 August 2016. Modification 4 (MP10_0054 MOD4) to alter the location of the heavy vehicle crossing over Spring Creek was approved on 23 May 2019. The Development Consent (MP10_0054 MOD4 is due to expire on 30 June 2025.
				There are no ongoing agreements in place that are required for ongoing operations. However, PGM does negotiate access agreements as required (e.g. for exploration activities).
	Other	•	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	
		•	Any identified material naturally occurring	
_		•	risks. The status of material legal agreements	
			and marketing arrangements.	
IJţ	<u> </u>	•	The status of governmental agreements and approvals critical to the viability of the	



	project, such as mineral tenements and government and statutory approrulation. There must be reasonable grounds a expect that all necessary Governme approvals will be received within the timeframes anticipated in the Pre-Fe or Feasibility study. Highlight and dithe materiality of any unresolved materiality of any unresolved materiality of the Ore Reserve is contingent.	vals.  o o nt assibility scuss atter which
Classification	<ul> <li>The basis for the classification of the Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's viethe deposit.</li> <li>The proportion of Probable Ore Rest that have been derived from Measu Mineral Resources (if any).</li> </ul>	shapes were developed from the geological block model then the quantity and grade of Measured, Indicated, Inferred and unclassified material within the mining shapes was reported. Mining shapes were included in the Ore Reserve Estimate if individual shapes contained more than 80% of Measured and Indicated material.  The Ore Reserve classification of the material within the mining shapes was aligned with the Mineral Resource classifications, such that the Measured Mineral Resource converted to the Proved Ore Reserve and the Indicated classification was reported as the Probable Ore Reserve.
Audits or reviews	The results of any audits or reviews Reserve estimates.	of Ore No external audit or review of this Ore Reserve Estimate has been completed.
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person example, the application of statistical geostatistical procedures to quantify relative accuracy of the reserve with stated confidence limits, or, if such a approach is not deemed appropriate qualitative discussion of the factors of could affect the relative accuracy and confidence of the estimate.  The statement should specify whether relates to global or local estimates, a local, state the relevant tonnages, we suppose the confidence of the statement should specify.	Dargues is an operating mine that has achieved full process plant throughput. The factors used to estimate this Ore Reserve are being used for scheduling, forecasting and budgeting purposes and are supported by production results which provides high confidence.  The tonnage estimate has a high confidence. The recommencement of diamond drilling activities has better defined the deposit including from the first underground drilling locations. This has led to a significant reinterpretation of the modelled geology that supports greater confidence in the Mineral Resource estimate and more accurate mine design and Ore Reserve estimation.  There is moderate confidence in the grade estimate. The life of mine plan forecasts a progressive increase in mined gold grade over the medium term based on the modelled grade and modifying factors in the areas to be mined. The Ore Reserve grade estimate is dependent on the accuracy and confidence in the Mineral Resource grade estimate.



should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.

- Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.
- It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

Planned underground infill drilling and production activities, supported by reconciliation between planned and actual results, will establish greater confidence in the modifying factors and underlying Mineral Resource model.



## APPENDIX 4 - FEDERATION JORC Code 2012 (Table 1) - Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves Section 1 Federation Sampling Techniques and Data (Criteria in this section apply to all succeeding section)

