RESOURCES

Bellbird Deposit Mineral Resources Update

Level 5, 167 Eagle Street Brisbane QLD 4000 Australia kalresources.com.au

### 14 September 2022

- Bellbird mineral resource estimate updated
  - 14% increase in contained copper metal to 129 kt
  - Resource tonnes up by 16%
  - Copper grade marginally lower at 1.93%
- Maiden JORC Measured Resource reported
  - Resource categories within open pit design
    - 85% Measured
    - 14% Indicated
    - 1% Inferred
- Total Jervois mineral resource now increased to
  - 23.80 million tonnes, containing
    - 481.2 Kt Copper (@ 2.02% Cu)
    - 19.3 Moz Silver (@ 25.3 g/t Ag)
    - 189.6 koz Gold (@ 0.25 g/t Au)
- Strong Bellbird drilling results contributed to enhanced mineral resources
  - o KJC540: 9.84m<sup>1</sup> @ 3.17% Cu, 25.0 g/t Ag from 109m
  - o KJC541: 6.84m @ 4.83% Cu, 28.0 g/t Ag from 116m
  - o KJC552: 7.09m @ 3.76% Cu, 21.3 g/t Ag from 51m
  - o KJC553: 12.91m @ 1.94% Cu, 11.4 g/t Ag from 72m

KGL Resources (**ASX:KGL**) is pleased to announce an update of the mineral resource estimate for the Bellbird deposit. The Bellbird deposit, is one of the three principal mineral resources (along with Reward and Rockface) which comprise the Jervois Project mineral resources.

A 16-hole drilling program was carried out during June 2022. Drilling was focused primarily on improving the mineral resource of the Bellbird Hanging-wall lodes and generally continued on to intersect the Main lode.

By virtue of the improved drill spacing and resultant enhanced confidence in the geological model, a significant proportion of the mineral resource is now classified as Measured.

KGL's Executive Chairman, Denis Wood said "We completed the RC infill drilling, assaying and resource estimation program at Bellbird in July, the aim of which was to improve the confidence in the Resource. The outcome is that there is now a contained copper Resource at Bellbird in the Measured category – the first Measured Resource for the project. This is an excellent outcome from the project and is also significant as mining in the current optimised mine plan starts with the Bellbird open cut. In fact, the Resource that is now in the Bellbird Open-cut mine plan is 85% in the Measured category."

The Bellbird Mineral Resource estimate (reported according to the JORC (2012) guidelines) is tabulated below.

<sup>&</sup>lt;sup>1</sup> All intersections reported are estimated true thicknesses unless otherwise specified



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Table 1: Bellbird Mineral Resources, September 2022

Resource		Mineralised		Grade			Metal	
Area	Category	Tonnes (millions)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Onen Cut Detential	Measured	1.23	2.53	15.1	0.14	31.2	0.60	5.6
Open Cut Potential	Indicated	1.26	1.45	9.1	0.17	18.2	0.37	6.8
>0.5 % Cu	Inferred	1.02	1.24	10.6	0.12	12.7	0.35	4.0
Sub Total		3.52	1.77	11.7	0.15	62.1	1.32	16.4
<b>Underground Potential</b>	Indicated	0.33	2.33	19.8	0.14	7.8	0.21	1.5
> 1% Cu	Inferred	2.84	2.09	12.3	0.11	59.1	1.12	9.7
Sub Total		3.17	2.11	13.1	0.11	66.9	1.33	11.2
Resource Categories	Measured	1.23	2.53	15.1	0.14	31.2	0.60	5.6
Subtotal	Indicated	1.59	1.63	11.3	0.16	26.0	0.58	8.3
	Inferred	3.86	1.86	11.8	0.11	71.8	1.47	13.7
Total		6.69	1.93	12.3	0.13	129.0	2.64	27.5

<sup>\*</sup> Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. Inferred resources have less geological confidence than Measured or Indicated resources and should not have modifying factors applied to them. It is reasonable to expect that with further exploration most of the inferred resources could be upgraded to indicated resources.

The mineral resource estimate was completed by experienced and independent consultants, Mining Associates Pty Ltd, and their summary report is included as part of this announcement.



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## **Comparison with previous estimates**

### Copper

When compared to the most recent previous estimate (January 2022), the latest Bellbird mineral resource estimate delivers a 14% increase in contained copper metal, to 129.0 kt (from 113.4 kt), and 16% increase in resource tonnes to 6.69 Mt (from 5.76 Mt). Copper grade is reported at 1.93% and represents a small drop from 1.97% Cu.

In the current estimate, Measured Resources have been reported for the first time at Bellbird and for Jervois as a whole.

Figure 1 show the progression of copper results from the past five Bellbird mineral resource estimates.

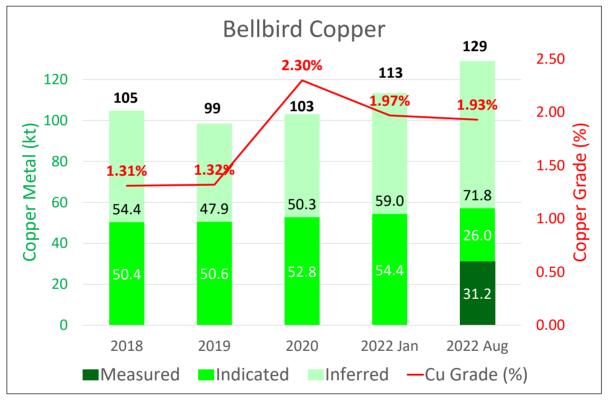


Figure 1: Showing the progression of Bellbird copper mineral resource estimates from 2018 until the current estimate in August 2022. The August 2022 estimate provides a 14% increase in total copper metal compared with the January 2022 estimate.



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### **Gold and Silver**

Both gold and silver grades have remained relatively steady and, by virtue of the increased tonnes, the silver and gold metal contents have each increased.

Silver metal is up 18% to 2.64 Moz (from 2.24 Moz) and gold metal is up 10% to 27.5 koz (from 25.0 koz).

Both silver and gold now have mineral resources classified as Measured. Figure 2 shows the progression of silver metal content and grade for the most recent four mineral resource estimates and Figure 3, similarly, for gold.

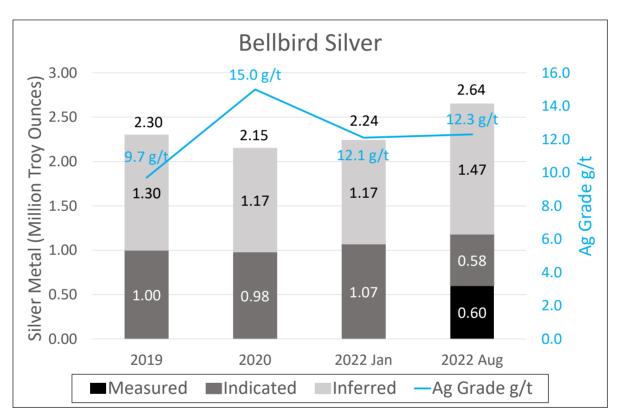


Figure 2: Showing the progression of Bellbird silver mineral resource estimates from 2019 until the current estimate in August 2022



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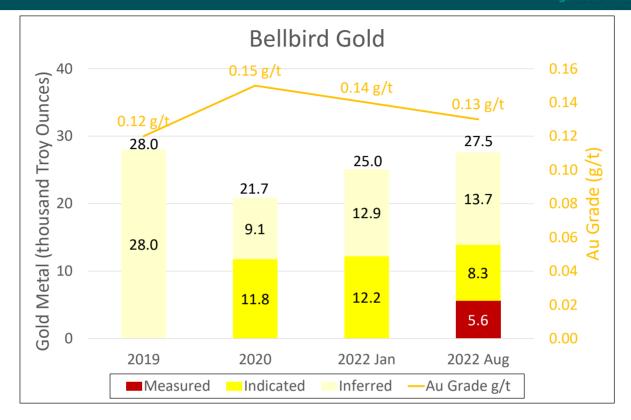


Figure 3: Showing the progression of Bellbird gold mineral resource estimates from 2019 until the current estimate in August 2022

## **Bellbird Mineral Resources Constrained by Open Pit Design**

A major aim of the recent drilling and resource estimation work at Bellbird was to improve the quality (JORC classification) of the mineral resources within the proposed planned open pit design. This target was achieved with 99% of mineral resources within the current pit design classified as either Measured (85%) or Indicated (14%). The improved classification is anticipated to have significant positive impacts on the Bellbird ore reserves, which are currently being estimated.

