ASX Announcement

Jervois Resource Update

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23 March 2022

- Jervois Resource, indicated and inferred mineral resource estimate updated;
    - Comprising Reward, Rockface and Bellbird deposits;
    - Mineral Resource **tonnes increased by 20%** to 22.87 Mt;
    - **14% increase in contained copper metal** to 465.62 kt;
    - **Copper grade above 2%;**
    - **Silver metal up 12%** to 18.93 Moz.
- Increased certainty in the resource at Jervois:
    - **Indicated copper metal up 36kt** to 319.46kt;
    - **Indicated resource tonnes up 24%** to 13.83 Mt.
- Improved resource expected to extend mine life and improve Feasibility outcomes.

KGL Resources (**ASX:KGL**) is pleased to announce an update of the mineral resource estimate for the combined Jervois project. This estimate, unlike the previous estimate released in 2020, does not include the 2014 Reward South resources estimate as the Reward South deposit is not part of the Jervois project production schedule for the Feasibility Study.

This Jervois mineral resource estimate combines the updated estimates for Reward (announced on 10 January 2022), Bellbird (announced on 27 January 2022) and Rockface (announced on 7 March 2022).

Appended to this announcement is the long-form mineral resource report from Mining Associates Pty Ltd. The estimate is reported according to the JORC (2012) guidelines.

KGL Managing Director Simon Finnis comments:

> "It is good to see the Resource ore tonnage at Jervois grow by 3.8M tonnes, with increases across each of the three deposits. The processing plant has planned throughput of 1.6Mtpa so we anticipate this overall increase will result in a significantly enhanced mine plan. The addition of 56kt of copper metal (including 36kt of higher-confidence JORC Indicated category) to our inventory is welcome, and is a testament to the extensive drilling program and of 2021. I would like to thank all our team at Jervois whose hard work and diligence has made all this possible.
>
> Better continuity of the Resource delivered by the increased drilling density has lowered the grade slightly at Bellbird but improved the mining strategy and delivered significantly more copper.
>
> Although previously released to the market as each individual estimate became available, this release combines the three principal resource estimates underpinning the Jervois Copper Project. KGL made the decision not to include the previously reported Reward South mineral resource as it is not presently included in the Feasibility mine plan for the Project.
>
> "Incorporation of the new resource models into the mine plan for the Feasibility Study is well underway, and the Study remains on schedule for delivery in Q2, 2022"

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Results

Table 1 presents the latest mineral resource parameters for the Jervois Project.

Table 1. Jervois Mineral Resource Estimate 2022

Resource			Mineralised Mass	Grade			Metal		
	Area	Category	(Mt)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential > 0.5 % Cu	Reward	Indicated	3.84	1.80	39.4	0.31	69.06	4.86	38.2
		Inferred	0.65	0.92	9.2	0.07	5.91	0.19	1.5
	Bellbird	Indicated	2.03	2.20	13.1	0.16	44.55	0.85	10.5
		Inferred	1.44	1.36	9.3	0.15	19.50	0.43	6.9
	Sub Total		**7.95**	**1.75**	**24.8**	**0.22**	**139.06**	**6.33**	**57.1**
Underground Potential > 1 % Cu	Reward	Indicated	4.78	2.12	42.6	0.45	101.64	6.55	69.2
		Inferred	4.32	1.56	19.6	0.20	67.29	2.72	27.8
	Bellbird	Indicated	0.38	2.62	17.7	0.14	9.90	0.22	1.7
		Inferred	1.92	2.06	12.0	0.10	39.49	0.74	6.0
	Rockface	Indicated	2.80	3.37	21.4	0.23	94.31	1.93	21.1
		Inferred	0.73	1.92	19.0	0.18	13.97	0.45	4.2
	Sub Total		**14.93**	**2.19**	**26.3**	**0.27**	**326.57**	**12.60**	**130.0**
Sub Totals		Indicated	13.83	2.31	32.4	0.32	319.46	14.41	140.7
		Inferred	9.06	1.61	15.6	0.16	146.16	4.53	46.4
Total			**22.87**	**2.04**	**25.7**	**0.25**	**465.62**	**18.93**	**187.1**

* Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes.

When compared to the most recent previous estimate (2020)[1], the Jervois indicated and inferred mineral resource estimate delivers a 14% increase in contained copper metal to 465.6 kt (from 410.0 kt), and a 20% increase in resource tonnes to 22.87 Mt (from 19.07 Mt). Copper grade is reported at 2.04% and represents a 5% drop from 2.15% Cu. Figure 1 shows the progression of copper results from the past four Jervois mineral resource estimates (Reward, Bellbird and Rockface deposits only).

Gold and Silver

The mineral resource estimates show increased metal contents, in each precious metal, from the 2020 resource estimate to now. Figure 2 shows the progression of silver metal content and grade for the most recent three mineral resource estimates and Figure 3, similarly, for gold.

Does not include the Reward South resource estimate

Mineral resources are not ore reserves and do not have demonstrated economic viability.

Inferred resources have less geological confidence than 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.

[1] Comparison with previous estimates does not include the Reward South deposit

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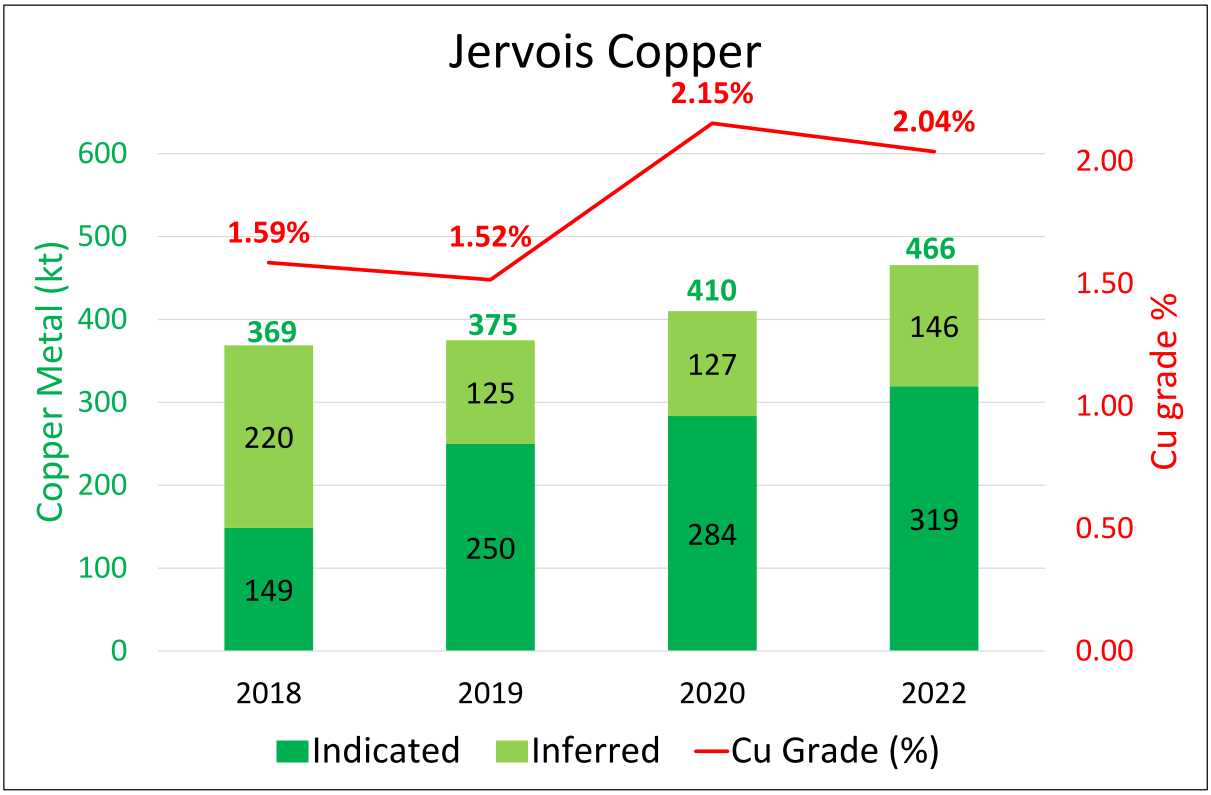

Figure 1: Showing the progression of Jervois copper mineral resource estimates from 2018 until the current estimate in 2022. The 2022 estimate provides a 14% increase in total copper metal and a 13% increase in Indicated copper metal compared with the 2020 estimate.

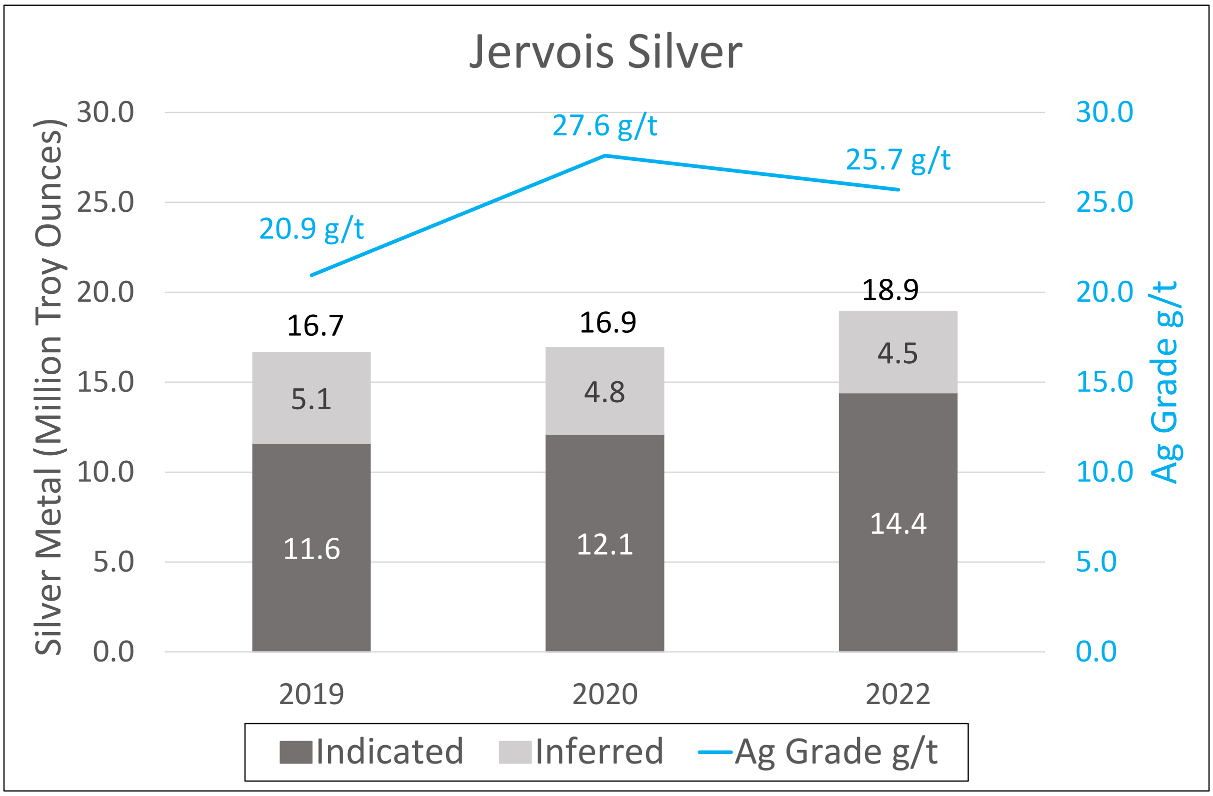

Figure 2: Showing the progression of Jervois silver mineral resource estimates from 2019 until the current estimate in 2022

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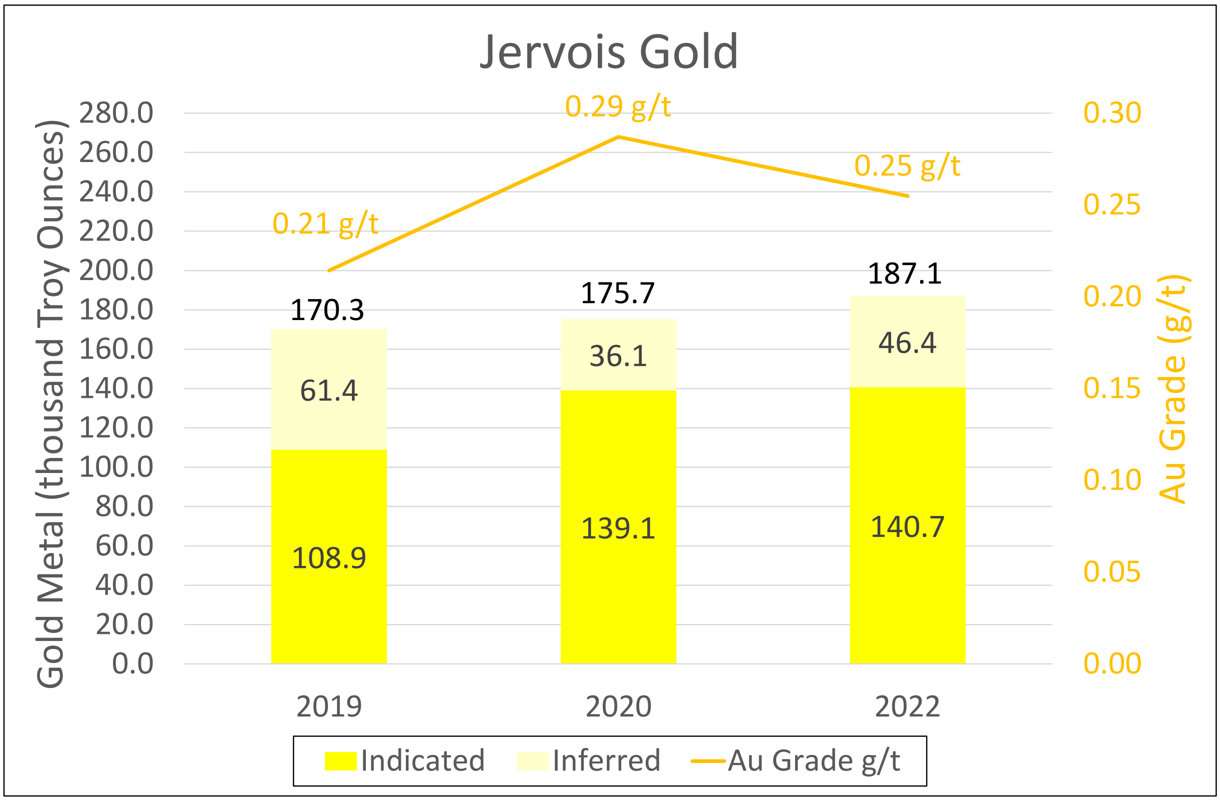

Figure 3: Showing the progression of Jervois gold mineral resource estimates from 2019 until the current estimate in 2022

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

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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 Member 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.