Criteria	ation Sampling Techniques and Data (Criteria in this  JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. 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.	RC percussion and diamond core drilling at Federation has been undertaken by Budd Exploration Drilling Pty Limited and Mitchell Services Limited.  Chip samples were collected using a rotary cone or riffle splitter directly off the drill rig. All samples were collected on a dry basis.  Core samples were defined by Aurelia geologist during logging to honour, geological and mineralogical boundaries, cut in half by diamond saw, with half core sent to external laboratories.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling and QAQC procedures are carried out using Aurelia Metal's protocols as per industry best practice.  Drilling is oriented perpendicular to the strike of the mineralisation as much as possible to ensure a representative sample is collected.
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	RC drilling was used to obtain representative samples of 1 metre length. Diamond drilling was used to obtain core samples of a nominal 1 metre length. RC chips were sub-sampled off the rig with a rotary cone or riffle splitter to produce samples of between 2 to 4 kg. Core and RC samples are dried, crushed and pulverised to 85% passing 75 microns.  This is considered to appropriately homogenise the sample. Gold analysis is by 30g fire assay with AAS finish, (method Au – AA25) with a detection level of 0.01ppm. For base metals a 0.5g charge is dissolved using aqua regia digestion (Method ICP41-AES) with detection levels of: Ag-0.2ppm, As-2ppm, Cu-1ppm, Fe-0.01%, Pb-2ppm, S-0.01%, Zn-2ppm. Overlimit analysis is by OG46 - aqua regia digestion with ICP-AES finish. Gold samples greater than 0.2g/t are reassayed by screen fire assay using the entire sample to improve accuracy, especially where coarse gold is present.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	Drilling by triple tube diamond coring generally commences as PQ core until fresh rock is reached. The PQ rods are left as casing then HQ coring is employed. NQ coring is also used (particularly in wedge holes). Reverse circulation percussion (RC) methods used in this program utilised a face sampling 143 millimetre bit. Pre-collars with RC down to between 100 and 350 metres below surface are also employed at Federation.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Chip recoveries are generally monitored visually at the rig by the size of the individual bags. Any low recoveries will be noted by the geologist at the rig. Recoveries for core are generally greater than 95% once in fresh rock.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Measures taken to maximise recovery include triple tube drilling in soft or broken rock and slower drilling rates in poor ground.
	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.	The relationship between sample recovery and grade has been assessed for diamond core samples through the use of conditional expectation plots and scatter plots. No obvious relationship exists and sample bias due to the preferential loss or gain of material is not considered to be significant to the resource estimate. The relationship between sample recovery and grade for RC sampling has not been assessed.



	Logging	•	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.  Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	•	Systematic geological and geotechnical logging is undertaken. Data collected includes:  Nature and extent of lithologies Relationship between lithologies Amount and mode of occurrence of ore minerals Location, extent and nature of structures such as bedding, cleavage, veins, faults etc. (core only) Structural data (alpha & beta) are recorded for orientated core (core only)
		•	The total length and percentage of the relevant intersections logged.		Geotechnical data such as recovery, RQD, fracture frequency, qualitative IRS, microfractures, veinlets and number of defect sets. For some geotechnical holes the orientation, nature of defects and defect fill are recorded (core only)  Bulk density by Archimedes principle at regular intervals (core only)  Both qualitative and quantitative data is collected  100% of all recovered core is geologically and geotechnically logged, 100% of all recovered chips are geologically ogged.
	)			N	The geological and geotechnical logging is considered to have been carried out at a sufficient level of detail to support Mineral Resource estimation
7	Sub-sampling techniques and sample preparation	•	If core, whether cut or sawn and whether Quarter, half or all core taken.  If non-core, whether riffled, tube sampled, rotary split, etc.	s	Core is sawn with half core submitted for assay. Sampling is consistently on one side of the orientation line so that the same part of the core is sent for assay. PQ core is ¼ sampled.  All RC samples were split using a rotary cone or riffle sampler directly off the drilling rig. Two samples were collected for every metre to allow for duplicate samples to be taken at any interval. All sampling was on a dry basis.
		•	and whether sampled wet or dry.  For all sample types, the nature, quality and appropriateness of the sample preparation technique.	t	Samples are dried, crushed and pulverised to 85% passing 75 microns. This is considered to appropriately homogenise he sample to allow subsampling for the various assay techniques.  Certified Standard Reference Materials and blanks are inserted at least every 25 samples to assess the accuracy and
		•	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.  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.	r c ii v a	reproducibility. The results of the standards are to be within ±10% variance, or 2 standard deviations, from known certified result. If greater than 10% variance the standard and up to 10 samples each side are re-assayed. ALS conduct nternal check samples every 20 samples for Au and every 20 for base metals. Assay grades are occasionally compared with mineralogy logging estimates. If differences are detected a re-assay can be carried out using the bulk reject or the assay pulp.  Systematic duplicate sampling was employed during the Federation RC program. A regular duplicate was taken at predetermine sample intervals (averaging 1:25 samples). Further, samples occurring in mineralised zones are
		•	Whether sample sizes are appropriate to the grain size of the material being sampled.	Ċ	duplicated, increasing the duplicate rate to one sample every 15-20 samples.  Sample sizes are considered appropriate for the material being sampled.