Figure 4 below is a typical cross section through the Bellbird deposit and show the distribution of mineral resources, colour-coded by JORC classification.



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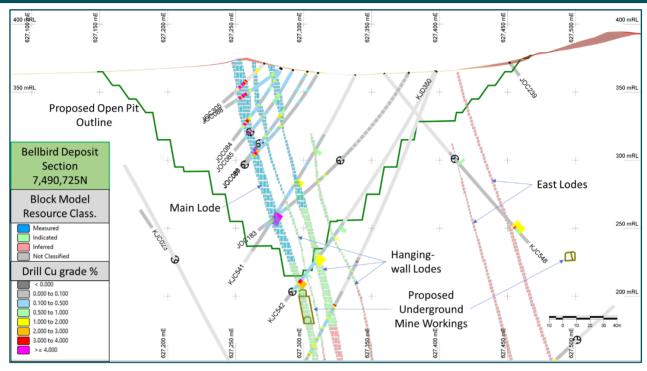


Figure 4: East-west cross section 7,490,725N through the proposed Bellbird open pit showing the new resource block model and drilling. The block model is coloured according to classification with blue blocks being Measured Resources, Green: Indicated Resources and Red: Inferred Resources. Drillhole traces are coloured by copper grade. New holes on this section are KJC541, KJC542 and KJC548.

## **Drilling Results**

Tables 2 and 3 below list the mineralised intersections from the recent drilling program. Some of the highlights are as follows.

- KJC539: 17.89m<sup>2</sup> @ 1.10% Cu, 8.0 g/t Ag from 135m
- KJC540: 9.84m @ 3.17% Cu, 25.0 g/t Ag from 109m
- KJC541: 6.84m @ 4.83% Cu, 28.0 g/t Ag from 116m
- KJC543: 5.50m @ 2.85% Cu, 26.6 g/t Ag from 178m
- KJC552: 7.09m @ 3.76% Cu, 21.3 g/t Ag from 51m
- KJC553: 12.91m @ 1.94% Cu, 11.4 g/t Ag from 72m

<sup>&</sup>lt;sup>2</sup> All intersections reported are estimated true thicknesses unless otherwise specified



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Table 2: List of mineralised drill intersections from program completed at Bellbird in May 2022 (Part 1). The most significant intercepts are highlighted

Hole_ID	Depth_From m	Depth_To m	Downhole Thickness m	Estimated True Thickness m	Cu %	Ag g/t	Au g/t
	117.0	118.0	1.0	0.79	1.70	8.3	0.27
	136.0	137.0	1.0	0.79	2.65	6.5	0.05
KJC538	141.0	142.0	1.0	0.79	0.74	4.8	0.06
	147.0	148.0	1.0	0.73	1.83	8.2	0.05
	152.0	157.0	5.0	3.54	0.62	2.8	0.06
KJC539	115.0	124.0	9.0	7.79	1.35	7.3	0.08
	129.0	131.0	2.0	1.66	3.11	6.9	0.13
	135.0	156.0	21.0	17.89	1.10	8.0	0.05
KJC540	62.0	63.0	1.0	0.92	1.18	9.1	0.09
	69.0	70.0	1.0	0.75	0.81	1.6	0.04
	72.0	73.0	1.0	0.75	0.52	9.5	0.02
	86.0	90.0	4.0	3.46	1.18	6.8	0.10
	102.0	104.0	2.0	1.78	0.57	4.7	0.02
	109.0	120.0	11.0	9.84	3.17	25.0	0.15
	123.0	124.0	1.0	0.85	1.07	12.4	0.04
KJC541	61.0	64.0	3.0	2.16	0.89	3.5	0.03
	87.0	92.0	5.0	3.66	1.10	6.4	0.05
	116.0	125.0	9.0	6.84	4.83	28.0	0.15
KJC542	133.0	136.0	3.0	2.30	0.51	1.3	0.01
	142.0	143.0	1.0	0.91	1.25	3.9	0.04
	159.0	166.0	7.0	5.55	1.20	5.5	0.08
	176.0	177.0	1.0	0.73	0.52	2.8	0.03
	182.0	187.0	5.0	4.01	2.91	13.3	0.16
	190.0	191.0	1.0	0.83	0.82	7.5	0.03
KJC543	123.0	124.0	1.0	0.79	0.60	2.1	0.02
	129.0	132.0	3.0	2.23	1.05	10.3	0.12
	138.0	139.0	1.0	0.74	0.55	1.4	0.03
	156.0	157.0	1.0	0.95	0.77	2.3	0.03
	178.0	185.0	7.0	5.50	2.85	26.6	0.10
KJC544	131.0	132.0	1.0	0.81	0.70	3.7	0.03
	143.0	144.0	1.0	0.74	3.03	12.1	0.11
	154.0	155.0	1.0	0.74	0.85	2.8	0.02
	164.0	165.0	1.0	0.80	1.42	7.9	0.04
	166.0	167.0	1.0	0.80	0.64	11.9	0.07
	191.0	192.0	1.0	0.70	0.62	3.0	0.02
	195.0	200.0	5.0	3.50	2.75	36.2	0.16



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Table 3: List of mineralised drill intersections from program completed at Bellbird in May 2022 (Part 2). The most significant intercepts are highlighted

Hole_ID	Depth_From m	Depth_To m	Downhole Thickness m	Estimated True Thickness m	Cu %	Ag g/t	Au g/t
KJC545	75.0	80.0	5.0	1.79	1.59	16.1	0.02
KJC546	134.0	135.0	1.0	0.85	1.11	1.1	0.02
	169.0	171.0	2.0	1.70	1.01	5.4	0.06
	173.0	174.0	1.0	0.85	0.54	2.8	0.02
	178.0	179.0	1.0	0.83	1.43	2.9	0.04
	185.0	186.0	1.0	0.83	0.92	4.4	0.03
	192.0	194.0	2.0	1.66	3.35	6.2	0.11
	197.0	201.0	4.0	3.39	1.51	6.0	0.08
	96.0	97.0	1.0	0.78	0.75	4.7	0.04
KJC547	101.0	102.0	1.0	0.78	1.82	12.3	0.03
KJC547	134.0	138.0	4.0	2.00	1.88	15.0	0.22
	145.0	150.0	5.0	3.79	2.78	35.6	0.14
KJC548	85.0	87.0	2.0	0.88	0.61	4.2	0.00
	146.0	155.0	9.0	3.18	1.70	5.4	0.02
KJC549			No signfica	ant intersection			
KJC550	93.0	94.0	1.0	0.81	0.66	1.3	0.04
	110.0	115.0	5.0	4.05	0.94	3.7	0.07
	133.0	136.0	3.0	2.75	0.70	3.0	0.03
	140.0	141.0	1.0	0.85	0.74	3.1	0.03
	145.0	152.0	7.0	5.92	1.07	4.1	0.04
KJC551	88.0	90.0	2.0	1.29	1.05	10.8	0.09
	100.0	101.0	1.0	0.70	0.84	3.4	0.08
	125.0	131.0	6.0	4.22	1.08	8.4	0.11
KJC552	22.0	23.0	1.0	0.84	0.94	5.2	0.02
	25.0	27.0	2.0	1.69	0.87	14.9	0.07
	30.0	31.0	1.0	0.84	0.58	4.8	0.09
	44.0	45.0	1.0	0.78	0.52	8.1	0.06
	46.0	49.0	3.0	2.33	2.56	11.3	0.16
	51.0	60.0	9.0	7.09	3.76	21.3	0.33
	51.0	58.0	7.0	5.52	4.62	24.3	0.42
KJC553	30.0	31.0	1.0	0.82	0.56	3.6	0.04
	46.0	47.0	1.0	0.82	0.72	3.0	0.03
	53.0	55.0	2.0	1.64	0.67	5.7	0.06
	58.0	59.0	1.0	0.82	1.33	9.2	0.42
	72.0	89.0	17.0	12.91	1.94	11.4	0.13