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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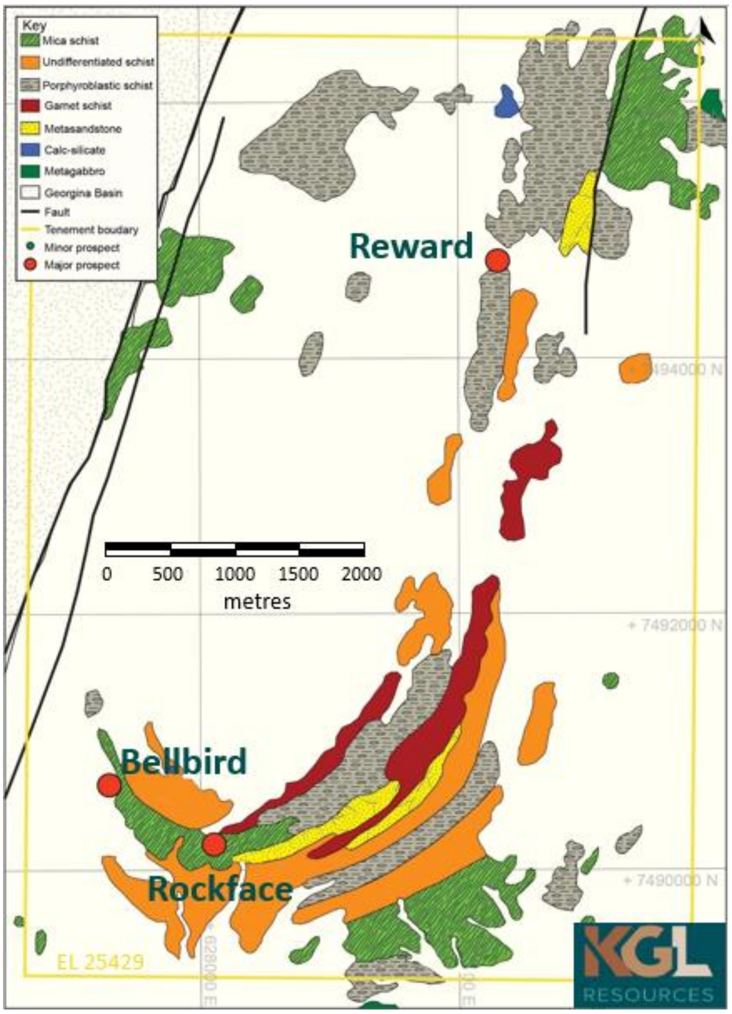
Mineral Resource Estimate, Reward, Bellbird and Rockface Deposits

Jervois Project, Northern Territory, Australia.



Prepared by Mining Associates Pty Ltd

for

KGL Resources

Author:
Mr I.A Taylor
BSc (Hons) MAusIMM(CP)

Effective Date:
Submitted Date:21 March 2022
Reference: MA2127-4-1

Caveat Lector

This Resource Report (Report) has been prepared for KGL Resources Limited (KGL) by Mining Associates Propriety Limited (MA), based on assumptions as identified throughout the text and upon information and data supplied by others.

The Report is to be read in the context of the methodology, procedures and techniques used, MA's assumptions, and the circumstances and constraints under which the Report was written. The Report is to be read as a whole, and sections or parts thereof should therefore not be read or relied upon out of context.

MA has, in preparing the Report, followed methodology and procedures, and exercised due care consistent with the intended level of accuracy, using its professional judgment and reasonable care. However, no warranty should be implied as to the accuracy of estimates or other values and all estimates and other values are only valid as at the date of the Report and will vary thereafter.

Parts of the Report have been prepared or arranged by KGL or third party contributors, as detailed in the document. While the contents of those parts have been generally reviewed by MA for inclusion into the Report, they have not been fully audited or sought to be verified by MA. MA is not in a position to, and does not, verify the accuracy or completeness of, or adopt as its own, the information and data supplied by others and disclaims all liability, damages or loss with respect to such information and data.

In respect of all parts of the Report, whether or not prepared by MA no express or implied representation or warranty is made by MA or by any person acting for and/or on behalf of MA to any third party that the contents of the Report are verified, accurate, suitably qualified, reasonable or free from errors, omissions or other defects of any kind or nature. Third parties who rely upon the Report do so at their own risk and MA disclaims all liability, damages or loss with respect to such reliance.

MA disclaims any liability, damage and loss to KGL and to third parties in respect of the publication, reference, quoting or distribution of the Report or any of its contents to and reliance thereon by any third party.

This disclaimer must accompany every copy of this Report, which is an integral document and must be read in its entirety.

Table of Contents

List of Tables

List of Figures

1 SUMMARY

Mining Associates Pty Ltd ("MA") was commissioned by KGL Resources Ltd. ("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 Reward, Bellbird and Rockface deposits which form part of KGL's Jevois Project is situatied within KGL's 100% owned Jervois Licences.

1.1 LOCATION AND OWNERSHIP

The Jervois Project is located in the Northern Territory, 275 km ENE of Alice Springs. (22.65°S and 136.27°E). The Jervois Licences are 100% owned by KGL subsidiary Jinka Minerals Ltd.

1.2 HISTORY

Mineralisation at Jervois was discovered in 1929 during cattle mustering. Small high-grade open pit mines exploited mostly oxide copper and lead-zinc mineralisation at Marshall-Reward, Green Parrot (since renamed Reward South) and Bellbird up to the early 1970's. A small open pit mine exploiting lead-silver mineralisation at Green Parrot operated for one year in 1982, owned by Plenty River Mining. Approximately 40,000 tonnes of oxide material was mined.

From the 1990's onwards renewed focus on exploration has incrementally increased sulphide resources at depth. KGL acquired the Jervois Project and Jinka Minerals Ltd, an unlisted exploration company, in 2011.

1.3 DATA USED

KGL supplied the drill hole database for Jervois, which included all drilling data and assays received up to 3rd February 2022. MA has accepted the database in good faith as an accurate, reliable and complete representation of the available data. The responsibility for quality control resides solely with KGL. MA performed routine validation of the data sufficient to justify the use in resource estimation.

1.4 GEOLOGICAL INTERPRETATION

The Jervois deposits (Reward, Rockface and Bellbird) occur within a folded succession of meta-sedimentary and meta-volcanic rocks. The exact origin of mineralisation is still debated and ranges from a metamorphosed and deformed sedimentary-exhalative deposit to a completely hypogene hydrothermal system. Ongoing work by KGL geologists indicates that there are two main styles of mineralisation: 1) lower grade 'stratabound' and 2) higher grade structurally controlled shoots representing both remobilised stratabound syngenetic mineralisation and a possible late tectonic intrusion-related mineralisation event.

1.5 MINERAL RESOURCE ESTIMATION

Based on the study herein reported, delineated mineralization of the Jervois Copper Project Resource is classified as an Indicated and Inferred resource according to the definitions from JORC (2012). Classification of the resources reflects the relative confidence of the grade estimates. Confidence with regard to the grade estimates is based on several factors, including but not limited to sample spacing relative to geological and geostatistical observations, the continuity of mineralization, past mining (historic), specific gravity determinations, accuracy of drill collar locations, quality of the assay data, and other factors.

The resource is reported above a depth of 200 m RL at a 0.5% copper cut off and below 200 mRL at a 1% copper cut off.

Resource			Material	Grade			Metal		
	Area	Category	Mt	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential > 0.5 % Cu	Reward	Indicated	3.84	1.80	39.4	0.31	69.06	4.86	38.2
		Inferred	0.65	0.92	9.2	0.07	5.91	0.19	1.5
	Bellbird	Indicated	2.03	2.20	13.1	0.16	44.55	0.85	10.5
		Inferred	1.44	1.36	9.3	0.15	19.50	0.43	6.9
	Sub Total		**7.95**	**1.75**	**24.8**	**0.22**	**139.06**	**6.33**	**57.1**
Underground Potential > 1 % Cu	Reward	Indicated	4.78	2.12	42.6	0.45	101.64	6.55	69.2
		Inferred	4.32	1.56	19.6	0.20	67.29	2.72	27.8
	Bellbird	Indicated	0.38	2.62	17.7	0.14	9.90	0.22	1.7
		Inferred	1.92	2.06	12.0	0.10	39.49	0.74	6.0
	Rockface	Indicated	2.80	3.37	21.4	0.23	94.31	1.93	21.1
		Inferred	0.73	1.92	19.0	0.18	13.97	0.45	4.2
	Sub Total		**14.93**	**2.19**	**26.3**	**0.27**	**326.57**	**12.60**	**130.0**
Total			**22.87**	**2.04**	**25.7**	**0.25**	**465.62**	**18.93**	**187.1**

*does not include Reward South deposit

* Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes

Mr I.A Taylor

Brisbane, Australia

Date:

2 INTRODUCTION

Mining Associates Pty Ltd ("MA") was commissioned by KGL Resources Ltd. ("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 Reward, Rockface and Bellbird deposits ("Reward", "Bellbird" and "Rockface") which form part of the Jervois Project and situated within KGL's 100% owned Jervois Licences.

The Mineral Resource statement herein was prepared in accordance with the terminology, definitions and guidelines provided by the Joint Ore Reserves Committees (JORC) of the AusIMM, the AIG and the Minerals Council of Australia as described in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition.

2.1 INFORMATION USED

This report is based on technical data provided by KGL to MA. KGL provided open access to all the records necessary, in the opinion of MA, to enable a proper assessment of the project and resource estimates. Readers of this report must appreciate that there is an inherent risk of error in the acquisition, processing and interpretation of geological and geophysical data, and MA takes no responsibility for such errors.

Additional relevant material was acquired independently by MA from a variety of sources. The list of references at the end of this report lists the sources consulted. This material was used to expand on the information provided by KGL and, where appropriate, confirm or provide alternative assumptions to those made by KGL.

The Competent Person (JORC Code 2012 Edition) for this Mineral Resource Estimate is Mr Ian Taylor. Mr Taylor is an Employee of MA. Mr Taylor has sufficient experience relevant to the re-mobilised syn-depositional style of mineralisation and deposits under consideration and to the activity which they have undertaken to qualify as a Competent Person as defined in JORC Code 2012 Edition.

2.2 CURRENT PERSONAL INSPECTION BY COMPETENT PERSONS

The current personal inspection of the property was carried out from the 1st to the 3rd of November 2020. Mr Taylor reviewed the geology, drill core and field practices and had lengthy discussions of the geological interpretation and drill hole data with KGL Chief Geologist, Mr J. Levings and staff geologists, Ms Z. Morgan and Mr A. Amiri.

2.3 RELEVANT CODES AND GUIDELINES

Where mineral resources have been referred to in this Report, the classifications are consistent with the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")", prepared by the Joint Ore Reserves Committee of the AusIMM, the AIG and the Minerals Council of Australia, effective December 2012.

Under the definition provided by the ASX and in the VALMIN Code, these properties are classified as 'Pre-development Projects', where a decision to proceed has not been made. The property is under investigation at the Feasibility Study level. Pre-Development Projects are inherently speculative in nature. The properties are considered to be sufficiently prospective, subject to varying degrees of risk, to warrant further exploration and development of their economic potential, consistent with the exploration and development programs proposed by the Company.

3 RELIANCE ON OTHER EXPERTS

A draft copy of this Technical Report has been reviewed for factual errors by the Company and MA has relied on KGL's knowledge of the Property in this regard. All statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this Technical Report.

4 PROPERTY DESCRIPTION AND LOCATION

The Jervois Project is located in the south-eastern part of the Northern Territory of Australia, approximately 275 km ENE of Alice Springs (Table 4-1). The Project is approximately centred on 22.65°S and 136.27°E.

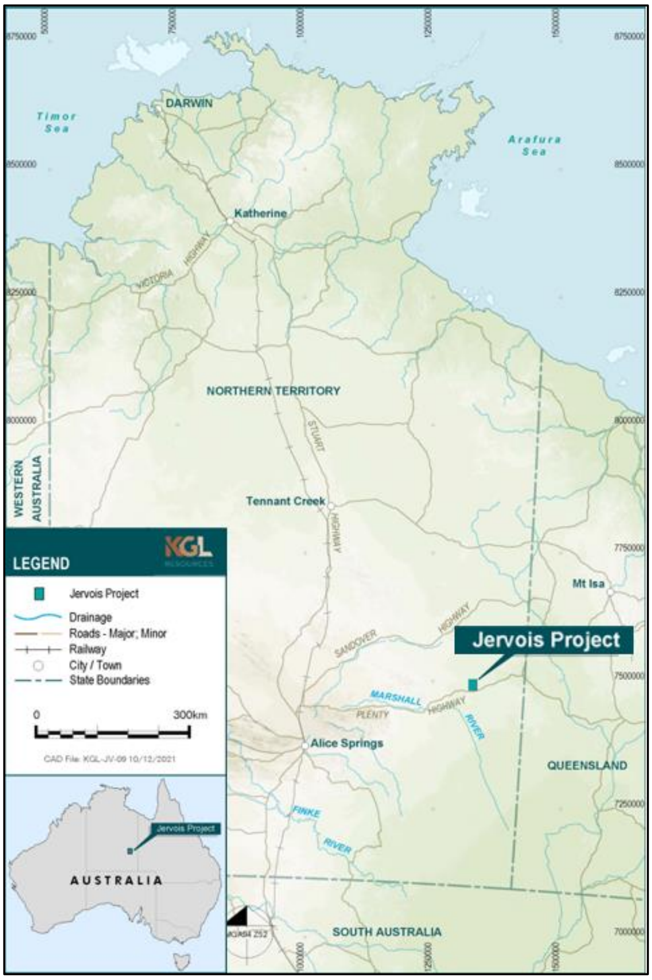


Figure 4-1. Regional Property Location

Map source: KGL website

4.1 PROPERTY TENURE

The Jervois Project area is covered by a three Mineral Leases and two Exploration Licences that are 100% owned by KGL subsidiary Jinka Minerals Ltd (JML) as detailed in Table 4-1. All mineral resources fall within the Mineral Leases (ML 30182 and ML 30829).