Quality of assay data and laboratory test	•	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  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.  Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Standard assay procedures performed by a reputable assay lab (ALS Group) were undertaken. Gold assays are by 30g fire assay with AAS finish, (method Au-AA25). Ag, As, Cu, Fe, Pb, S, Zn are digested in aqua regia then analysed by ICP-AES (method ME-ICP41). Comparison with 4 acid digestion indicate that the technique is considered total for Ag, As, Cu, Pb, S, Zn. Fe may not be totally digested by aqua regia but near total digestion occurs. A small number of samples from Federation were also assayed by Intertek Genalysis in Townsville using comparable methods. Gold samples greater than 0.2g/t were re-assayed by screen fire assay using the entire sample to improve accuracy.  No geophysical tools were used in the determination of assay results. All assay results were generated by an independent third-party laboratory as described above.  Certified reference material or blanks are inserted at least every 25 samples. Standards are purchased from Certified Reference Material manufacture companies: Ore Research and Exploration, Gannet Holdings Pty Ltd and Geostats Pty Ltd. Standards were purchased in foil lined packets of between 60g and 100g. Different reference materials are used to cover high grade, medium grade and low grade ranges of elements: Au, Ag, Pb, Zn Cu, Fe, S and As. The standard names on the foil packages were erased before going into the pre-numbered sample bag and the standards are submitted to the lab blind.
Verification of sampling and assaying	•	The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All significant drilling intersection are verified by multiple Company personnel.  Due to the relatively recent discovery history at Federation, no twinned holes have been used at this stage.  Drill hole data including meta data, any gear left in the drill hole, lithological, mineral, survey, sampling and occasionally magnetic susceptibility is collected and entered directly into a Logchief database using drop down codes. When complete the Logchief database XML file is emailed to an external geological database administrator, the data is validated and uploaded into an SQL database.  Assay data is provided by ALS via .csv spreadsheets. The data is validated using the results received from the known certified reference material. Using an SQL based query the assay data is merged into the database.
Location of data points	•	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.  Specification of the grid system used Quality and adequacy of topographic control.	Drill hole collars are initially located using hand held GPS to ±5m. Upon completion collars are located with differential GPS to ±5cm picked up by the mine surveyors.  Drill holes are downhole-surveyed from collar to the end of hole by drilling personnel using downhole survey tool (Reflex).  Downhole north-seeking gyroscopic survey instruments have also been regularly employed at Federation to improve survey accuracies. Drill holes are surveyed by single shot camera during drilling at intervals ranging between 6-30m. All survey data for every hole is checked and validated by Aurelia Metals personnel before being entered into the database.  All coordinates are based on Map Grid Australia zone 55H  Topographic control is considered adequate as it is based on a high precision Lidar survey completed over the area in 2019.



Data spacing and distribution	•	Data spacing for reporting of Exploration Results.  Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  Whether sample compositing has been applied.	As the prospect discussed represents a relatively new discovery, data spacing is extremely variable. Drill hole spacing at Federation ranges from 25 to 125 metres.  The drill spacing is considered appropriate to support the predominantly Inferred classification for the Federation MRE.  Additional closer spaced drilling will be required in the future to upgrade the resource to higher classifications. Sample compositing is not applied.
Orientation of data in relation to geological structure	•	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drilling is orientated to cross the interpreted, steeply dipping mineralisation trend at moderate to high angles. Holes are drilled from both the footwall and hangingwall of the mineralisation where possible. Estimated true widths for each significant interval are provided in Table 2.  No known bias has been introduced due to drilling orientation.
Sample security	•	The measures taken to ensure sample security	Chain of custody is managed by Aurelia Metals. Samples are placed in tied calico bags with sample numbers that provide no information on the location of the sample. Samples are transported from site to the assay lab by courier or directly delivered by Aurelia Metals personnel.
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data	No audit or review of the sampling regime at Federation has been directly completed. However, an audit and review of the sampling regime at Hera, which uses identical sampling procedures, was undertaken by H&S Consultants in November 2015. Recommendations from this review form part of the current sampling practices at Hera and regionally.