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### **Jervois Mineral Resources**

The Reward and Rockface mineral resources remain as previously announced on 10 January 2022 and 7 March 2022 respectively. These resources, combined with the new Bellbird estimate, comprise the overall mineral resources for the Jervois project, totalling 23.80 million tonnes containing:

- 481.2 Kt Copper (@ 2.02% Cu)
- 19.3 Moz Silver (@ 25.3 g/t Ag)
- 189.6 koz Gold (@ 0.25 g/t Au)

A detailed breakdown of the Jervois mineral resources is reported in Table 4 below:

Table 4: Jervois mineral resources, September 2022

Resourc	ce		Mineralised Mass		Grade		Metal		
	Area	Category	(Mt)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
	Reward	Indicated	3.84	1.80	39.4	0.31	69.1	4.9	38.2
	Rewald	Inferred	0.65	0.92	9.2	0.07	5.9	0.2	1.5
Open Cut Potential > 0.5 % Cu*		Measured	1.23	2.53	15.1	0.14	31.2	0.6	5.6
Open Cut Potential > 0.5 % Cu	Bellbird	Indicated	1.26	1.45	9.1	0.17	18.2	0.4	6.8
		Inferred	1.02	1.24	10.6	0.12	12.7	0.3	4.0
	Si	ub Total	8.00	1.71	24.8	0.22	137.1	6.4	56.1
	Reward	Indicated	4.78	2.12	42.6	0.45	101.6	6.6	69.2
	Newaru	Inferred	4.32	1.56	19.6	0.20	67.3	2.7	27.8
	Bellbird	Indicated	0.33	2.33	19.8	0.14	7.8	0.2	1.5
Underground Potential > 1 % Cu*	Delibird	Inferred	2.84	2.09	12.3	0.11	59.1	1.1	9.7
	Rockface	Indicated	2.80	3.37	21.4	0.23	94.3	1.9	21.1
	Rockiace	Inferred	0.73	1.92	19.0	0.18	14.0	0.4	4.2
Sub		ub Total	15.80	2.18	25.5	0.26	344.1	13.0	133.5
		Measured	1.23	2.53	15.1	0.14	31.2	0.6	5.6
Sub Totals	Sub Totals		13.01	2.24	33.3	0.33	291.0	13.9	136.9
		Inferred	9.55	1.67	15.7	0.15	159.0	4.8	47.1
Total			23.80	2.02	25.3	0.25	481.2	19.3	189.6

This announcement has been approved by the directors of KGL Resources Limited.



Bellbird Deposit Mineral Resource Update

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## **Competent Person Statement**

The information in this announcement that relates to Mineral Resource Estimates is based on data compiled by Ian Taylor BSc (Hons), a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Taylor is a consultant working for Mining Associates Pty Ltd who were engaged by the Company to carry out the mineral resource estimate. Mr Taylor has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which is being undertaking to qualify as a Competent Person as defined in the 2012 Edition of 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Taylor consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Exploration Results is based on data compiled by John Levings BSc, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Levings is Principal Geologist for the Company. Mr Levings has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which is being undertaking to qualify as a Competent Person as defined in the 2012 Edition of 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Levings consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

## **Forward Looking statements**

This release includes certain forward-looking statements. The words "forecast", "estimate", "like", "anticipate", "project", "opinion", "should", "could", "may", "target" and other similar expressions are intended to identify forward looking statements. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding forecast cash flows and potential mineralisation, resources and reserves, exploration results and future expansion plans and development objectives of KGL are forward-looking statements that involve various risks and uncertainties. Although every effort has been made to verify such forward-looking statements, there can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. You should therefore not place undue reliance on such forward-looking statements.

Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has a reasonable basis for making those statements.



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## Mineral Resource Estimate for Bellbird Deposit, Jervois Project, NT

01/09/2022

### 1 SUMMARY

The Bellbird deposit (22°.14′09″ S and 136°14′19″E) is one of the deposits identified within KGL's Jervois Project. The Jervois Project is located in the Northern Territory of Australia, 275 km ENE of Alice Springs. The project comprises two Exploration Licence and four Mineral Leases which are 100% owned by KGL subsidiary Jinka Minerals Ltd. Bellbird lies within ML30182 on the western side of EL25429.

Mining Associates Pty Ltd ("MA") was commissioned by KGL Resources. ("KGL", or the "Company"), a mineral exploration and development company currently listed on the Australian Stock Exchange ("ASX"), to prepare a Mineral Resource Estimate ("MRE") and Technical Report on the Bellbird deposit.

Based on the reported study, the mineral resource estimate of the Bellbird Deposit has portions classified as Measured, Indicated and Inferred Mineral Resource according to the definitions outlined in JORC (2012). Confidence and classification regarding the grade estimates are based on several factors including, but not limited to, sample and drill spacing relative to geological and geostatistical observations, the continuity of mineralisation, historical surface mining, bulk density determinations, accuracy of drill collar locations and quality of the assay data.

The resource is reported above a depth of 200 m RL at 0.5% copper cut-off and below 200 m RL at a 1% copper cut off (200 m RL is approximately 150 m below the surface).

Table 1. Bellbird Mineral Resource Estimate September 2022\*

Resource		Mineralised		Grade			Metal	
Area	Category	Tonnes (millions)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Onen Cut Detential	Measured	1.23	2.53	15.1	0.14	31.2	0.60	5.6
Open Cut Potential	Indicated	1.26	1.45	9.1	0.17	18.2	0.37	6.8
>0.5 % Cu	Inferred	1.02	1.24	10.6	0.12	12.7	0.35	4.0
Sub Total		3.52	1.77	11.7	0.15	62.1	1.32	16.4
Underground Potential	Indicated	0.33	2.33	19.8	0.14	7.8	0.21	1.5
> 1% Cu	Inferred	2.84	2.09	12.3	0.11	59.1	1.12	9.7
Sub Total		3.17	2.11	13.1	0.11	66.9	1.33	11.2
Resource Categories	Measured	1.23	2.53	15.1	0.14	31.2	0.60	5.6
Subtotal	Indicated	1.59	1.63	11.3	0.16	26.0	0.58	8.3
	Inferred	3.86	1.86	11.8	0.11	71.8	1.47	13.7
Total		6.69	1.93	12.3	0.13	129.0	2.64	27.5

<sup>\*</sup> Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes.

Mineral Resources are not Ore Reserves and do not have demonstrated economic viability.

Inferred resource have less geological confidence than Measured or Indicated resources and should not have modifying factors applied to them. It is reasonable to expect that with further exploration most of the inferred resources could be upgraded to indicated resources.



Weathering of the deposits has an impact on metallurgical recoveries. KGL is considering different processing and or differing recoveries based on the amount of sulphur and deleterious elements present. Table 2 shows the deposits reported by weathering profiles, including areas of high sulphur (S/Cu > 4.5).