Table 4-1. Details of Jervois Project Tenure

Title ID	Status	Granted Date	Expiry Date	Holder	Holding %	Area Units	Area Measure
EL 25429	Granted	2/02/2007	1/02/2023	JINKA MINERALS LIMITED	100	12	blocks
EL 28082	Renewal	30/12/2010	29/12/2021	JINKA MINERALS LIMITED	100	23	blocks
ML 30180	Granted	28/01/2014	27/01/2034	JINKA MINERALS LIMITED	100	33.21	hectares
ML 30182	Granted	26/03/2014	25/03/2034	JINKA MINERALS LIMITED	100	481.7	hectares
ML 30829	Granted	18/08/2017	17/08/2032	JINKA MINERALS LIMITED	100	1438	hectares

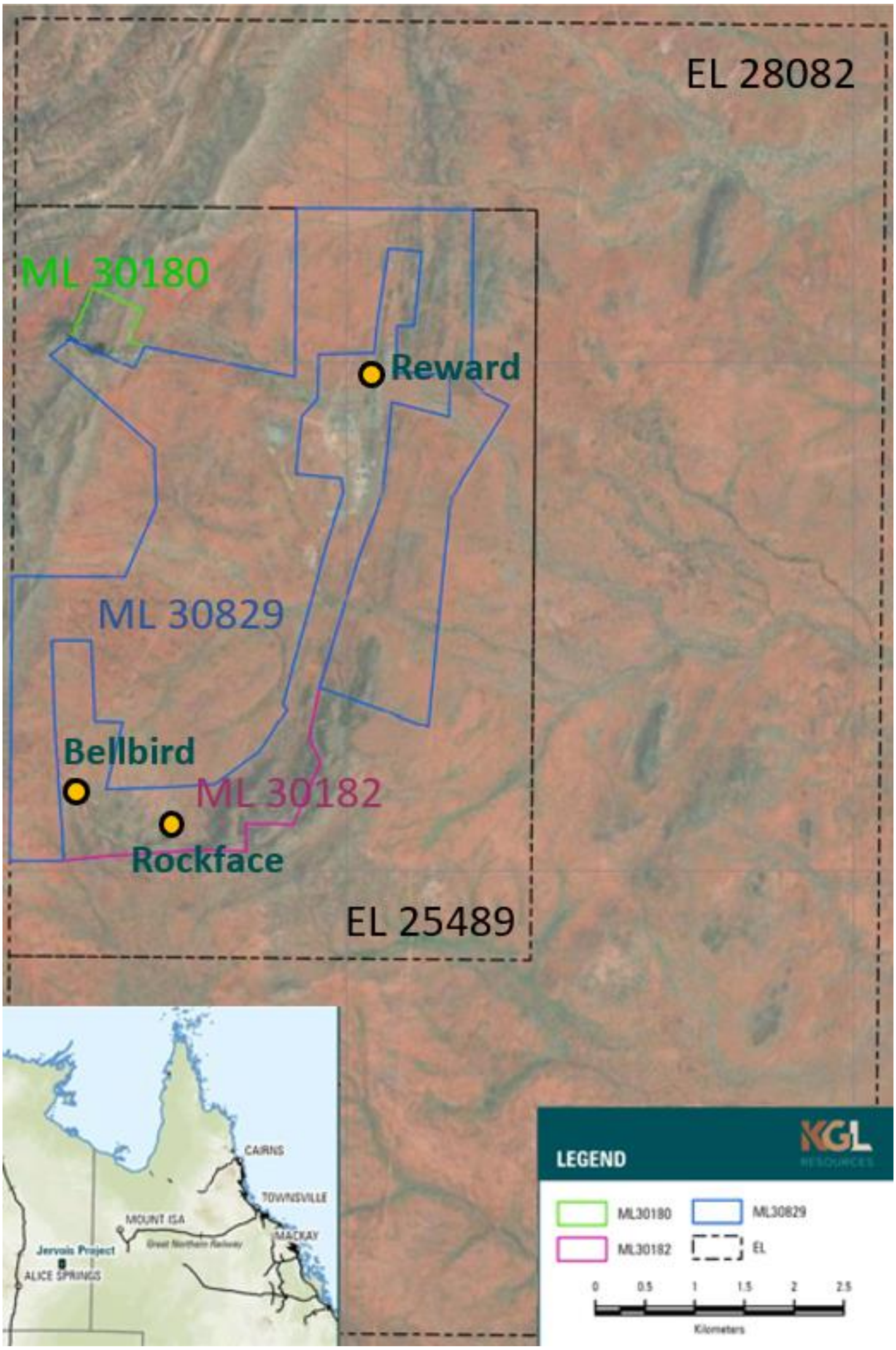


Figure 4-2. Tenement Map

Map source: KGL

5 ACCESSIBILITY, INFRASTRUCTURE AND CLIMATE

Jervois is accessed from Alice Springs via the Plenty Highway, a mostly unsealed graded road. Total road distance from Alice Springs is approximately 380 km.

Alice Springs is the third largest town in the Northern Tertiory. The town straddles the usually dry Todd River on the northern side of the MacDonnell Ranges. Alice springs has daily scheduled domestic flights from the Airport. Freight to and from Alice Springs is by road and rail.

The Project area has a subtropical hot desert climate similar to Alice Springs. The average maximum in summer of 36.5 C and an average minimum in winter of 5.1°C Alice Springs experiences an average 29 rain days (> 1 mm) per year, providing an average annual rain fall of 283 mm.(median rain fall is 238 mm). (BOM, 2022)

6 HISTORY

Mineralisation at Jervois was discovered in 1929 during cattle mustering. Small high-grade open pit mines exploited mostly oxide copper and lead-zinc mineralisation at Marshall-Reward, Reward South (previously known as Green Parrot) and Bellbird up to the early 1970's. A small open pit mine exploiting lead-silver mineralisation at Green Parrot operated for one year in 1982, owned by Plenty River Mining. Approximately 40,000 tonnes of oxide material was mined.

From the 1990's onwards renewed focus on exploration has incrementally increased sulphide resources at depth. KGL acquired the project in 2011 via the acquisition of Jinka Minerals Ltd, an unlisted exploration company.

6.1 PREVIOUS RESOURCE ESTIMATES

The most recent resource estimate (Table 6-1) for the Jervois deposits were undertaken by MA (Taylor, 2020) Previous estimates for the project by H&S Consultants were produced annually from 2011 to 2015 and 2019.

Table 6-1. June 2020 Resource Estimate for Jervois by MA.

Resource			Material	Grade (%)			Metal		
Area		Category	Mt	Copper	Silver	Gold	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential > 0.5 % Cu	Reward	Indicated	3.34	1.86	41.8	0.44	62.2	4.49	47.5
		Inferred	0.76	0.93	9.5	0.06	7.0	0.23	1.4
	Bellbird	Indicated	1.33	3.08	17.4	0.23	40.9	0.74	9.8
		Inferred	1.40	1.19	9.1	0.10	16.6	0.41	4.5
	Sub Total		6.82	1.86	26.8	0.29	126.7	5.87	63.2
Underground Potential > 1 % Cu	Reward	Indicated	3.69	2.22	42.8	0.51	81.8	5.07	60.2
		Inferred	3.50	1.48	26.8	0.18	51.7	3.01	20.7
	Rockface	Indicated	2.45	3.54	19.8	0.25	86.8	1.56	20.0
		Inferred	0.84	2.07	15.6	0.18	17.5	0.42	5.0
	Bellbird	Indicated	0.34	3.52	22.4	0.18	11.9	0.24	2.0
		Inferred	1.43	2.36	16.6	0.10	33.7	0.76	4.6
	Sub Total		12.24	2.31	28.1	0.29	283.3	11.07	112.4
Total			19.07	2.15	27.6	0.29	410.0	16.94	175.7

7 GEOLOGICAL SETTING AND MINERALISATION

7.1 REGIONAL GEOLOGY

Jervois is located on the northern margin of the Paleoproterozoic Aileron Province, adjacent to its faulted contact with Cambrian aged sedimentary rocks of the Georgina Basin (Figure 7-1). The Aileron Province comprises Palaeoproterozoic metasedimentary and meta-igneous rocks that formed as part of the North Australian Craton at ca 1.86–1.70 Ga (Weisheit, Reno, & Beyer, 2019). The oldest rock unit in the Jervois area, the Bonya Schist, is correlated with an extensive lithostratigraphic unit known as the Strangways Metamorphic Complex. Protoliths to the Strangways Complex are interpreted to have formed in a back-arc at the southern edge of the North Australian Craton with Bonya Metamorphics originally deposited in a continentally influenced basin.

Three major regionally significant tectonothermal events are interpreted to have affected rocks in the Aileron Province: the Stafford Event at ca 1.81–1.79 Ga, the Yambah Event at ca 1.78–1.77 Ga, and the Strangways Event at ca 1.74–1.69 Ga. These three events are linked to early collision, arc-related magmatism and collision/orogenesis respectively. A long period of quiescence and uplift followed the end of the Strangways Event until late Neoproterozoic times when the basal units of the Georgina Basin were deposited.

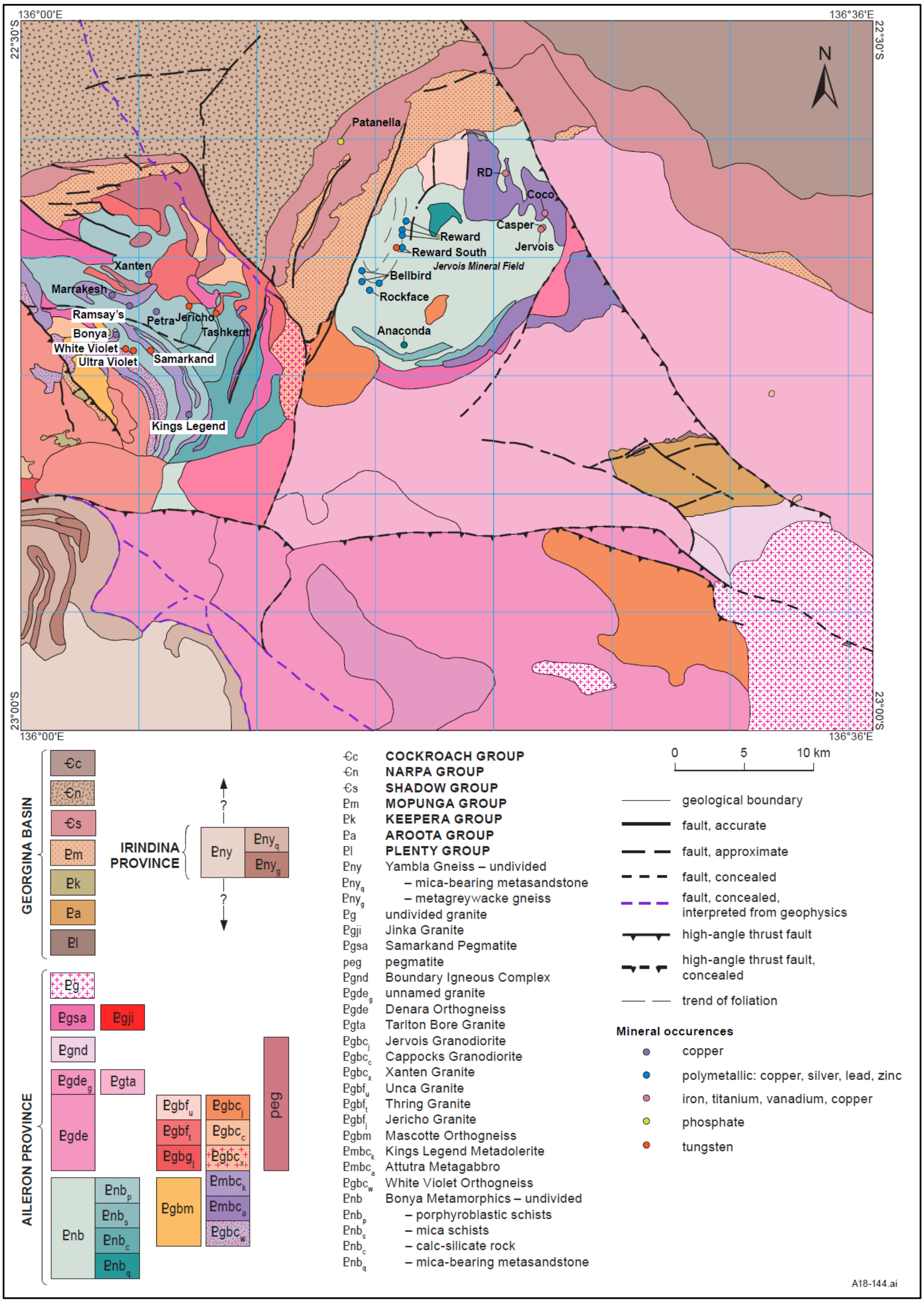


Figure 7-1. Regional Geology of Jervois area

Map source: Weisheit, Reno and Beyer (2019)

7.2 LOCAL GEOLOGY AND MINERALISATION

Local geology at Jervois comprises metasedimentary rocks of the Bonya Metamorphics folded into a distinct J-shaped north-plunging synformal structure that has its western limb terminated against a major fault (Jervois Fault). Bonya Metamorphics were intruded by mafic rocks of the Attura Metagabbro and leucogranite of the Unca Granite to the north and east of the area.