Section 2 Federation Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

Section 2 Federation	Reporting of Exploration Results (Criteria listed i	n the preceding section also apply to this section)
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>	The Federation prospect is located within Exploration Licence 6162, owned 100% by Hera Resources Pty. Ltd. (a wholly owned subsidiary of Aurelia Metals Limited)  At the time of reporting there were no known impediments to operating in these areas
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The area has a 50 year exploration history involving reputable companies such as Cyprus Mines, Buka, ESSO Minerals, CRAE, Pasminco, Triako Resources and CBH Resources. Previous exploration data has been ground-truthed where possible. Historic drill hole collars have been relocated and surveyed. YTC Resources completed a total of four, relatively shallow RC drill holes at the Federation prospect in 2013, prior to the discovery of high grade mineralisation in 2019.
Geology	Deposit type, geological setting and style of mineralisation.	All known mineralisation in the area is epigenetic "Cobar" style. Deposits are generally structurally controlled quartz + sulphide matrix breccias grading to massive sulphide. In a similar fashion to the other Cobar deposits, the Federation prospect occurs to the west of the Rookery Fault, a major regional structure with over 300km strike length. The deposits are near the boundary of the Devonian Lower Amphitheatre Group and the underlying Roset Sandstone. Both units show moderate to strong ductile deformation with tight upright folding coincident with greenschist facies regional metamorphism. A well-developed sub vertical cleavage is present.  Mineralisation at Federation occurs in several steeply dipping vein breccia/massive sulphide lenses developed in the centre of a broad NE–SW striking corridor of quartz—sulphide vein stockwork mineralisation. The mineralisation is hosted by fine-grained sedimentary rocks and is best developed within open upright anticline closures in areas of strong rheology contrast imposed by early stratiform alteration.  Sulphide mineralisation identified at Federation include sphalerite-galena±chalcopyrite-pyrrhotite-pyrite in veins and breccias. Gold distribution tends to be nuggetty, often present as visible gold grains up to four millimetres in size. The majority of high grade gold mineralisation at Federation (to date) is present in steeply plunging, short strike-length zones.
Drill hole Information	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:  a easting and northing of the drill hole collar  elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  dip and azimuth of the hole  down hole length and interception depth  hole length.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.



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		<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
$\geqslant$	Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
		<ul> <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> </ul>	
		<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
	Relationship	These relationships are particularly important in the reporting of Exploration Results.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	between mineralisation widths and intercept	<ul> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> </ul>	
	lengths	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	
	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>	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
0	Balanced reporting	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	Other substantive exploration data	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.	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.



Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	For the purpose of reporting Ore Reserves and Mineral Resources this section is not applicable.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

## Section 3 Federation Estimation and Reporting of Mineral Resources (Criteria listed in section1, and where relevant in section 2, also apply to this section)

	potion o i odoration i	-stillation and reporting of milicral resource	s (Criteria listed in section1, and where relevant in section 2, also apply to this section)
	Criteria	JORC Code Explanation	Commentary
5	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>	Geological data is stored electronically prior to upload into a secure offsite database, managed by Maxwell Geoservices. The drill hole database was provided as a Microsoft Access database. Adjustments, such as compositing and top cutting, were carried out programmatically so a transcript of any changes is recorded and has been checked.  Basic drill hole database validation completed include:  Intervals were assessed and checked for duplicate entries, sample overlaps, intervals beyond end of hole depths and unusual assay values.
2			<ul> <li>Downhole geological logging was also checked for interval overlaps, intervals beyond end of hole depths and inconsistent data.</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>	Dr McKinnon, who takes responsibility for the data underpinning the MRE, works full time for Aurelia Metals and visits the Federation site regularly. Dr McKinnon has a thorough understanding of the geology and data on which the MRE is based. Dr McKinnon has helped to manage the strategy for drilling, exploration and geological data collection. The observed similarities between mineralisation styles at Federation and Hera have led to the adoption of some of the same strategies demonstrated to be successful at Hera (e.g. universal screen fire assays for gold over 0.2g/t).
0			Timothy O'Sullivan, who takes responsibility for the estimated grades, tonnages and classification, has conducted regular site visits to review data collection, drilling procedures and to discuss interpretation and domaining.
	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</li> </ul>	A better understanding of the lithology and structural framework has developed from higher drill density. This improved knowledge has allowed the construction and update of a geological model for the Federation deposit. It is expected that further drilling will improve geological knowledge and lead to continual improvement and refinement of the geological model.
2	)	<ul> <li>The elect, if any, of alternative interpretations of 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>	The host rocks of the mineralisation at Federation are predominantly interbedded fine-grained quartz–feldspar–mica sandstones and siltstones of the lower Amphitheatre Group.  The lead, zinc, gold, silver and copper mineralisation at Federation appears to be structurally controlled and is associated with shearing, brecciation, quartz veining and massive sulphide mineralisation. The style of mineralisation