Table 2. Bellbird Resource by Resource Category and Weathering

Re	esource	Mass					G	rades							Met	al	
Category	weathering	(Mt)	Cu %	Pb %	Zn %	Ag g/t	Au g/t	Fe %	S %	Bi ppm	U ppm	W ppm	Cu kt	Pb kt	Zn kt	Ag Moz	Au koz
3	Oxide	0.21	2.62	0.03	0.02	13.2	0.16	12.3	0.57	242	8	21	5.4	0.1	0.00	0.09	1.1
eas	Transitional	0.20	2.35	0.02	0.02	12.8	0.13	12.5	1.48	187	8	23	4.7	0.05	0.00	0.08	0.9
Measured	High Sulphur	0.02	1.25	0.02	0.02	10.2	0.10	17.6	6.94	259	12	37	0.3	0.00	0.00	0.01	0.1
ū	Fresh	0.81	2.58	0.02	0.02	16.3	0.14	14.0	3.47	264	12	28	20.7	0.2	0.2	0.42	3.6
<u>_</u>	Oxide	0.06	1.56	0.06	0.15	8.0	0.19	10.5	0.62	100	9	25	0.9	0.0	0.1	0.01	0.3
Indicated	Transitional	0.10	1.27	0.10	0.25	7.5	0.22	10.9	0.82	85	9	26	1.2	0.1	0.2	0.02	0.7
ited	High Sulphur	0.03	1.12	0.34	0.44	16.0	0.16	14.3	6.75	171	13		0.3	0.1	0.1	0.01	0.1
	Fresh	1.41	1.67	0.07	0.11	11.7	0.16	12.5	2.07	129	15	22	23.6	0.9	1.6	0.53	7.2
=	Oxide	0.01	1.60	1.11	1.67	14.7	0.03	5.8	0.66	38	7	14	0.1	0.1	0.2	0.00	0.0
Inferred	Transitional	0.04	1.37	0.82	1.36	10.9	0.08	6.6	0.79	47	8	16	0.5	0.3	0.5	0.01	0.1
ed	High Sulphur	0.05	1.03	0.67	0.86	19.5	0.09	12.3	5.90	152	13	18	0.5	0.3	0.4	0.03	0.1
	Fresh	3.76	1.88	0.25	0.57	11.7	0.11	9.8	1.86	120	18	16	70.6	9.5	21.4	1.42	13.4
Sı	Oxide	0.27	2.37	0.07	0.10	12.2	0.16	11.7	0.58	206	8	22	6.5	0.2	0.3	0.11	1.4
Subtotal	Transitional	0.34	1.93	0.14	0.24	11.1	0.15	11.3	1.21	141	8	23	6.5	0.5	0.8	0.12	1.6
ital	High Sulphur	0.09	1.11	0.44	0.56	16.5	0.11	14.0	6.37	181	13	22	1.0	0.4	0.5	0.05	0.3
	Fresh	5.98	1.92	0.18	0.39	12.3	0.13	11.0	2.13	141	16	19	115.0	10.6	23.2	2.37	24.2
Total	<u>'</u>	6.69	1.93	0.17	0.37	12.3	0.13	11.1	2.08	145	16	19	129.0	11.7	24.8	2.65	27.6

<sup>\*</sup> Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes

### 1.1 GEOLOGY AND GEOLOGY INTERPRETATION

Bellbird is interpreted as an original syn-depositional copper-rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and some degree of structural remobilisation. Recent modelling of mineralisation by KGL geologists strongly supports the interpretation of a low-grade, broadly stratabound zone, overprinted by higher grade 'shoots' that represent structural remobilisation into fold hinges and magnetite breccia structures.

Interpretation of higher-grade zones is based primarily on geological logging supported by abrupt changes in copper and/or silver grades. Structural shoots, characterised by coarser grained sulphides and magnetite+ sulphides breccia, are enriched (> 0.75%) in copper. The lower grade stratabound halo was defined as greater than 0.5% sulphur. Intervals encompassing high grade shoots and stratabound mineralisation were modelled using implicit modelling in the Leapfrog software with an anisotropic component conforming to the plunge of measured F2 fold hinges.

Bellbird domains were created primarily based on structural shoot orientations (Figure 1), weathering, and grade. Cross sections of the interpreted implicit models for Main Lode and the associated hanging wall lodes are shown in Figure 2 and Figure 3.



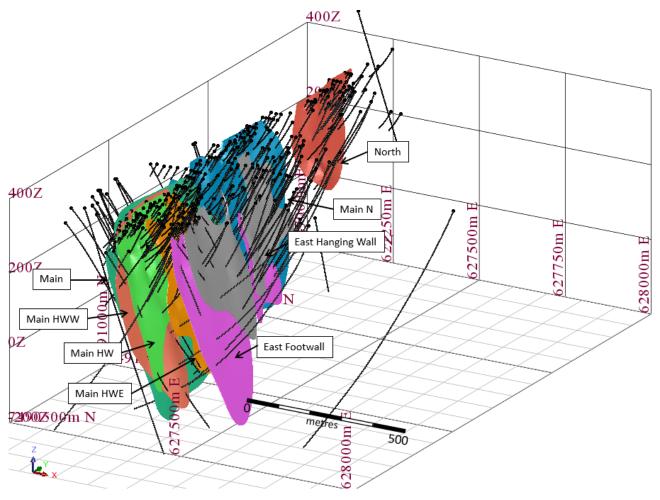


Figure 1. Oblique View showing interpreted domains



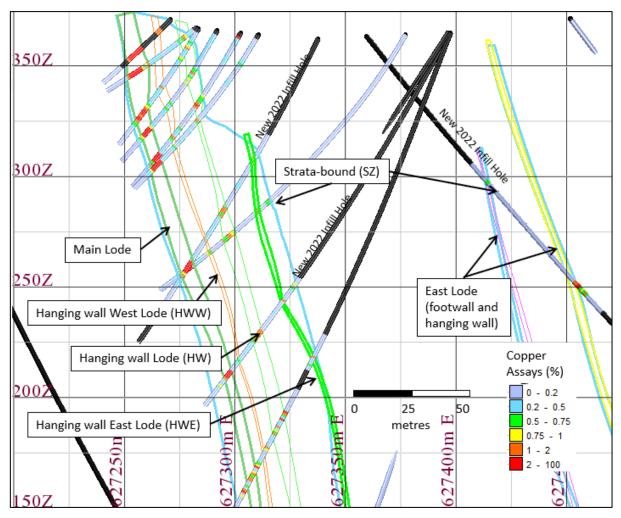


Figure 2. Bellbird Lodes (E-W section 7,490,725 m N  $\pm$  12.5 m)



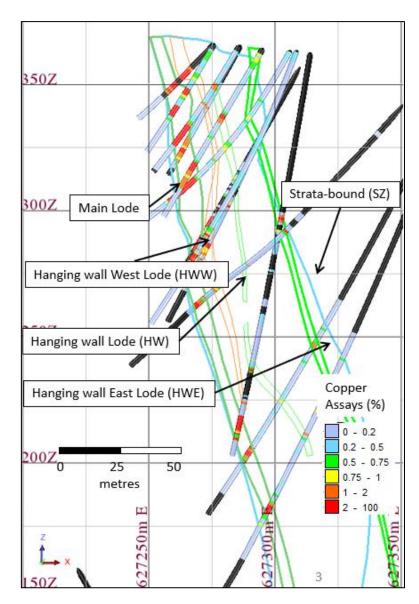


Figure 3. Main and hanging wall lodes, Cross Section (7,490,800 m N  $\pm$  12.5 m)

### 1.2 DRILLING TECHNIQUES

16 RC holes (2,801 m) have been drilled since the January 2022 resource update. The 16 RC holes (KJC538 to KJC553 were specifically targeted into the hanging wall lodes within ~150 m of the surface, the holes were designed to increase confidence in the resource that lies within the designed pit shell.

Resource definition drilling over the life of the project has been undertaken on 50 m spaced cross sections perpendicular to strike with holes spaced on average 50 m (50 m x 50 m grid). The higher grade shoots and shallower mineralisation (above 200 m RL) has been infilled to approximately 25 m x 25 m, with some shallow infill on 12.5 m sections. Of the 353 holes (39.8 km of drilling) on the deposit, 22 holes (historical) have been rejected, deemed unreliable either in survey or have missing data. The total number of validated holes at Bellbird is 331 holes for 53.0 km of drilling.

KGL drilling since 2011 mostly utilised a combination of RC pre-collars (5.25" face sampling bit) to a predetermined depth above predicted mineralisation followed by diamond coring (wireline with dominantly



HQ3 (63 mm) diameter with some NQ3 (45 mm) diameter). The 2022 drill program used both 5" (9 holes) and 6" bits (7 holes). Pre-2011 hole diameter and drill type details are generally not recorded (NR) in the database. Table 3 summarises drilling statistics by drill hole type. RC\_DD drill holes utilised RC pre-collars with diamond coring through zones of mineralisation, and DDW denotes diamond drilling wedges, or child holes drilled from a pre-existing hole path by directional drilling methods

Table 3 Summary of drilling by drill hole type

Drilling Method	code	Number of holes	Total metres
Diamond Drilling	DD	42	6,596
Diamond Wedge	DDW	3	948
Not recorded	NR	12	2,625
Reverse Circulation	RC	236	26,426
RC with diamond tail	RC_DD	38	16,448
Total		331	53,044

### 1.3 SAMPLING AND SUB-SAMPLING TECHNIQUES

Sampling was continuous through mineralisation/alteration zones and extended up to 10 m for diamond core and up to 50 m for RC up and down-hole. The 2020-2021 sampling program comprised quarter sawn diamond core. Earlier and the recent RC program used a riffle splitter to split the one metre sample returns.