Bonya Metamorphics lithologies comprise meta-mudstones, meta-sandstone, meta-carbonate/calc-silicate group and minor aplites/pegmatites, tourmalinites and quartz-magnetite rock. Meta-mudstones are represented by a variety of quartz-mica schists with porphyroblasts of garnet, cordierite and/or andalusite. Meta-carbonates are represented by a wide variety of lithologies from 'pure' dolomite-calcite to epidote-calcite-qyartz-pyroxene-amphibole calc silicates. Some of the lithologies logged as meta-sandstone have been recently re-interpreted as meta-rhyolite on the basis of geochemistry (Schmid, Schaubs, & Otto, 2018).

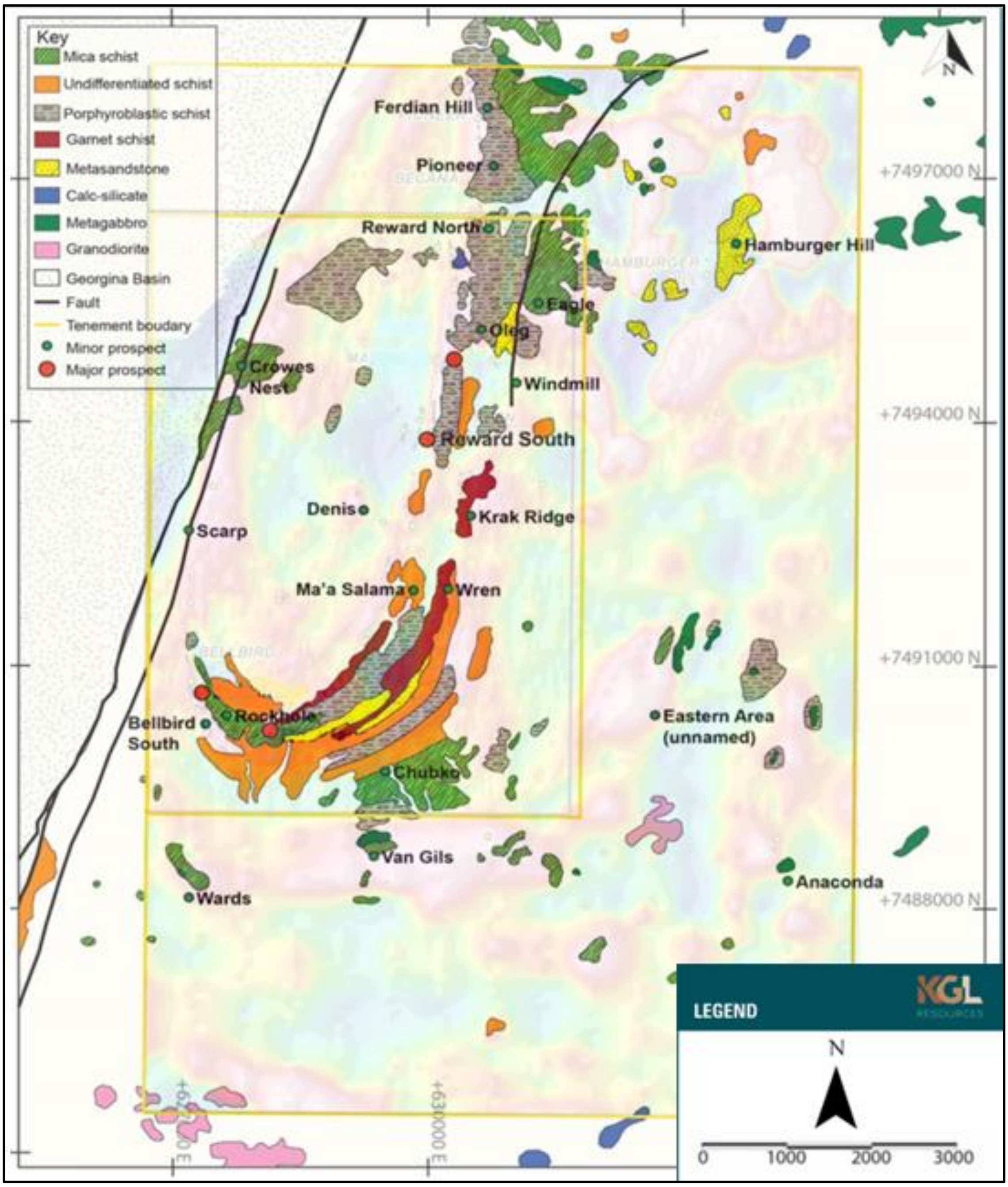


Figure 7-2. Jervois Area Local Geology, overlain Magnetics (RTP).

Source : KGL

Three main structural deformation are recognised in the area (Schmid, Schaubs, & Otto, 2018):

D1: Layer-parallel foliation and rare isoclinal folds

D2: Tight to isoclinal folding of bedding and S1 foliation, folding produces dominant structures at outcrop scale

D3: Open to close folding of D2 structures, map-scale 'J fold' in Jervois area. Late D3 dextral transpression along Jervois Fault interpreted as responsible for the formation of the J fold as a drag fold (Weisheit, Reno, & Beyer, 2019).

7.3 MINERALISATION

Cu-Ag-Pb-Zn mineralisation is hosted by various units of the Bonya Metamorphics, mostly occurring as massive to semi-massive layers of sulphides. Sulphides also occur associated quartz veins and as thin interlayers in meta-mudstone and calc-silicates.

The origins of mineralisation at Jervois are difficult to ascertain due to the effects of metamorphism and polyphase deformation. Weisheit et al (2019) and Schmid et al (2018) agree that the bulk of mineralisation developed in a sediment-dominated VMS style system during or soon after deposition the host rocks with minor syn-deformational remobilisation. Crowe (2016) interpreted textural features in drill core and thin sections as indicating that mineralisation was largely syn-D2 timing.

KGL work in 2019 recognised two main styles of mineralisation and alteration/metamorphic mineral assemblages: 1) Lower grade, primary syn-depositional or stratabound sulphides and 2) higher grade, structurally controlled shoots representing both remobilised stratabound syngenetic mineralisation and a possible late tectonic intrusion-related mineralising event.

7.3.1 Stratabound mineralisation

Syn-depositional sulphide ("stratabound") mineralisation occurs in two main element associations thought to relate to different stratigraphic horizons (Figure 7-3):

(a) Low tenor chalcopyrite plus Ag and minor galena, sphalerite and low tenor Au, hosted by disseminated magnetite-bearing quartzite or BIFs.

(b) Polymetallic mineralisation of galena, sphalerite, chalcopyrite and Ag, hosted in carbonaceous psammi-pelites and calc-silicates.

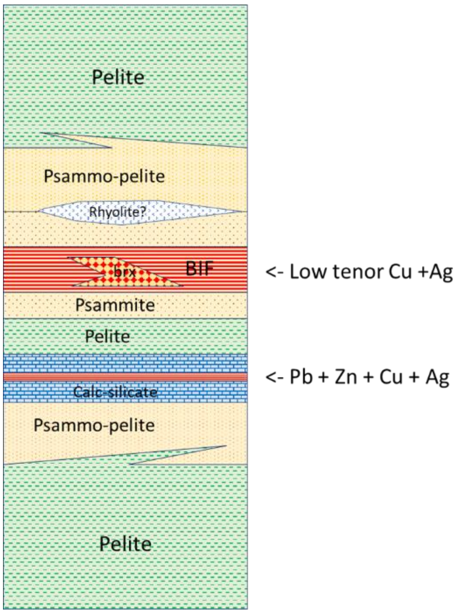


Figure 7-3. Schematic stratigraphy of Jervois showing different mineralisation styles

7.3.2 Structurally remobilised mineralisation

Deformation resulted in structural reworking and remobilisation of strata-bound base metal mineralisation. During late stage deformation and after peak metamorphism, granite intrusions provided the heat and fluids that remobilised Cu from primary (strata-bound) units, channelling them via reactivated fault zones into structural traps such as anticlinal fold hinges. A significant result is the observed concentration of sulphide mineralisation originally of strata-form disseminations, into local massive higher grade zones or shoots (Cu >1%, Ag >20 g/t and Au >0.3 g/t) – in particular chalcopyrite hosted in massive magnetite. Massive magnetite-chalcopyrite breccia seen at Rockface is typically associated with isoclinal fold hinges and the orientation of breccia shoots is parallel with the fold hinges, measured in both mapping and in 3D models. Similar high grades zones are seen at Reward Deeps, Reward Main and Marshall.

7.3.3 Oxidation

Oxidation due to surface weathering effects is relatively limited with essentially the oxidised zone being transitional from surface to base of oxidation (approximately 10 – 20 m). No significant zone of complete oxidation can be delineated within the mineralisation and KGL plan to mine and treat all copper mineralisation by a single process, accepting varying recoveries.

8 DRILLING

This and following sections refer to work completed at the Reward, Rockface and Bellbird prospects only. MA has not reviewed any data for the other Jervois prospects, such as Reward South and Cox's Find.

Since acquiring the project in 2011 and up until December 2021, KGL has extensiviely drilled the projects (Table 8-1). These figures do not include regional exploration shallow RAB drilling programmes or holes with failed validation in the same area.

Table 8-1. Jervois Project Summary holes and metres for Reward, Bellbird and Rockface.

	since 2020 MRE		Previous lease Holders		Total Holes	
Project	# Holes	Total (m)	# holes	Total (m)	# Holes	Total (m)
Bellbird	26	7,173	60	7,380	307	49,655
Reward	37	11,357	78	13,655	529	120,673
Rockface	13	10,870	6	778	147	61,396

8.1 DRILLING METHODS

For KGL drilling since 2011 most holes utilised a combination of RC pre-collars (5.25" face sampling bit) to a pre-determined depth above predicted mineralisation followed by diamond coring (wireline with dominantly HQ (63 mm) diameter with some NQ3 (45 mm) diameter). Pre-2011 hole diameter and drill type details are generally not recorded (NR) in the database. Table 8-2 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, DDC denotes child holes drilled from a pre-existing hole path by directional drilling methods. The total metres includes a portion of the parent hole metres in each child holes.

Table 8-2. Summary of drilling by project area and drill hole type

Project Area	Drill type	# Holes	Metres
Bellbird	UNK	17	2,566.8
	DD	51	10,855.8
	DDW	3	948.2
	RC	202	21,265.8
	RC_DD	34	14,018.7
Total		307	49,655.4
Reward	UNK	50	6,712.2
	DD	113	32,659.7
	DDC	7	4,535.5
	DDW	8	4,474.9
	RC	246	26,089.3
	RC_DD	116	49,124.5
Total		540	123,596.1
Rockface	DD	36	10,344.6
	DDC	28	20,964.6
	DDW	6	3,911.2
	RC	36	4,936.0
	RC_DD	41	21,239.8
Total		147	61,396.0

8.2 DRILL HOLE COLLARS AND SURVEY

Available historic drill holes and all drilling conducted by KGL have had collars surveyed by differential GPS. Previous work by KGL and H&S determined that some sets of historic collars were incorrectly located, and cross checking of recorded and actual locations resulted in some collar positions being changed. Details of the cross-checking process are given in Tear (2019). At Reward several historic drill hole collar locations recorded in the database could not be reconciled with newer drilling and a list of these are included in the 'data validation' section. During the site visit MA spot checked five drill collars three at Reward and two at Rockface, holes were picked up with hand held GPS and were within 5 m of recorded collars. One spurious hole at Bellbird (KJD470) was request by MA to be checked, the site geologists located the hole and resurveyed, the new collar location plotted mineralisation on the lode.

All drill collar locations are recorded using Map Grid of Australia (MGA) 94, zone 53 grid system.

8.3 DOWNHOLE SURVEYS

KGL drilling since 2016 has used a Reflex or Axis gyroscopic survey tool at 12 m intervals to determine dip and azimuth (in true north) of the hole. True north azimuth readings are converted to grid north (MGA94 zone 53) on import to the database. Gyroscopic surveys are used because magnetite alteration can cause significant deviation effects on magnetic compass survey readings.

For KGL 2014-15 drilling downhole surveys were taken with a Ranger or Reflex survey tool every 30 m. Check surveys were conducted using a Gyrosmart gyro and Azimuth Aligner at 10 m intervals which are used in preference in the database.

Historic drilling records indicated that for most holes several down hole surveys were completed at intervals ranging from 25 m to 50 m, but the downhole survey method is not recorded. Information for historic drill holes with JG, MP, PR, R and RJ prefixes suggests that there are no downhole measurements and an end of hole record that matches the collar orientation has been added.

8.4 RECOVERY AND QUALITY

Tear (2019) includes a detailed discussion on RC sample recoveries for KGL drilling between 2014 and 2019. No issues were noted with RC sample recoveries and no relationship was found between recovery and grade that might indicate a sampling bias. No RC drilling has been used to sample the main mineralisation since 2019.

Core recovery information was not available for diamond core drill holes prior to 2013. KGL diamond core drilling at Jervois from 2014 onwards (Figure 8-1) averaged 98.7% recovery and 73.1 RQD and there is no relationship between recovery and grade.