	at Federation is similar to other Cobar-style deposits such as the nearby Hera Mine.
	The mineralisation at Federation is interpreted as tabular bodies that strike northwest-southeast and dip almost vertically. The reported MRE is hosted in several of these tabular bodies. The highest grade areas, in the northeast of the deposit, are hosted by massive sulphide mineralisation, which appears to plunge steeply to the northeast.
	The orientation of the mineralisation is supported reasonably by drill hole assay data with closer spaced drilling expected to improve confidence in the MRE.
	Drill hole logging indicates that a paleo-channel composed of transported material covers a portion of the deposit. The drill hole logging was used as a basis to create a wireframe surface representing the base of the paleo-channel. This surface appears to be predictable and there is a relatively high level of confidence in its interpretation. Blocks above this surface were excluded from the MRE.
	Base of complete oxidation (BOCO) and top of fresh rock (TOFR) surfaces were created based on a combination of drill hole logging and sulphur assay data for the purposes of metallurgical assessment. These oxidation surfaces were also utilised to assign blocks to weathering domains (complete, moderate and fresh) for the purposes of assigning block densities to the moderate and completely weathered material. In this updated MRE only gold and silver have been assumed to be recoverable in the oxide zone, through either gravity or leaching as the base metals will most likely not be amenable to sulphide processing through facilities at either the Hera or Peak Mines. Future metallurgical test work may indicate that some of this material may be recoverable and will then be included in the resource. The depths of the BOCO and TOFR surfaces are reasonably variable and additional drilling may lead to modifications, although this is unlikely to significantly impact the Resource Estimate of the fresh material in the MRE.
	Several major structures have been identified in the diamond drill core with a predictable orientation, however the displacement and impact on mineralisation is still not well understood. Numerous smaller cross structures have been interpreted to offset mineralisation on a local scale however these structures have not been regularly intersected in drilling and as a result have not been included in the estimation process.
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.	The reported MRE is constrained by mineable optimised shapes created using Deswik's Stope Optimiser (SO) software. The resource model extends over a length of around 580m and consist of several echelon volumes that dip very steeply to the northeast. The entire resource occurs within a width of 230m and is composed of shapes varying in width from 2 to 25m wide. The resource model extends to a depth of 550m below surface.
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, demaining.	The concentrations of gold, silver, lead, zinc, copper, iron, sulphur, arsenic and antimony were estimated on density weighted values to better reflect the contained metal within each interval.
interpolation parameters, and maximum distance of extrapolation from data points.	All estimates were carried out using dynamic interpolation so that the orientation of the search ellipse and variogram models were aligned parallel to the local mineralisation orientation.
<ul> <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 byproducts.</li> </ul>	The density weighted concentration of gold was estimated using Multiple Indicator Kriging (MIK). The gold grades at Federation exhibit a highly positively skewed distribution with coefficients of variation within each domain of over 4.9. The gold estimation therefore show sensitivity to a small number of high grades. MIK is considered an appropriate estimation method for the gold grade distribution because it specifically accounts for the changing spatial continuity at different grades through a set of indicator variograms at a range of grade thresholds. It also reduces the need to use the practice of top cutting.
	expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.  • 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.  • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.  • The assumptions made regarding recovery of by-



- Estimation of deleterious elements or other nongrade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the Mineral Resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

The density weighted concentrations of silver, lead, zinc, copper, iron, sulphur, arsenic and antimony were estimated using Ordinary Kriging. Density was also estimated using Ordinary Kriging on drill hole data. Ordinary Kriging is considered appropriate because the grades are reasonably well structured spatially.