### 1.4 SAMPLE ANALYSIS

Since mid-2015 KGL submitted all samples to Intertek laboratories in Alice Springs. Sample preparation was completed by Intertek in Alice Springs before transferring to their Townsville laboratory for analysis. Samples between 2011 to 2015 were sent to ALS Global in Townsville. Intertek and ALS analysis used a 4-acid digest with ICP-OES finish. Over-grade (> 2 % Cu) samples were re-analysed by 4-acid digest and ICP-OES finish on a larger initial sample and longer digest time. Gold samples are assayed by Aqua Regia with an ICP MS finish. Samples over 1 ppm Au are re-assayed by Fire Assay with an AAS finish. KGL QAQC protocols are designed to establish measurement systems and procedures to provide adequate confidence that quality is adhered to, and results are suitable for inclusion in Resource Estimation.

### 1.5 ESTIMATION METHODOLOGY

The Mineral Resource statement reported herein is a reasonable representation of the Bellbird deposit based on current sampling data. Grade estimation was undertaken using Geovia's Surpac™ software package (v7.5). Ordinary Kriging ("OK") was selected for grade estimation of copper, silver and gold (and the ancillary elements).

Copper is the primary economic element, silver, gold, lead, zinc, are estimated using the copper domains as hard boundaries and utilising dynamic search ellipses. Deleterious elements bismuth, tungsten and fluorine are estimated within the sulphur domain (a soft boundary across the copper domains). Iron and sulphur are estimated inside the sulphur domain using dynamic search ellipses. Iron, Sulphur and density are estimated into the country rock to aid waste rock classification. The Main Lode and the hanging wall lodes have sufficient oxidised samples to enable the weathering profile to be used as an additional hard boundary.

The block model utilises parent blocks measuring  $2.5 \text{ m} \times 10 \text{ m} \times 5 \text{ m}$  with sub-blocking to  $0.625 \text{ m} \times 5 \text{ m} \times 2.5 \text{ m}$  (XYZ) to better define the volumes. Blocks above topography are excluded from the estimation. Estimation resolution was set at the parent block size. Estimation of grades in the waste blocks used an estimation resolution twice the parent block size. A kriging neighbourhood analysis was undertaken to



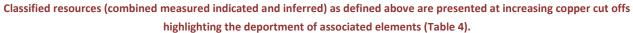
determine the optimal search distance and number of samples to use. Due to the reasonably spaced drill patterns, search radii were found to be optimal near 70 m for the major axis of the search ellipse. Anisotropic ratios of 1.5 and 2.4 were applied to the semi-major and minor axis of the search ellipse. The minimum and maximum samples utilised were 8 and 16 for the first pass and reduced to 3 and 13 for the second pass. Third pass informing samples were further reduced to a minimum of 4 and maximum of 8. Search distances were factored by the estimation pass. Grade capping was applied to all elements except iron and sulphur. Experimental variograms were generated where possible. For domains and elements where experimental variograms could not be created, variogram models were borrowed from similar domains or elements (with weak to moderate corelations to the element under investigation).

The default density of the block model is  $2.90 \text{ t/m}^3$ . All oxide material is assigned  $2.6 \text{ t/m}^3$ . The mineralised transitional material is assigned  $2.8 \text{ t/m}^3$ . Density values were further improved with a 2-pass estimation strategy. Pass one used measured density readings (n = 4,420, average 2.88, Variance 0.03 and CV 0.06) to estimate the block density, the second pass included density values determined from a linear regression of iron assays. The mineral resource averages  $2.89 \text{ t/m}^3$ .

Block model validation consisted of visual checks in plan and section, global comparisons between input and output means, alternative estimation techniques, swath plots and to previous estimates.

#### 1.6 CUT-OFF GRADES

Cut off grades of 0.5% Cu above 200 m RL and 1% Cu below 200 m RL; 200 m RL is approximately 150 m below the surface and is considered to the depth limit for potential open pit mining. KGL are considering the optimal transition depth for the change over from open pit to underground in the feasibility study currently under way.



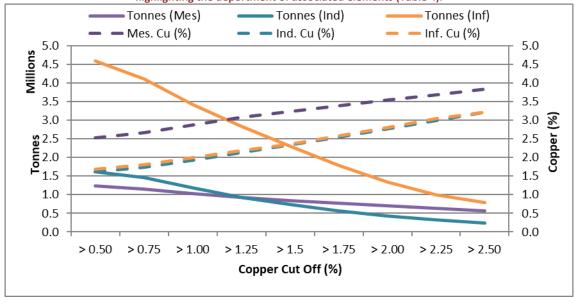


Figure 4 shows the resource as grade tonnage curves by resource category.



Table 4. Deportment of associated elements with copper mineralisation

	Tonnes	Cu	Ag	Au	Pb				Bi	U	W	F
cut-off	(M t)	(%)	(g/t)	(g/t)	(%)	Zn (%)	Fe (%)	S (%)	(ppm)	(ppm)	(ppm)	(ppm)
0.50	7.45	1.81	11.9	0.12	0.16	0.35	11.1	2.05	139	16	19	1146
0.75	6.71	1.94	12.6	0.13	0.17	0.36	11.3	2.16	147	16	19	1131
1.00	5.63	2.14	13.4	0.13	0.17	0.38	11.4	2.31	160	17	19	1124
1.25	4.70	2.35	14.4	0.14	0.17	0.40	11.6	2.45	175	17	19	1124
1.50	3.89	2.55	15.5	0.15	0.17	0.42	11.8	2.58	188	17	19	1119

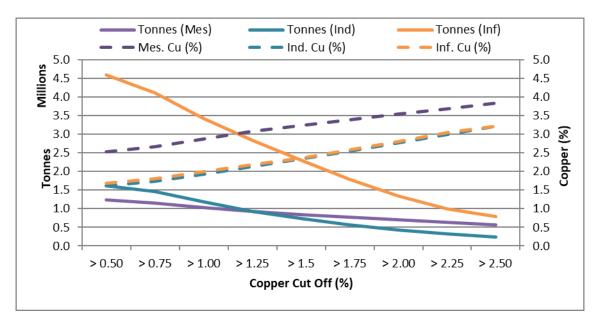


Figure 4. Classified Resource - Grade Tonnage Curves

### 1.7 CRITERIA USED FOR CLASSIFICATION

Resource classification is based on data quality, drill density, number of informing samples, kriging efficiency, conditional bias slope, average distance to informing samples and geological continuity (deposit consistency). The confidence in the quality of the data and the presence of historic open pits justified the classification of Measured, Indicated and Inferred Resources.

Measured Resources are the portion of the deposit with a drill spacing of 25 m x 25 m with some areas of infill drilling to 12.5 m. Several shallow drill holes undertaken in early 2022 confirmed the grade tenor and lode interpretations. The exploration work completed is sufficient to confirm geological continuity, grade and quality of the lodes. The classification of measured demonstrates a high level of confidence in the geological and grade continuity of the mineralisation. Indicated resources are the portions of the deposit with a drill spacing of 50 m x 50 m or tighter, and demonstrate a reasonable level of confidence in the geological continuity of the mineralisation. Inferred resources are the portions of the deposit covered by drill spacing greater than 50 m or those portions of the deposit with a smaller number of intercepts but demonstrating an acceptable level of geological confidence. Portions of the resource that do not meet these requirements remain unclassified resources and are not reported.

A mineral resource is not an ore reserve and does not have demonstrated economic viability.