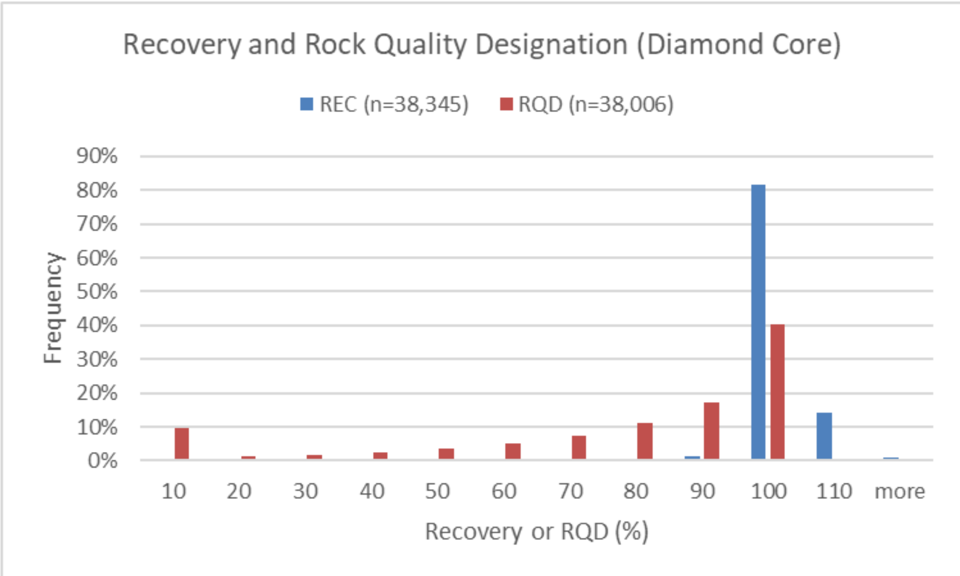


Figure 8-1: Drill Core and RQD Histogram

9 SAMPLE PREPARATION, ANALYSES AND SECURITY

9.1 SAMPLING PROCEDURES

KGL drillhole sampling is documented as procedure KMNT_Exp_SOP017 for RC drilling and KMNT_Exp_SOP018 for diamond drilling. Figure 9-1 shows the flowsheet describing core handling and sampling. 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.

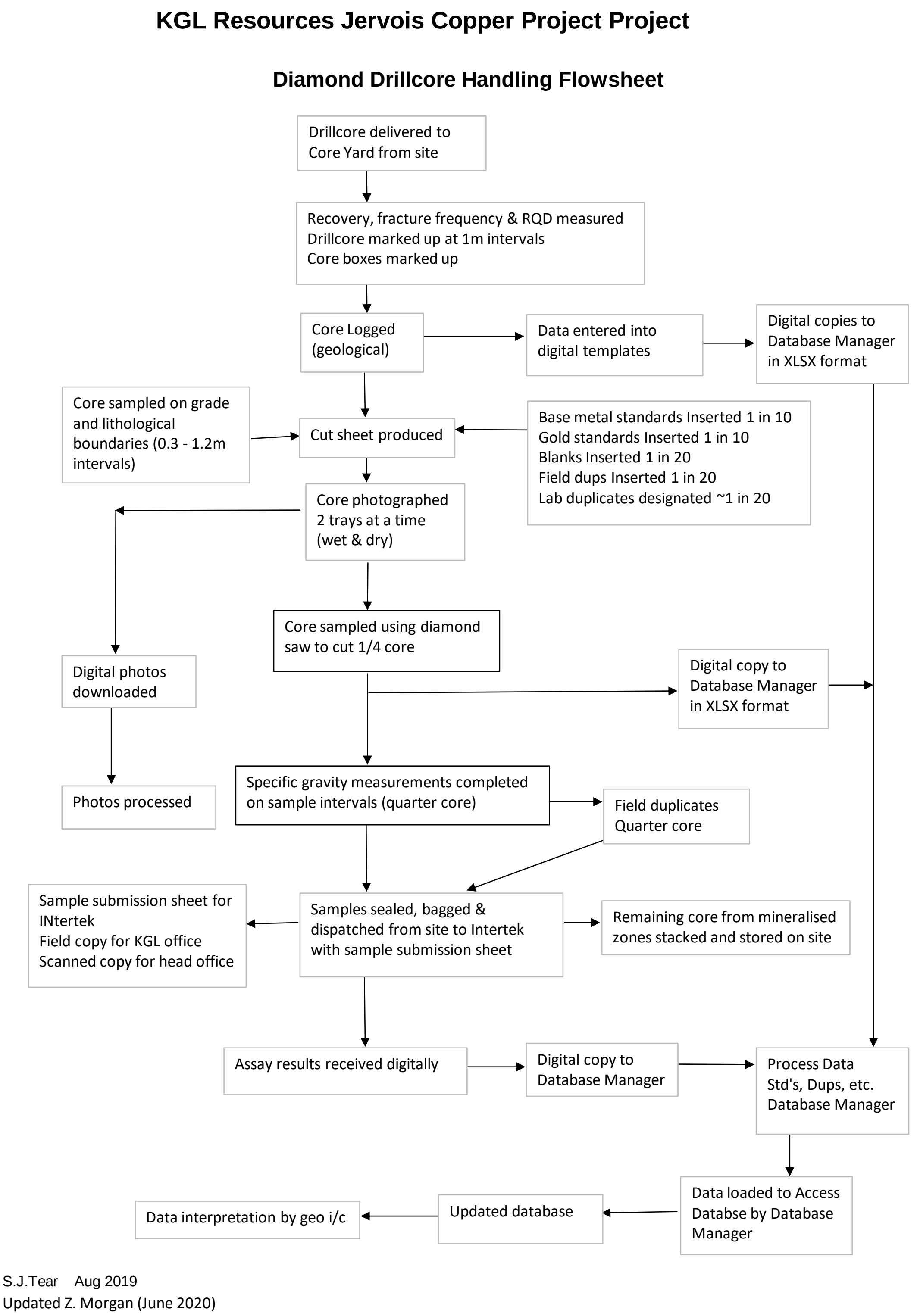


Figure 9-1. KGL flow chart for handling and sampling diamond core.

Previous reports (Tear, 2019) document sampling procedures for RC drilling. Since the last resource update for Reward, Rockface and Bellbird, no RC drilling has been used to sample the main zones of mineralisation.

9.2 SAMPLE PREPARATION AND ANALYSIS

Since mid-2015 KGL has sent all samples to Intertek laboratories in Alice Springs for sample preparation, from where they were forwarded to Intertek in Townsville for analysis. From 2011 to 2015 samples were sent to ALS Global in Townsville. Figure 9-2 shows a flow chart for sample preparation and analysis at Intertek.

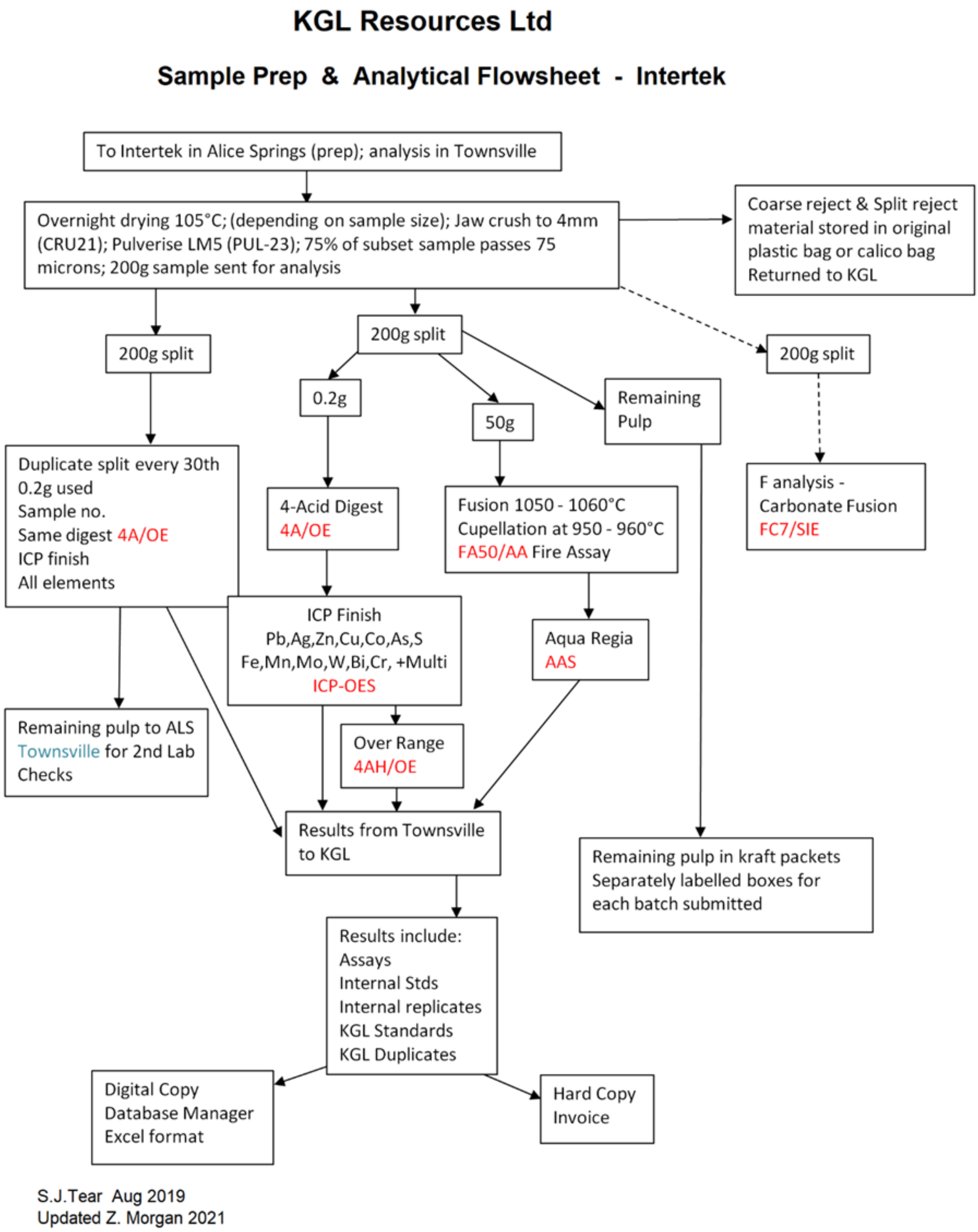


Figure 9-2. KGL analysis flow chart for all samples.

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.

9.3 SAMPLE QUALITY ASSURACE AND QUALITY CONTROL (QAQC)

Quality Assurance ("QA") concerns the establishment of measurement systems and procedures to provide adequate confidence that quality is adhered to. Quality Control ("QC") is one aspect of QA and refers to the use of control checks of the measurements to ensure the systems are working as planned.

The QC terms commonly used to discuss geochemical data are:

- Precision: how close the assay result is to that of a repeat or duplicate of the same sample, i.e. the reproducibility of assay results (of control samples (CS), eg blanks and duplicates)
- Accuracy: how close the assay result is to the expected result (of certified reference material (CRM)).
- Bias: the amount by which the analysis varies from the correct result.

In geochemical sampling quality control is achieved by the insertion of standards, blanks and duplicate samples at different stages of sample collection and preparation. Analytical precision is controlled by repeat assays internally and externally ('check' samples sent to another laboratory).

The following is a summary of "Jervois Project, Draft V5, Report on Quality Control for Quality Assurance of Analytical Results for Drill Samples" (Morgan, 2022)

KGL QC sample insertion protocols for diamond core sampling are as follows:

- Every drillhole sampling interval starts with a blank sample. After that:
- All QAQC samples have an insertion rate of 1 after every 5 original samples. This is broken down as listed below:
  - Certified Reference Material (CRM's) as Standards: 1 after every 5 original samples except for when replaced by blanks or field duplicates.
    - Base metal 1 after every 10 original samples – low or high grade depending on mineralisation estimate.
    - Gold: 1 after every 10 original samples
  - Control Samples (CS) as Field duplicates: 1 after every 20 original samples
  - Control Samples as coarse blanks: 1 after every 20 original samples, sourced marble pebbles from a quarry in South Australia.
- A second split of pulverised material is taken every 30th sample as a pulp replicate to check on sample homogeneity during pulverising.

Achieved insertion rates per year of CRM's and CS are shown in Table 9-1, KGL are following their QAQC procedures by inserting 1:5 QAQC samples, well above the industry normal practice of 1:20 samples.

Table 9-1. Annual insertion rates of Certified Reference Material and Control Samples

Year	Assays	Total CRM	Total CM	Ratio CRM	Ratio CM	Total Insertion Rate
2015	4064	412	596	1:10	1:7	**1:4**
2016	3628	149	187	1:24	1:19	**1:11**
2017	1912	155	174	1:12	1:11	**1:6**
2018	3908	364	417	1:11	1:9	**1:5**
2019-2020	6341	591	536	1:11	1:12	**1:6**
2021	5040	542	500	1:9	1:10	**1:5**

9.3.1 Blanks

Blanks submitted before 2014 were created from either white calcite or quartz pebbles purchased from a hardware store, it is reasonable to expect these samples to have little to no copper (< 10 ppm). Since 2014 the coarse blanks were pure marble from a South Australian quarry, there has been an improvement in blank results (Figure 9-3).