Vulcan software was used for both the MIK and Ordinary Kriging dynamic estimates.

The gold, silver, copper, lead and zinc estimates are considered to have economic significance. The iron, sulphur, arsenic and antimony estimates are not considered to have economic significance, with sulphur, arsenic and antimony being potentially deleterious.

Several broad wireframes were produced for the purposes of the estimation. The boundaries between these zones were based on a combination of geology, structure, mineralisation orientation and weathering. Exploratory data analysis (EDA) was then performed on all these domains to optimise the number of domains used in the estimation. The final domains used the best representation of mineralisation orientation, structures and weathering as well as limiting the extrapolation of very high gold, lead and zinc grades into zones of lower grade background mineralisation.

Samples were composited to nominal 1.0 m intervals, whilst honouring the domain wireframes. The minimum composite length was set to 0.5 m.

A three pass search strategy was used for estimation. Each pass used a search ellipse with four radial sectors. The maximum number of samples per sector was set to four with a maximum of six data per sector for each pass. Additional search parameters are given below:

Pass 1: 5x35x50m search, 8-24 samples, minimum 3 drill holes used, maximum 10 data per hole

Pass 2: 10x70x100m search, 8-24 samples, minimum 2 drill holes used, maximum 10 data per hole

Pass 3: 15x100x150m search, 4-24 samples, minimum 1 drill holes used, maximum 10 data per hole

Minimal grade cutting was applied to silver, lead, zinc, copper and arsenic on a domain by domain basis in order to reduce the influence of extreme values on the estimates. The top-cut values were chosen by assessing the high end distribution of the grade population within each domain and selecting the value at which the distribution became erratic.

Following estimation, a series of optimised wireframe designs were produced using SO. The SO designs were used to constrain the reported MRE by identifying mineralisation that may have reasonable prospects for eventual economic extraction. The smallest unit for the SO shapes was 5m long and 10m high with a minimum width of 2m. The weighted average NSR values within each shape was required to be at least A\$120 for inclusion in the MRE. Mineralisation outside these shapes was unclassified as it was considered unlikely to meet the criterion of eventual economic extraction. A similar approach has been adopted for Mineral Resource reporting at Aurelia's other operating mines and projects in the region.

Drill hole spacing at Federation does not occur on a regular grid pattern. Nominal drill hole spacing is around 25m along strike and down dip in the tighter drilled areas and increases to 50m elsewhere. Composite length is 1m. The block model was set up on a rotated grid to honour the main mineralisation orientation. Parent block dimensions are 2x10x10m (X, Y, Z respectively). The 10m Y and vertical block dimensions were chosen to reflect drill hole spacing and to provide definition for mine design. The shorter two metre X dimension was used to reflect the narrow mineralisation and down hole data spacing. Discretisation was set to 2x5x5m (X, Y, vertical respectively).



		No assumptions were made regarding the correlation of variables during estimation as each element is estimated independently.  Variography was carried out using the software program Isatis.neo on the one metre composited. Each domain was estimated separately using only data from within that domain. The orientation of the search ellipse and variogram models were controlled by coding the block model with local anisotropy to best reflect the local orientation of the mineralised structures.  The estimation was compared against the prior estimate released in February 2021. The comparison illustrated that, with the increased drill density, mineralisation variability has been better reflected in the new estimation. The comparison also illustrated that the grade tonnage profile has improved. The current estimate is considered to be an improvement on the previous estimation. No mining has occurred at Federation so production data are unavailable for comparison.  The final block model was reviewed visually and it was concluded that the block model fairly represents the grades observed in the drill holes. The estimation was also validated statistically using histograms, scatter plots, swath plots and summary statistics.
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 weight basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A NSR cut-off was adopted for the polymetallic mineralisation to represent reasonable prospects for eventual economic extraction. The calculation of the NSR considers relative metallurgical recoveries to each of the potential product streams, along with metal prices, payabilities, exchange rates, freight, treatment charges and royalties. Table 41 and Table 42 show the price and metallurgical assumptions adopted for the Federation NSR calculation.  A NSR cut-off of A\$120 was selected, consistent with a potential underground stope and fill operation. MREs for the Company's operations at Hera and Peak are currently reported on a comparable basis.  Minor near surface oxide and transitional mineralisation is present at Federation and is included in the MRE. Metallurgical recovery in these zones was assumed to be 85% which is consistent with other operations in the area. Further metallurgical test work is underway to improve the understanding of the recoveries in the oxide material.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.	The proposed mining method for Federation is underground longhole stoping with cemented and unconsolidated backfill. The reported MRE is limited to blocks that lie within volumes generated by SO software. The smallest mining shape was set at 5m long and 10m high with a minimum width of 2m.  The reported MRE includes all estimated blocks that lie within the mining shapes and therefore include internal dilution. Additional external dilution may be incurred during mining.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no	Mineralogical analysis and metallurgical test work programs have been designed to evaluate the potential for sequential flotation of copper, lead and zinc minerals to produce separate concentrates and to confirm gold deportment to doré and base metal concentrates.  Mineralogical analysis on material from Federation has shown a very similar sulphide mineralogy to Hera, dominated