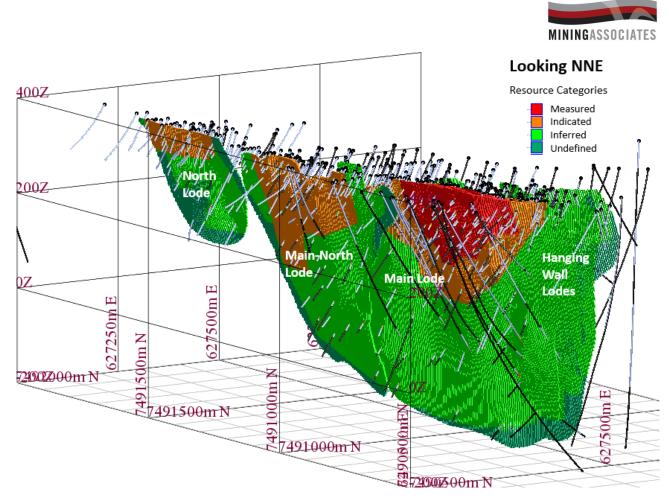


Figure 5: Classified Resources -Bellbird Deposit

## 1.8 MINING AND METALLURGICAL METHODS AND PARAMETERS AND OTHER MATERIAL MODIFYING FACTORS CONSIDERED TO DATA

The mineralisation above the 200 m RL (approximately 150 m below the surface) has been deemed to be potentially accessible by open cut mining methods The Bellbird Deposit is a large steeply dipping syndepositional copper deposit likely resulting in a high strip ratio. Mineralisation below the 200 m RL (approximately 150 m below the surface) is considered to have underground potential above a 1 % Cu cut off. No other mining assumptions have been used in the estimation of the Mineral Resource.

KGL have commissioned metallurgical testing of multiple composite samples from the Jervois project.

Mineral processing and metallurgical recoveries of copper do not have a significant impact on the mineral resource estimate and have not been applied to the in-situ grades. Metallurgical recoveries are considered when determining "reasonable prospects" for eventual economic extraction. Metallurgical recoveries for copper and silver are reported as functions of copper grade in oxide/transitional and sulphide ore (Table 5).



**Table 5: Recovery Assumptions** 

				Worked	Example
Domain Type	Metal	Prediction Range	Recovery Algorithm	Head Grade	Recovery
				Metal_unit	Metal_rec
	Copper	>= 0.5%	Cu_rec=1.057*((Cu_pct)^0.0325)	1.92%	93%
Culmbida	Bismuth	All (ppm)	Bi_rec=0.099*LN(Bi_ppm)+0.0334	141	52%
Sulphide	Gold	All (g/t)	Au_rec=(-0.4991)*(Bi_rec^2)+1.2428*Bi_rec-0.0461	0.13	47%
	Silver	All (g/t)	Ag_rec=(0.92*Bi_rec)+0.043	12.3	52%
	Oxide Copper	0.5%>=Cu%=<2.5%	Cu_pct=(34.675*Cu_pct)-0.0646	1.92%	60%
	Oxide Copper	>2.5% Cu	Cu_rec=80%	3.00%	80%
	Transition Copper	0.42%>=Cu%=<1.0%	Cu_rec=(129.88*Cu_pct)-0.5406	0.90%	63%
Oxide/Transition	Transition Copper	>1.0% Cu	Cu_rec=(0.0557*LN(F11))+1.0147	3.00%	82%
	Bismuth	All (ppm)	Bi_rec=(0.873*Cu_rec)-0.174	141	35%
	Gold	All (g/t)	Au_rec=(0.685*Bi_rec)+0.126	0.13	37%
	Silver	All (g/t)	Ag_rec=(1.326*Bi_rec)-0.0295	12.3	44%

Sulphur has been estimated throughout the block model. Iron and sulphur have been estimated within the sulphur domain and throughout the waste rock. It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities will be used for the process plant tailings. KGL is undertaking kinetic test work to assess potential for acid mine drainage, preliminary results indicate most of the waste material recoverable by mining will have low potential to become acidic.

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Brisbane, Australia

Date: 1st September 2022



## **SECTION 1 SAMPLING TECHNIQUES AND DATA**

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>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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>	<ul> <li>At Bellbird diamond drilling and reverse circulation (RC) drilling were used to obtain samples for geological logging and assaying. The core samples comprised a mixture of sawn HQ quarter core, sawn NQ half core and possibly BQ half core (historical drilling only). Sample lengths are generally 1 m, but at times length were adjusted to take into account geological variations. RC sample intervals are predominantly 1 m intervals with some 2 m and 4 m compositing (historical holes only).</li> <li>RC samples are routinely scanned by KGL Resources with a Niton XRF. Samples assaying greater than 0.1% Cu, Pb or Zn are submitted for chemical analysis at a commercial laboratory.</li> <li>Documentation of the historical drilling (pre-2011) for Bellbird is variable.</li> </ul>
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, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>The KGL and previous Jinka-Minerals RC drilling was conducted using a reverse circulation rig with a 5.25-inch face-sampling bit. Diamond drilling was either in NQ2 or HQ3 drill diameters. Metallurgical diamond drilling (JMET holes) were PQ core.</li> <li>There is no documentation for the historic drilling techniques, drill type is recorded as UNK.</li> <li>Diamond drilling was generally cored from surface with some of the deeper holes Bellbird utilizing RC pre-collars.</li> <li>Oriented core has been measured for the 2020-2021 KGL drill program</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether</li> </ul>	<ul> <li>The KGL RC samples were not weighed on a regular basis, KGL report no sample recovery issues were encountered during the drilling program.</li> <li>Jinka Minerals and KGL split the rare overweight samples (&gt;3kg) for assay. Since overweight samples were rarely reported no sample bias was established between sample</li> </ul>



Criteria	• JORC Code explanation	Commentary
	sample bias may have occurred due to preferential loss/gain of fine/coarse material.	<ul> <li>recovery and grade.</li> <li>Drilling muds are used to improve drilling recovery, in broken ground tripple tube barrels are employed. Core recovery for recent drilling is &gt;95% with the mineral zones having virtually 100% recovery.</li> <li>No evidence has been found for any relationship between sample recovery and copper grade and there are no biases in the sampling with respect to copper grade and recovery.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All KGL RC and diamond core samples are geologically logged. Logging in conjunction with multi-element assays is appropriate for mineral resource estimation.</li> <li>Core samples are orientated and logged for geotechnical information suitable for mining studies.</li> <li>All logging has been converted to quantitative and qualitative codes in the KGL Access database.</li> <li>All relevant intersections are logged.</li> <li>Paper logs existed for the historical drilling. There is very little historical core available for inspection.</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 the material being sampled.</li> </ul>	<ul> <li>The following describes the recent KGL sampling and assaying process:</li> <li>RC drill holes are sampled at 1 m intervals and split using a cone splitter attached to the cyclone to generate a split of ~3 kg;</li> <li>RC sample splits (~3 kg) are pulverized to 85% passing 75 microns.</li> <li>Diamond core was quartered with a diamond saw and generally sampled at 1 m intervals with samples lengths adjusted at geological contacts;</li> <li>Diamond core samples are crushed to 70% passing 2 mm and then pulverized to 85% passing 75 microns.</li> <li>Two quarter core field duplicates were taken for every 20 m samples by Jinka Minerals and KGL Resources.</li> <li>All sampling methods and sample sizes are deemed appropriate for mineral resource estimation</li> <li>Details for the historical sampling are not available.</li> </ul>
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory	<ul> <li>The KGL drilling has QAQC data that includes standards, duplicates and laboratory checks.</li> <li>In mineralisation standards are added at a</li> </ul>



Criteria	JORC Code explanation	<ul> <li>Commentary</li> </ul>
	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.	ratio of 1:10 and duplicates and blanks 1:20.  Base metal samples are assayed using a fouracid digest with an ICP AES finish. Gold samples are assayed by Aqua Regia with an ICP MS finish. Samples over 1 ppm Au are reassayed by Fire Assay with an AAS finish.  There are no details of the historic drill sample assaying or any QAQC.  All assay methods were deemed appropriate at the time of undertaking.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Data is validated on entry into the MS Access database, using Database check queries within Maxwell's DataShed.</li> <li>Further validation is conducted when data is imported into Micromine and Leapfrog Geo software</li> <li>Hole twinning was occasionally conducted at Bellbird with mixed results. This may be due to inaccuracies with historic hole locations rather than mineral continuity issues.</li> <li>For the resource estimation below detection values were converted to half the lower detection limit.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>For the KGL drilling surface collar surveys were picked up using a Trimble DGPS, with accuracy to 1 cm or better.</li> <li>Downhole surveys were taken during drilling with a Ranger or Reflex survey tool at 30 m intervals</li> <li>All drilling by Jinka Minerals and KGL is referenced on the GDA 94, MGA Zone 53. All downhole magnetic surveys were converted to MGA azimuth.</li> <li>For Bellbird there are concerns about the accuracy of some of the historic drillhole collars. There are virtually no preserved historic collars for checking. Spurios holes were excluded, historic holes with complete assay data, logging and confirmed by newer drilling, where used in the resoruce estimate.</li> <li>There is no documentation for the downhole survey method for the historic drilling.</li> <li>Topography was mapped using Trimble DGPS and merged with the LIDAR</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drilling at Bellbird is on 25 m to 50 m spaced sections with 25 m centres in the upper part of the mineralisation, expanding to 50 m centres