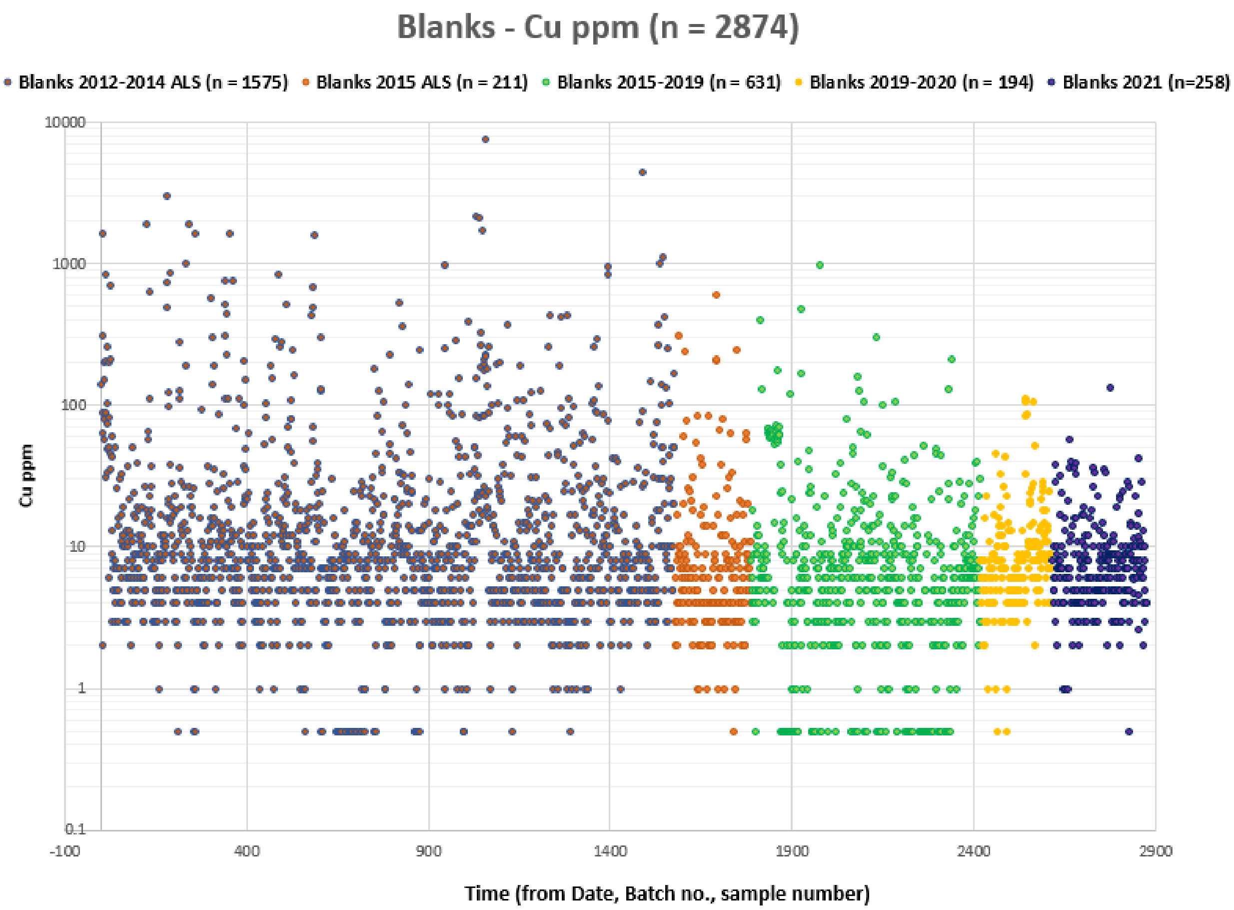


Figure 9-3. Blank assay results for copper, KGL drilling 2013-2021

Throughout the Projects history blank samples have indicated limited elevated copper values that represent low level "noise" either due to low level contamination in the sampleing and analytical process or inherent copper in the blanks. There is an improvement after 2014 when the blanks were sourced from a marble quarry.

A blank sample is considered a fail if it reaches 10 x the detection limit. The detection limit of the acid digest and OES finish is 1 ppm Cu. It appears that the copper blanks average 10 ppm (Figure 9-4) since 2017.

Blank copper readings of less than 100 ppm (0.01 % Cu) do not have a material effect on the resource grade. Blanks above 1000 ppm require action to rectify.

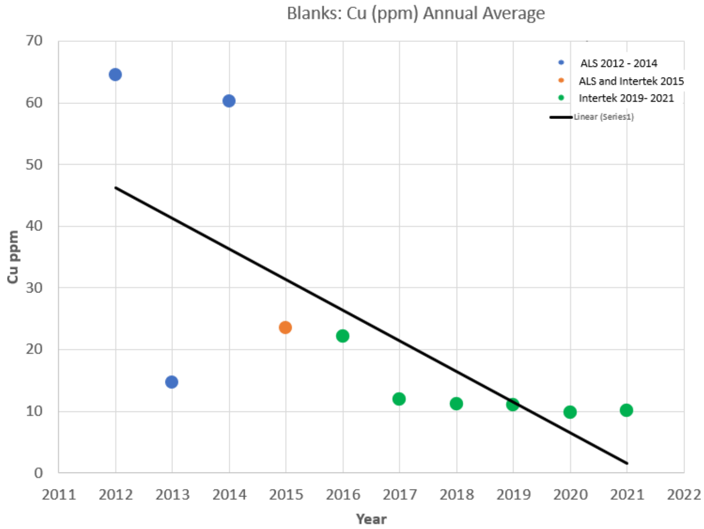


Figure 9-4. Average Annual Copper results for blanks per calendar year

9.3.2 Certified Reference Material

All CRM's are supplied by Geostats Pty Ltd in Perth, except one ORERES standard.

To test the precision of the laboratory's performance, the average returned CRM results are compared to the CRM's expected value, at the 95th confidence level. Table 9-2 shows a summary of standards sent to Intertek and their average performance. The low grade copper CRM (GBM310-1) perform within the 95% confidence level of copper and lead but not for silver. The higher-grade copper CRMs are under-called (GBM315-13) and overcalled (oreas932). Both silver CRMs return about 2.5% high compared to the expected value.

Table 9-2. Summary of results for analyses of standards by Intertek 2012-2015.

Element	CRM	Expected Value (ppm)	Std Deviation	Number of Analyses	Confidence Interval @ 95%	Intertek Average (ppm)	Percentage error	Result
Copper	GBM310-1	5,792	227	836	+/-33	5,816	0.41%	ok
	GBM315-13	12,565	399	116	+/-49	12,384	-1.44%	low
	oreas932	61,300	1,810	16	± 1400	62,925	2.65%	high
Silver	GBM310-1	19	1.5	836	± 0.2	19.5	2.63%	high
	GBM315-13	41.3	1.6	116	± 0.22	42.27	2.35%	high
Gold	G316-5	0.5	0.02	467	+/-0.004	0.49	-2.00%	low
Lead	GBM310-1	3,035	248	836	+/-38	3,031	-0.13%	ok

CRMs submitted to ALS between 2012 and 2015 all fall within the 95% confidence intervals (Table 9-3).

Table 9-3. Summary of results for analyses of standards by ALS 2012-2015

Element	CRM	Expected Value (ppm)	Std Deviation	Confidence Interval @ 95%	Number of Analyses	ALS Average (ppm)	Percentage Error	Result
Copper	GBM310-1	5,792	227	+/-33	392	5,820	0.48%	ok
Silver	GBM310-1	19	1.5	± 0.2	392	19.5	-99.66%	ok
Lead	GBM310-1	3,035	248	+/-38	392	3,049	0.46%	ok

Control charts for standards showing variation over the period 2012-early 2021 do not indicate a systematic bias from either ALS or Intertek for copper, silver or gold. There is evidence for increased variability in all analyses of standards analysed by ALS (2012-2014), less samples contained within the ±3 x standard deviation of certified values, a similar trend is seen in the post 2019 Intertek data.

GBM310-1 and GBM315-13 show an abrupt decrease in variability when Intertek took over analysis in 2015, variability has increased since 2019 likely an effect of a reduced or inexperience work force because of Government Mandated COVID19 isolations. CRM GBM310-1 shows a slight drift to a positive bias in copper (Figure 9-7) and silver results (Figure 9-7). GBM315-13 copper results show a negative bias with a recent small swing to a positive bias and then return a negative bias (Figure 9-9). Silver results have consistently shown a positive bias until recently when the results swung to a negative bias.

CRM OREAS 932 is a high grade copper standard, the CRM returns a slight positive bias within acceptable limits. MA notes OREAS certifies this standard for a large suite of elements and techniques. This CRM could be used to monitor Cu, Pb, Zn, Ag, Fe, S, Bi and W.

The analyses of CRM G316-5 fall within the ±2 x standard deviation band (Figure 9-11). A cyclic trend is apparent, results show a weak negative bias.

Since May 2019 results for standards analysed at Intertek have been consistent. GBM310-1 shows a slight increase in variability for copper(Figure 9-6), lead (Figure 9-5) and silver (Figure 9-7) over time. GBM315-13 copper results have minimal scatter and a weak negative bias (Figure 9-8). The same CRM's silver analysis show there's a weak positive bias (Figure 9-9). G316-5 gold results are quite cyclic (Figure 9-11) but remains within acceptable limits.

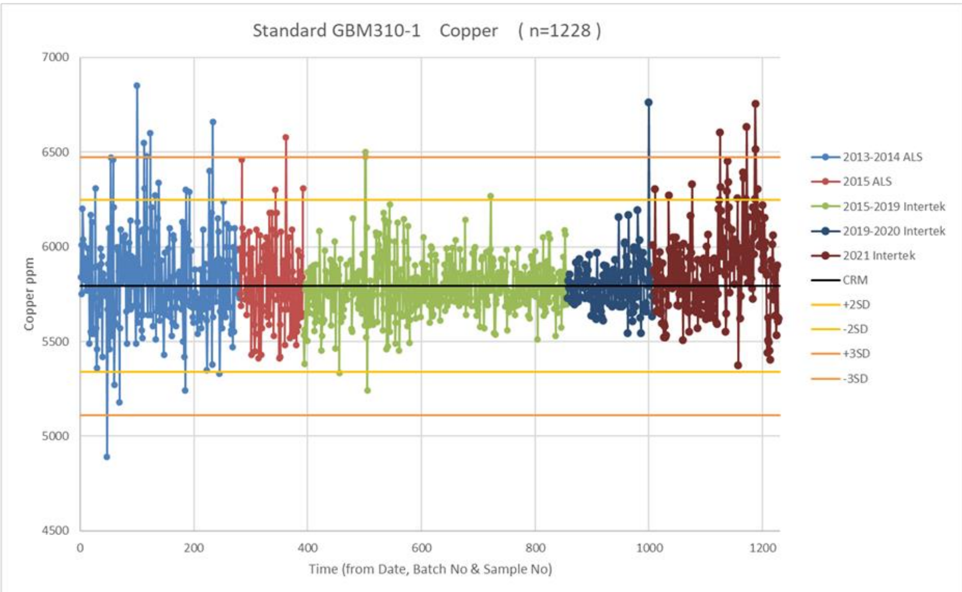


Figure 9-5. Control charts for GBM310-1 copper since 2013.

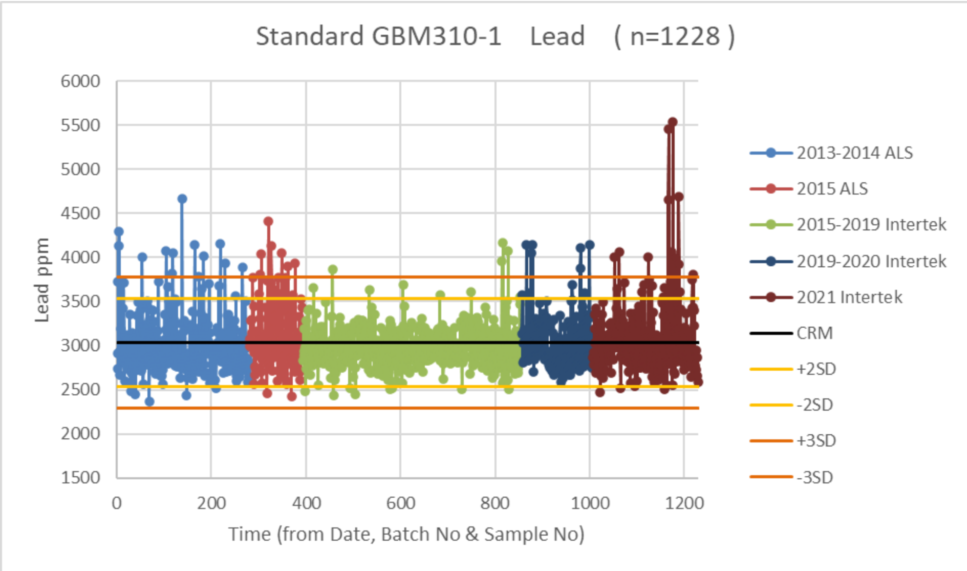


Figure 9-6. Control charts for GBM310-1 lead since 2013.

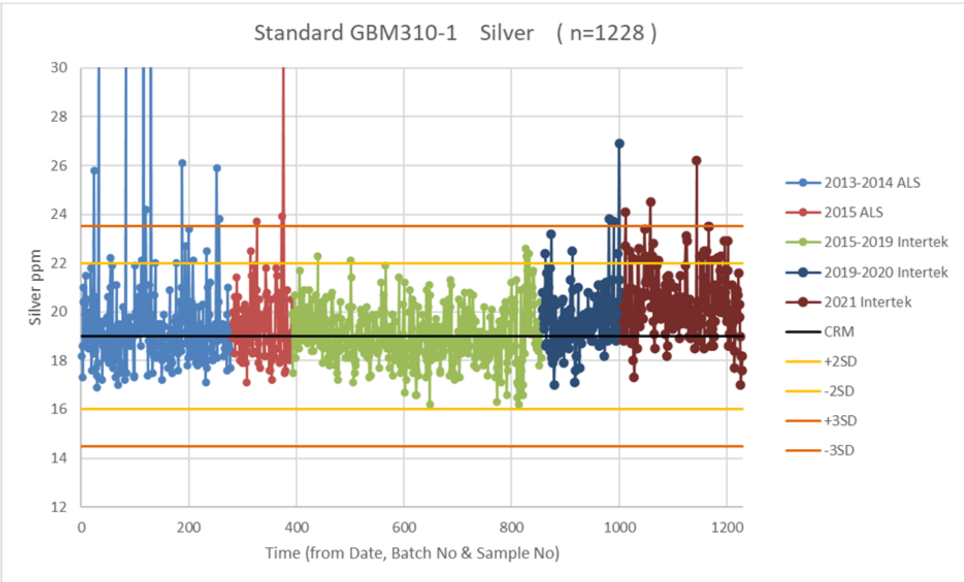


Figure 9-7. Control charts for GBM310-1 silver since 2013.