	assumptions have been made, this should be reported.	by iron-bearing sphalerite and galena with lesser chalcopyrite, pyrrhotite and pyrite. Gold at Federation is also similar occurrence to Hera, tending to be irregularly distributed and present as discrete (often visible) grains not unique associated with any specific sulphide phase.  The metallurgical test work results confirm the production of saleable copper, lead and zinc concentrates with identified penalty elements. Given the results of the test work programs, the NSR and zinc equivalency calculations rederation have been developed using a process flowsheet with crushing, grinding, gravity gold and sequential flotati producing gold doré and separate copper, lead and zinc concentrates.
Environmental factors or assumptions	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.	Development of the Federation Deposit is under evaluation and a full assessment of the environmental factors in commenced. It is assumed that the environmental factors and requirements such as the disposal of waste and procedures will be similar to the practices used at the nearby Hera mine.  It assumed that process residue disposal will take place in existing facilities at Hera Mine, which are currently licens for this purpose.  It is assumed that waste rock will be utilised for surface hard stand areas, road and stope backfill. Any remaining was rock will be stored in surface stockpiles.
Bulk density	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.	Dry bulk density is measured on-site using an immersion method (Archimedes principle) on selected core intervals full 1.0 m assay samples. A total of 1,312 density measurements have been taken from drill core at the Federat deposit.  Measured density values show that the density of rock at Federation varies significantly. The density variations a largely due to the presence of sulphide mineralisation that has the effect of increasing density. Aurelia calculated density values for drill hole intervals that had not been subjected to density measurements by calculating the normat mineralogy of each sample, and then species weighting the density calculation. This approach takes into account density differences between galena, sphalerite, chalcopyrite, pyrrhotite and gangue and compares well with the act measurements. This approach does not take voids into account.
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, 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>	The MRE classification is based on drilling density, estimation passes and confidence in the geological interpretation. The estimation was constrained within the SO designs to report the MRE by selecting mineralisation that may have reasonable prospects for eventual economic extraction. Material drilled on a nominal 25m spacing and estimated in first estimation pass, has been classified as Indicated. Material that has a nominal drill hole spacing of less than 50 estimated in either pass 1 or 2 and does not meet the criteria for Indicated has been reported with an Inferr classification. All remaining blocks are coded as unclassified.  At this stage, no mineralisation has been classified as Measured.  The Competent Person considers this classification approach appropriate for the Federation deposit.



Audits or reviews	<ul> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	No external audits have been performed on this estimation.
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 Mineral 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 tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	The relative accuracy and confidence level in the MRE is considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource classifications. This has been determined on a qualitative, rather than quantitative, basis and is based on Aurelia Metals experience with a number of similar deposits in the Cobar region. The main factor that affects the relative accuracy and confidence of the MRE is sample data density.  A significant proportion the reported Mineral Resource is classified as Inferred for which quantity and grade are estimated on the basis of limited geological evidence and sampling. Drill hole data and an understanding of the mineralisation style is sufficient to imply but not verify geological and grade continuity. It is considered reasonable to expect that the majority of Inferred Mineral Resources would be upgraded to Indicated Mineral Resources with continued infill and exploration drilling.  The estimates are global. The tonnages relevant to technical and economic analysis are limited to those classified as Indicated Mineral Resource.