Criteria	JORC Code explanation	Commentary
	<ul> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>with depth and ultimately reaching 100 m spacing on the periphery of mineralisation.</li> <li>The drill spacing for all defined areas is appropriate for resource estimation and the relevant classifications applied.</li> <li>A small amount of sample compositing has been applied to some of the near surface historic drilling.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Holes were drilled perpendicular to the strike of the mineralisation; the default angle is -60°, but holes vary from -45° to -80°. Approximately 10% of holes are drilled from the west.</li> <li>Drilling orientations are considered appropriate and no obvious sampling bias was detected.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were stored in sealed polyweave bags on site and transported to the laboratory at regular intervals by KGL staff or a transport contractor.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>The sampling techniques are regularly reviewed internally and by external consultants.</li> </ul>

## **SECTION 2 REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Jervois Project is within EL25429 and is 100% owned by Jinka Minerals and operated by Jervois Operations Pty Ltd both wholly owned subsidiaries of KGL Resources Limited.</li> <li>Excised from the Exploration Licence are four Mineral Leases (ML 30180, ML 30182, ML 30829 &amp; ML 32277) owned by Jinka Minerals.</li> <li>The tenements are all in good standing.</li> <li>Indigenous Land Use Agreement (ILUA) was registered in 2017</li> <li>Royalties will be payable per NT Minerals Royalty Act (1982) on production of saleable mineral commodity</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>Previous exploration has primarily been conducted by Reward Minerals, MIM and Plenty River.</li> <li>This report references a Mineral Resource Estimate and this item is not applicable</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	EL25429 lies on the Huckitta 1: 250 000 map sheet (SF 53-11). The tenement is located



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Criteria	JORC Code explanation	•	Commentary
		•	mainly within the Palaeo-Proterozoic Bonya Schist on the northeastern boundary of the Arunta Orogenic Domain. The Arunta Orogenic Domain in the north western part of the tenement is overlain unconformably by Neo-Proterozoic sediments of the Georgina Basin. The stratabound mineralisation for the project consists of a series of complex, narrow, structurally controlled, sub-vertical sulphide/magnetite-rich deposits hosted by Proterozoic-aged, amphibolite grade metamorphosed sediments of the Arunta Inlier. Mineralisation is characterised by veinlets and disseminations of chalcopyrite in association with magnetite. In the oxide zone which is vertically limited malachite, azurite, chalcocite are the main Cu-minerals.
Drill hole	A summary of all information material to		
Information	the understanding of the exploration	Hole ID	Max_Depth NAT_East NAT_North NAT_RL AZ Grid Dip
-	results including a tabulation of the	KJC538	220.000 627,395.4 7,490,595.9 365.3 269.0 -60.3
	following information for all Material	KJC539	190.000 627,366.6 7,490,647.3 364.1 270.9 -63.0
	drill holes:	KJC540	160.000 627,350.0 7,490,697.0 363.7 268.9 -53.2
	<ul> <li>easting and northing of the drill hole</li> </ul>	KJC541 KJC542	160.000     627,338.0     7,490,725.0     362.5     270.2     -63.8       202.000     627,397.4     7,490,718.0     365.4     272.9     -62.7
	collar	KJC543	210.000 627,374.9 7,490,800.0 363.2 273.1 -66.9
	• elevation or RL (Reduced Level –	KJC544	226.000 627,374.9 7,490,800.0 363.2 268.1 -70.7
	elevation above sea level in metres) of	KJC545	120.000 627,377.2 7,490,774.4 363.5 89.3 -55.3
	the drill hole collar	KJC546	250.000 627,403.5 7,490,678.0 365.3 266.5 -68.1
	<ul> <li>dip and azimuth of the hole</li> </ul>	KJC547 KJC548	190.000     627,361.8     7,490,818.0     362.3     265.5     -62.1       172.000     627,358.5     7,490,729.1     363.6     90.6     -50.8
	down hole length and interception depth	KJC549	82.000 627,442.0 7,490,670.0 367.3 271.1 -61.5
	hole length.	KJC550	214.000 627,384.0 7,490,611.0 365.1 267.7 -65.9
	If the exclusion of this information is	KJC551	180.300 627,335.0 7,490,872.2 360.5 269.9 -71.9
	justified on the basis that the	KJC552	85.000 627,296.6 7,490,775.3 364.6 269.6 -50.4
	information is not Material and this	KJC553	110.000 627,317.1 7,490,774.9 362.5 270.3 -57.7
	exclusion does not detract from the	•	For mineralised intercept depths please see
	understanding of the report, the	_	Tables in the body of the report
	Competent Person should clearly explain		All drill holes are stored in the drill hole database, detailing drill hole collar location,
	why this is the case.		elevation or RL (Reduced Level – elevation
			above sea level in metres) of the drill hole collar,
			dip and azimuth of the hole at consistent points
			down hole, and hole length.
Data	In reporting Exploration Results,	•	This report references a Mineral Resource
aggregation	weighting averaging techniques,		Estimate and this item is not applicable
methods	maximum and/or minimum grade	•	No metal equivalents are used
	truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.		
	Where aggregate intercepts incorporate short lengths of high grade results and		
	longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical		



Criteria	JORC Code explanation	Commentary
	<ul> <li>examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	This report references a Mineral Resource Estimate and this item is not applicable
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>	Refer Figures 1, 2 and 3 in the report
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.	<ul> <li>This report references a Mineral Resource Estimate and this item is not directly applicable. The mineral resource considers all drilling within the Bellbird deposit area.</li> </ul>
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.	<ul> <li>Outcrop mapping of exploration targets using Real time DGPS.</li> <li>IP, Magnetics, Gravity, Downhole EM are all used for targeting</li> <li>Metallurgical studies are well advanced including recovery of the payable metals including Cu, Ag and Au.</li> <li>Deleterious elements such as Pb Zn Bi and F are modelled</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	The current report relates to an updated mineral resource as a result of confirmatory drilling and is ongoing



## **SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES**

(Criteria listed in section 1, 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>	<ul> <li>MA has undertaken limited independent first principal checks of the database.</li> <li>Historical technical reports accept the integrity of the database.</li> <li>The geological database is managed and updated by KGL Staff.</li> <li>Basic database validation checks were run, including checks for missing intervals, overlapping intervals and hole depth mis-matches. MA identified three drill collars as spurious, KGL staff corrected the errors.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The CP (Mr I.Taylor) visited site from the 1<sup>st</sup> to 3<sup>rd</sup>         November 2020 to review the geology, drill core         and field practices as part of the 2020 PFS and</li></ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The geological model is well understood at a deposit scale. Bellbird is interpreted as an original syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and some degree of structural remobilisation and enrichment.</li> <li>Geological logging, structural mapping and drill hole assays have been used in the establishment of a resource estimate. Validation has been carried out by KGL and MA competent persons.</li> <li>No alternative interpretations have been presented. Alternative estimation methods applied to density estimation had little effect on overall tonnes. Alternate estimation methods (ID² and NN) were run and performed as expected.</li> <li>Geological and grade continuity within defined domains appears well understood. Lithology and weathering were considered during the mineralsation domain interpretations</li> <li>Infill drilling by KGL since the January 2022 resource update have increased the confidence in grade and geology interpretations which are the basis for the mineral resource estimation.</li> </ul>
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 Bellbird deposits strike over 1.3 km. Within the structural corridor lie three defiend lodes ranging from approximately 200 m to 500 m in length, and plunge moderately North. Three mineralised structures lie in the hanging wall position of the main structure and two oblique lodes lie to the east of the Bellbird structure.



# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- 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-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg 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 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.

- Ordinary Kriging has been used as the interpolation technique to estimate the Mineral Resource. This method considered appropriate given the nature of mineralisation. All elements were estimated using ordinary kriging.
- Estimation was undertaken in Surpac 2022 (v7.5).
- Drill hole interecpts were flagged manually within Surpac with individual domain codes. The flagged drill hole intercepts were imported into LeapFrog, and three dimensional mineralisation wireframes created. Intervals were checked for inconsistences, split samples, edge dilution and mineralisation outside the interpretation. A separate table was created to store drill hole intercepts greater than 0.5% S. These intercepts were domained as stratabound mineralisation.
- The domain codes (for Cu and S) have then been used to extract a raw assay file from MS Access for grade population analysis (multi-element).
- Analysis of the raw samples within the Cu mineralisation domains indicates that the majority of sample lengths are at 1 m. Samples were composited to one metre honouring geological boundaries.
- Grade continuity analysis within Cu domains to define the mineralisation was undertaken. Where variograms could not be generated for a particular element, copper or lead variograms were considered.
- 3D experimental variogram modelling was undertaken using a nugget (CO) and two spherical models (C1, C2), occasionally one spherical model was sufficient. Nuggets ranged from reasonably low to high, between 0.19 and 0.48, and variogram ranges varied between 112 and 230 m
- Anisotropic ellipses are based on the strike and dip
  of the lodes and plunges were determined from
  variogram maps. Defined ranges and anisotropic
  ratios were graphically plotted in Surpac and
  displayed against the assay composites to ensure
  modelled parameters were reasonably
  orientated. Estimation utilised dynamic
  anisotropy based on local variations in domain
  orientation.
- The interpolations have been constrained within the mineralisation wireframes and undertaken in three passes with the mineralisation wireframes utilised as hard-boundaries during the estimation.
- The first pass utilised a search distance of 70 m and a minimum number of informing samples of 8, and a maximum number of informing samples



of 16. The second pass utilised a minimum of 6 and maximum of 13 samples, the search distance was doubled to 140 m. The third pass dropped the minimum to 4 and maximum to 8 samples and the restriction of samples per hole was lifted. Third pass maximum distance was 210 m. 44% of estimated metal (> 0.5 % Cu) is estimated in pass 1

- The company is not intending to recover Pb, Zn at this stage of the project. Ag and Au will report to the copper concentrate.
- The model includes an estimation of deleterious elements Bi, W, U and F, these elements may attract a penalty and rejection limits in the concentrate may apply. S for potential acid mine drainage characterisation is included in the block model.
- No specific assumptions have been made regarding selective mining units. However the sub-blocks are of a suitable selective mining unit size for either an open pit operation or underground mining scenario.
- A 3D model with a parent block size of 2.5 m (X) by 10 m (Y) by 5 m (Z) was used. The drill hole spacing in the deposit ranges from 12.5 m by 50 m in shallower parts of the deposit to the dominant 50 m by 50 m drill pattern. In order for effective boundary definition, a sub-block size of 0.625 m (X) by 5 m (Y) by 2.5 m (Z) has been used; the sub-blocks are estimated at the parent block scale.
- There is a moderate (> 0.5) corelation between Cu, Ag and S. Pb and Zn have a good correlation (0.8).
   Fe is associated with pyrite and magnetite and shows a moderate corelation (~0.5) with S. There is no corelation between F, U and W and the other elements.
- The geological model (grade domains and faults interpretations) were used to control grade estimation.
- High grade outliers (Cu, Pb, Zn, Ag, Au, Bi, F, U and W) within the composite data were capped. No capping was applied to Fe and S. Domains were individually assessed for outliers using histograms, log probability plots and changes in average metal content; grade caps were applied as appropriate. Generally the domains defined a well distributed population with low CV's (~1) and only minimal grade-capping was required.
- The resource has been validated visually in section and level plan along with a statistical comparison of the block model grades against the composite grades to ensure that the block model is a realistic



		representation of the input grades. No issues material to the reported Mineral Resource have been identified in the validation process
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 based on dry tonnes.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The resource is reported above 200 m RL and a 0.5 % Cu lower cut-off representing open pit potential mineralisation. Below 200 m RL the resource is reported at a 1 % Cu Cut-off reflecting an underground mining scenario. Assumed Copper price is A\$12,598/t (US\$4.00/lb), and assumed Silver price of A\$33.57/oz. and assumed Au price of A\$2,429/oz. Assumed payables are 95.5% Cu, 90% Ag &gt; 30 g/t and 90% Au &gt; 1.0 g/t in concentrate. Penalties for Bi in the concentrate may apply.</li> </ul>
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.	<ul> <li>The mineralisation above the 200 m RL (approximately 150 m below the surface) has been deemed to be potentially accessible by open cut mining methods. The deposit is a large steeply dipping syn-depositional copper deposit likely resulting in a high strip ratio.</li> <li>Mineralisation below the 200 m RL (approximately 150 m below the surface) is considered to have underground potential above a 1 % Cu cut off.</li> <li>No other mining assumptions have been used in the estimation of the Mineral Resource.</li> </ul>
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>No metallurgical factors have been applied to the in situ grade estimates.</li> <li>Metallurgical Recoveries for copper and silver are determined as functions of copper grade in oxide/transitional and sulphide ore. Recovery algorithms were updated in 2022 by Sedgman and are simliar to the 2020 algorithms.</li> <li>The company is not intending to recover Pb, Zn at this stage of the project. Ag and Au will report to the copper concentrate.</li> </ul>
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual</li> </ul>	<ul> <li>KGL is undertaking Kinetic test work to assess potential for acid mine drainage, preliminary results indicate most of the waste material recoverable by mining will have low potential to</li> </ul>



	1	
	economic extraction to consider the potential environmental impacts of the mining and processing operation. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>Sulphur has been estimated throughout the block model. Fe and S have been esitmated within the S domain and outside the sulphur domain (waste rock).</li> <li>It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities will be used for the process plant tailings.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Onsite measurements by water immersion method are only conducted on competent transitional and fresh core. Limited oxide samples have been taken. 4,406 density readings are matched to an assay value.</li> <li>Dry bulk density has been varied according to the weathering profile. Within Fresh material bulk density was estimated (OK) directly from density readings. A minimum of 5 samples and a maximum of 12 samples was used. In areas not filled with estimated density values, a linear regression of iron assays was employed; the calculated density data was then used in a second pass.</li> <li>Bellbird - the average modelled density of mineralised oxide material is 2.80 t/m³, transitional material is 2.80 t/m³, the high sulphide material averages 2.91 t/m³ and mineralised fresh material averages 2.88 t/m³</li> </ul>
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>	<ul> <li>Blocks have then been classified as Measusred, Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters.</li> <li>The above criteria were used to determine areas of implied and assumed geological and grade continuity. Classification was assessed on a per domain basis and resource categories were stamped onto the individual domains.</li> <li>Unclassified mineralisation has not been included in this Mineral Resource. Unclassified material is either contained in isolated block above cut off, too thin or in deep proportions of the deposit associated with isolated dill intercepts.</li> <li>The classification reflects the competent person's view of the Bellbird deposit.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	There has been a limited independent audit of the data performed by MA, there has been no independent review of the mineral resource.
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	<ul> <li>With further drilling it is expected that there will be variances to the tonnage, grade and contained metal within the deposit. The competent person does not expect that these variances will impact</li> </ul>



- deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.
- 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 economic assesment of the deposit.
- The mineral resource estimate appropriately reflects the competent person's view of the deposit.
- Geostatistical procedures (kriging statistics) were used to quantify the relative accuracy of the estimate. Consideration has been given to all relevant factors in the classification of the mineral resource.
- The ordinary kriging result, due to the level of smoothing, should only be regarded as a global estimate, and is suitable as a life of mine planning tool.
- Should local estimates be required for detailed mine scheduling, techniques such as Uniform conditioning or conditional simulation could be considered. Ultimately grade control drilling will be required.
- Minor historic mining has occurred on the Main Bellbird structure, records are insufficient to reconcile.