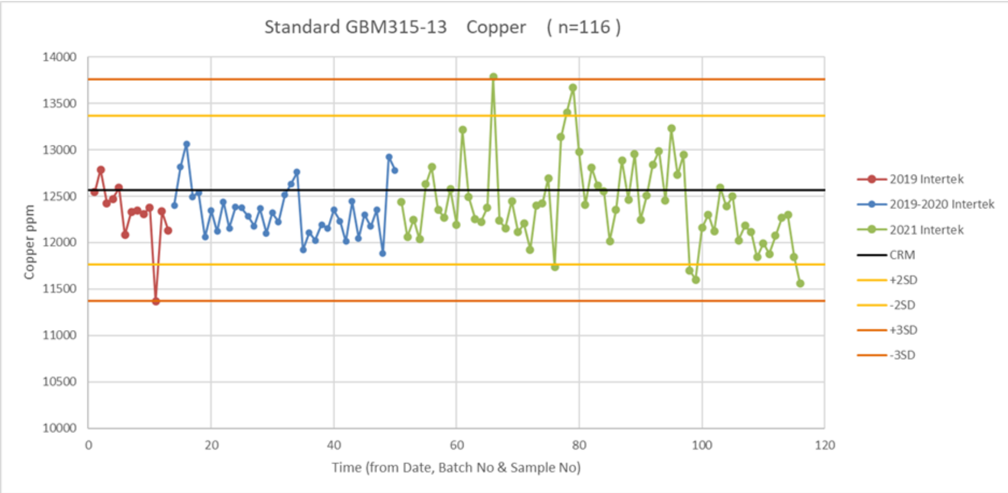


Figure 9-8. Control charts for GBM315-13 copper since May 2019.

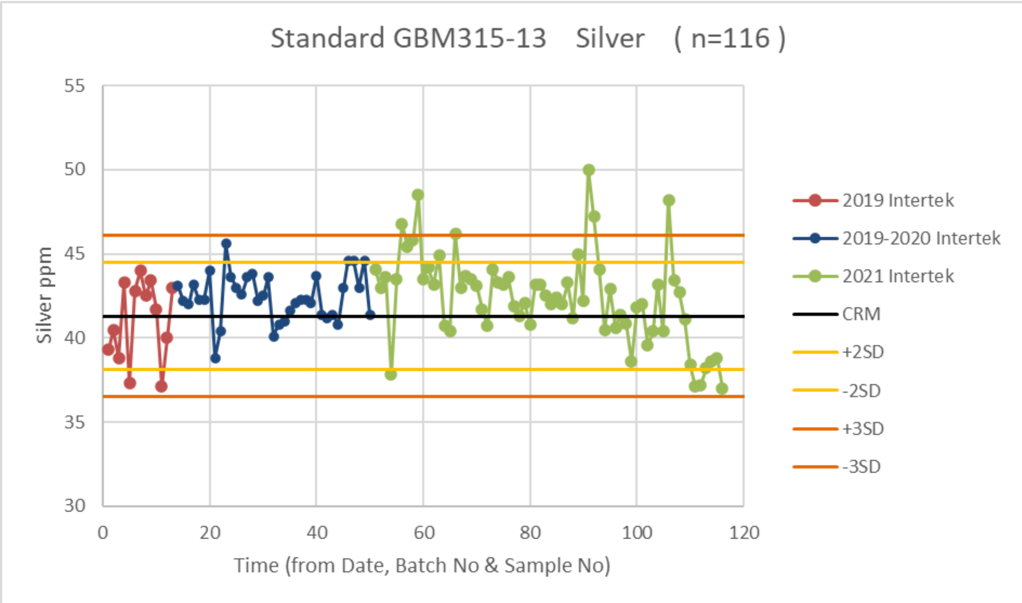


Figure 9-9. Control charts for GBM315-13 silver since May 2019.

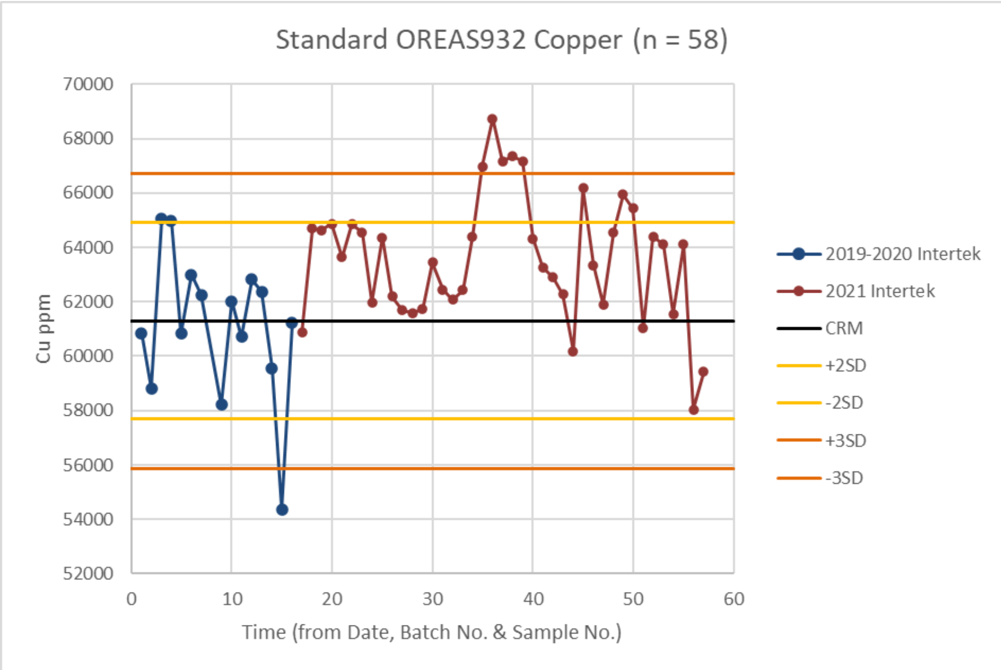


Figure 9-10. Control charts for OREAS 932 Copper since May 2019.

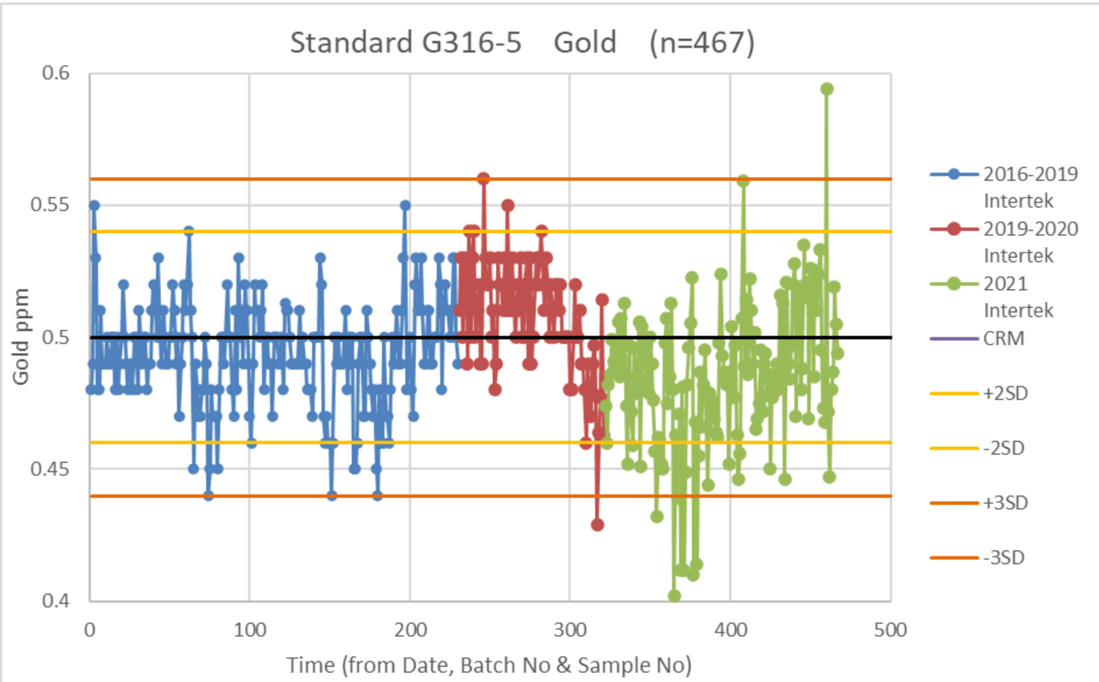


Figure 9-11. Control charts for G316-5 gold since May 2019.

9.3.3 Duplicates

Field duplicate sampling consisted of diamond core only during the 2020-2021 drill campaign, as no RC drilling was used to test mineral zones. Field duplicates were taken from HQ quarter core samples or NQ half core samples over the same interval as the original sample, usually, of around 1m. Prior drill campaigns included some RC field duplicates and NQ quarter core samples.

Figure 9-12 to Figure 9-14 show scatterplots of field duplicate pair results for copper, silver and gold. Results show that the majority of field duplicates fall outside +-10 % for copper and silver with no consistent bias or change in scatter between the drill programmes. The scatter is due to the fact that mineralization (copper sulpides) is often found as veins and in uneven grain sizes thus resulting in duplicates having an unequal distribution of sulphide minerals. Gold duplicates are more scattered, which is likely an effect of an even less homogenous distribution than the other elements.

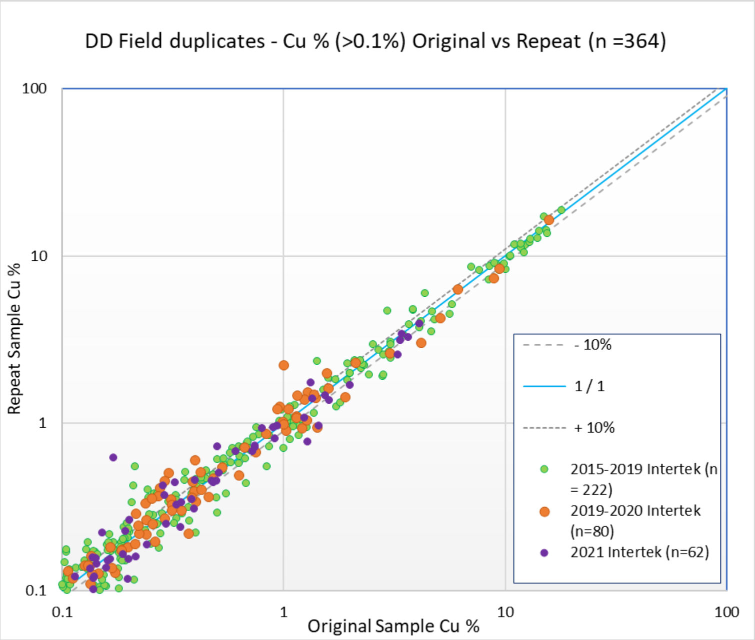


Figure 9-12. Scatterplot of field duplicate results for copper, 2016 -2021

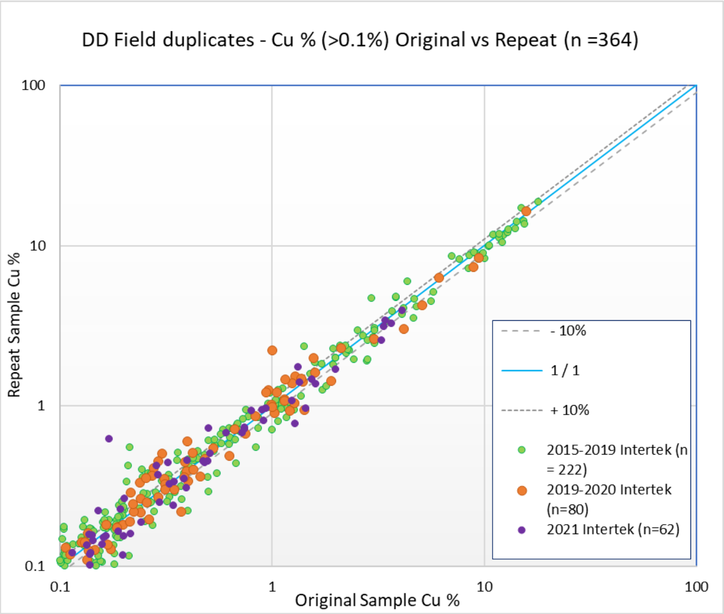


Figure 9-13. Scatterplot of field duplicate results for silver, 2016-2021.

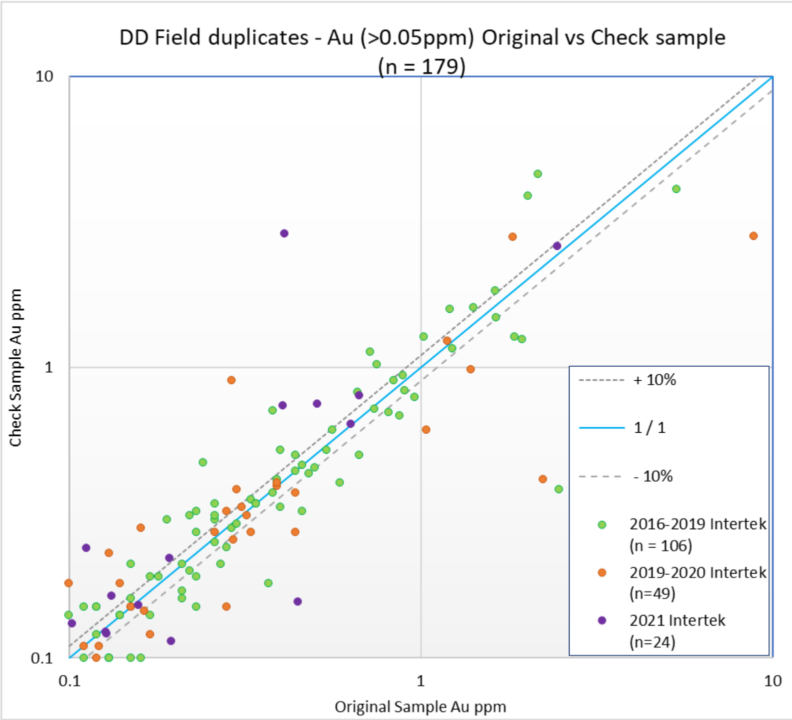


Figure 9-14. Scatterplot of field duplicate results for gold, 2016-2021

9.3.4 Pulp Replicates

Pulp replicate analyses for copper and gold both show very strong correlation (Figure 9-15), as would be expected and do not indicate any issue with laboratory pulp preparation and splitting. Silver replicates were not provided. Three copper samples from 2019 and one copper sample from 2020 show marked deviations from the trend and should have been queried at the time. The 2021 pulp replicate copper results show a significantly improved spread over previous years, in contrast to the QAQC (CRM) results which showed an increased spread during this time frame.

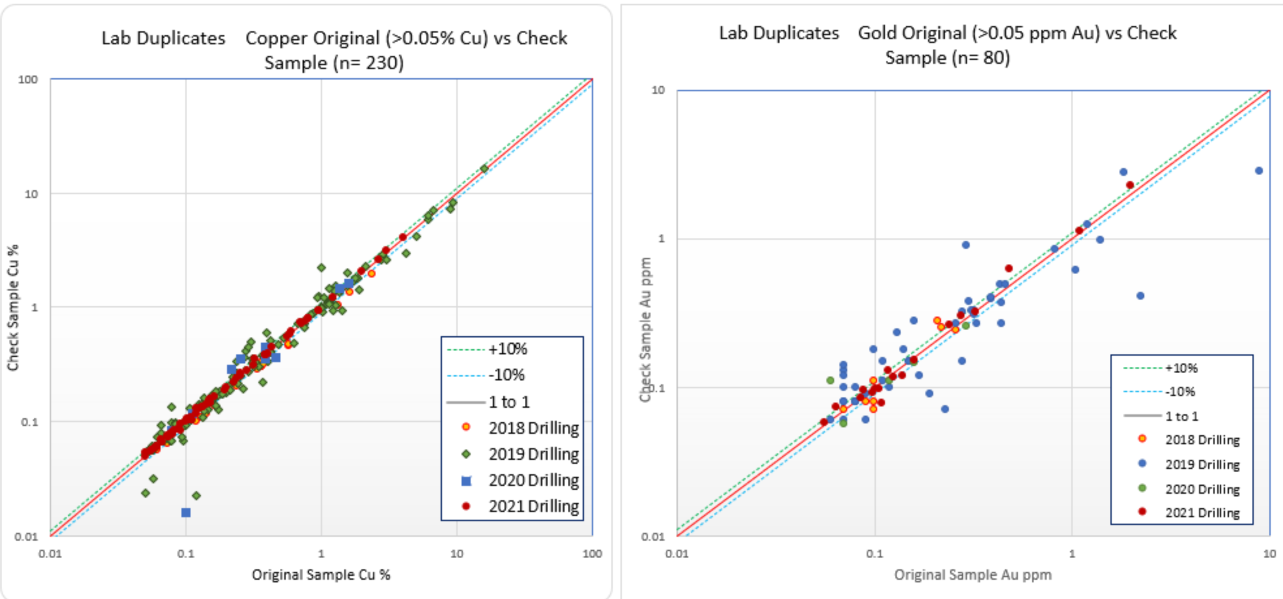


Figure 9-15. Scatterplot of pulp replicate results, copper and gold

9.3.5 Laboratory Replicates

Replicate analyses for copper, silver and gold (Figure 9-16, Figure 9-17, Figure 9-18 respectively) show very strong correlation as would be expected and do not indicate any issue with wet lab preparation and splitting. No analysis of laboratory replicates from the 2021 drilling campaign was undertaken by KGL.

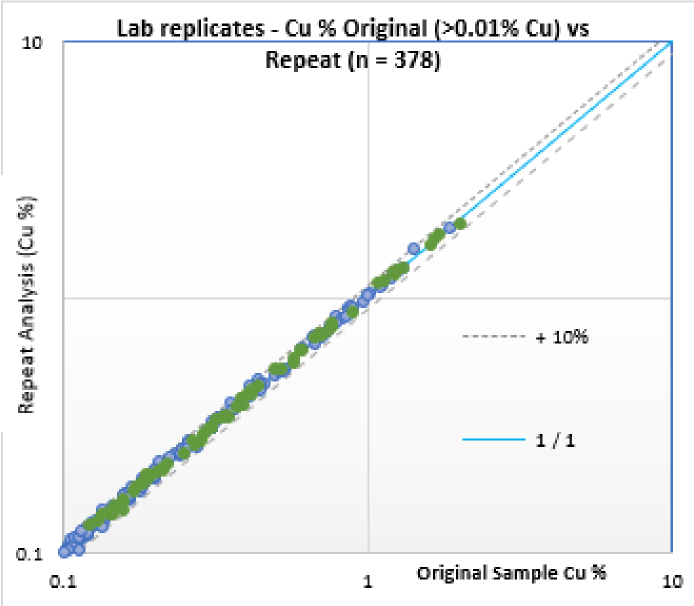


Figure 9-16. Scatterplot of replicate results, copper,

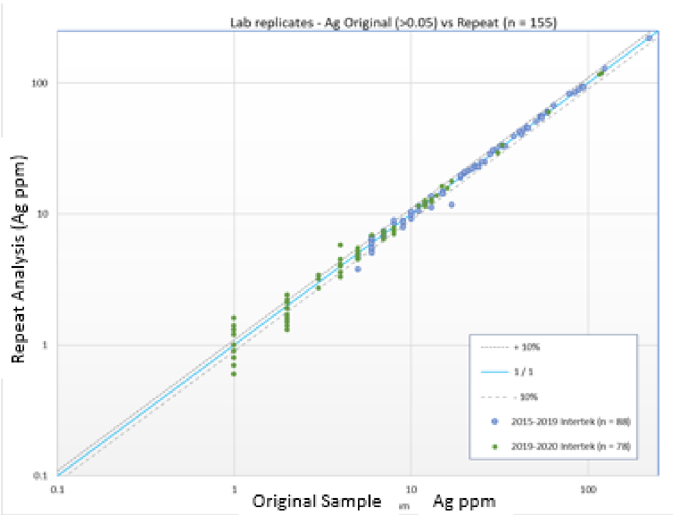


Figure 9-17. Scatterplot of replicate results, silver

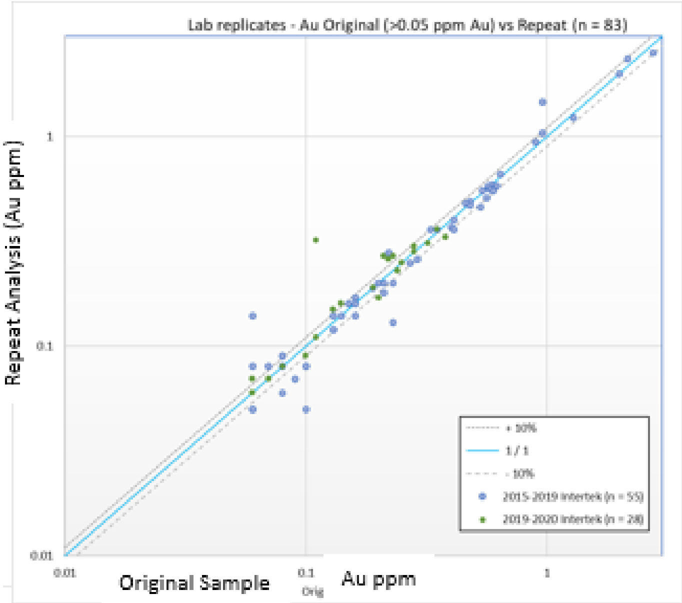


Figure 9-18. Scatterplot of pulp replicate results, gold.

9.3.6 QAQC Summary

Insertion of QC samples at the sample collection stage started in 2012 with KGL including coarse blanks, standards (CRMs) and field duplicates in sample batches from RC and diamond core drilling. Monitoring of QC sample analyses is undertaken on a drilling programme basis. The insertion rate is above industry normal, at a 1:5 ratio for all QAQC sample to routine samples; approximately 20% of the assaying budget is spent on analysing quality control samples.

Data for coarse blanks over time indicates that there has been minimal sample contamination at the preparation stage, importantly most analyses reported below 100 ppm (0.01%) copper.

CRM’s for copper, lead, silver and gold have performed as expected, with most results within an acceptable range. The variance in results across all CRMs and fail rates has increased during the 2020/2021 Government Mandated response to COVID19. The Mandates have reduced the size and experience of the available work force. It is expected that when the work force gets back to “normal” so too will the quality of the results. None of the standards’ analyses indicate any major problems with laboratory accuracy, though minor drifts in results do occur.

Field duplicate results from diamond core for copper show some scatter about +-10 %, with no consistent bias. The scatter seems consistent between drill campaigns, indicting no material change in sampling practice. MA considers the precision of duplicates to be as expected given the style of mineralisation and from using quarter core HQ and half core NQ samples. The results do not have a material impact on resource classification.

Pulp replicates show expected good to excellent correlation between duplicate pairs.

10 SUPPLIED DATA AND VERIFICATION

10.1 DRILL HOLE DATABASE

KGL supplied the drillhole database for the project and MA has undertaken validation checks to ensure the data is fit for the purpose of resource estimation. Data was delivered to MA in csv formatted tables and was compiled into an MS Access database. The Reward and Bellbird drill hole databases were closed on 1st

November 2021, the Rockface database was closed on the 3rd of February 2022. The responsibility for quality control ultimately resides with KGL, and they have been informed of all of MA's validation errors. Table 10-1 summarises drill the number of holes and drill metres, Diamond holes includes holes pre-collared diamond holes, pre-collar metres are included in the reverse circulation tally.

Table 10-1: Drill Hole Summary

Project Area	Drill Method	# Holes	# Metres
Bellbird	Not Recorded	17	4,479
	Diamond	88	16,343
	Reverse Circulation	202	28,120
Total		307	48,942
Reward	Not Recorded	50	13,851
	Diamond	233	49,820
	Reverse Circulation	246	49,229
Total		529	112,900
Rockface	Not Recorded	2	535
	Diamond	107	32,637
	Reverse Circulation	36	16,559
Total		147	49,731

10.2 DRILL HOLE VERIFICATION

For historic data MA was unable to undertake exhaustive data validation and the KGL data is accepted in good faith as being accurate and reliable. MA undertook basic database validation checks to ensure the data was fit for purpose.

Error checking for duplicate records, missing assays, extreme hole deviations and incorrect formats was undertaken as part of the Access database loading. The database was linked to the Surpac software, and an additional set of data validation checks was completed e.g. overlapping assay intervals and incorrect hole depths, etc. Drill holes were draped onto the lidar topographic survey and collar deviations noted, (generally ±0.2m), draped collar RL were used. Visual checks to the drill hole datasets were undertaken looking for mis-labelled deposit names and spurious collar locations. The quality of the supplied data was generally reasonable. Several requests were made of KGL for clarification of details for correction, clarifications were received, and corrections were made as appropriate.

The majority of drill hole data was in good order, with detected errors having been corrected during various iterations of resource modelling. Several historic downhole surveys that were likely affected by magnetic interference were detected by highlighting abrupt changes in azimuth readings downhole. These were either corrected or removed by KGL.

Validation of drill hole data acquired up to 1st November 2021 undertaken by MA resulted in all of RAB holes and 126 historic holes and 5 holes post 2008 being excluded from the Reward Resource estimate. The majority of rejected holes don't have recorded assay results. Table 10-2 lists the five excluded drillholes from post 2008 drilling at Reward. Table 10-3 lists the six holes post 2008 excluded from the Bellbird Mineral Resource Estimate. Twelve historic holes are excluded from the Bellbird area. Five historic holes were excluded from the Rockface Resource area, no recent drilling was excluded from the Rockface Resource area.

Table 10-2. Summary of drill holes at Reward excluded from mineral resource estimation.

HoleID	Drill Type	Error
RJ125	RC_DD	No Assays
RJ130	RC_DD	No Assays
RJ140	RC	No Assays
RD142A	RC_DD	No Assays
RJ205	DD	No Assays

Table 10-3. Summary of drill holes at Bellbird excluded from mineral resource estimation.

Hole ID	Drill Type	Error
GTD007	DD	Cu intercepts (1.9% and 1.5% Cu) outside lodes; hole stopped short of Bellbird Main Lode, so including it wont change interp.
JOC295	RC	Barren hole, steep lift compared to RJ224 and RJ022
RJ132	RC	No Assays
RJ178	DD	No Assays
RJ179	DD	No Assays
RJ225	DD	No Assays

10.2.1 Drill hole Database Summary

The drill hole database for Reward as supplied by KGL is summarised in Table 10-4. Bellbird database is summarised in Table 10-5 and the Rockface database is summarised in Table 10-6.

Table 10-4. Summary of the Reward deposit drill hole database.

Table Name	Description	No. of Holes	No. of records
Collar	Collar information associated with location	529	529
Collar Metadata	Collar information associated with drilling method and time	528	810
Survey	Down hole survey data	529	10735
Assays	Assay intervals	516	47499
Lithology	Logged rock descriptions	488	22579
Core Recovery	Measured core recovery for KGL drillholes	179	20240
Density	Specific gravity readings of core samples	196	14960
Alteration	Logged alteration mineralogy, intensity, style	307	7154
Mineralisation	Logged mineralisation mineralogy, intensity, style	183	1866
Structure	Interpreted structural domains	138	1575
Magsus	Magnetic susceptibility of core samples from hand held meter	440	93060

Table 10-5. Summary of Bellbird deposit drill hole database

Table Name	Description	No. of Holes	No. of records
Collar	Collar information associated with location	307	307
Collar Metadata	Collar information associated with drilling method and time	281	357
Survey	Down hole survey data	307	4643
Assays	Assay intervals	295	23067
Lithology	Logged rock descriptions	246	10507
Core Recovery	Measured core recovery for KGL drillholes	66	6194
Density	Specific gravity readings of core samples	69	4261
Alteration	Logged alteration mineralogy, intensity, style	169	3488
Mineralisation	Logged mineralisation mineralogy, intensity, style	63	558
Structure	Interpreted structural domains	50	446
Magsus	Magnetic susceptibility of core samples from hand held meter	237	35184

Table 10-6. Summary of Rockface drill hole database

Table Name	Description	No. of Holes	No. of records
Collar	Collar information associated with location	147	147
Collar Metadata	Collar information associated with drilling method and time	131	283
Survey	Down hole survey data	147	5287
Assays	Assay intervals	139	10299
Lithology	Logged rock descriptions	141	5411
Core Recovery	Measured core recovery for KGL drillholes	106	9008
Density	Specific gravity readings of core samples	105	8706
Alteration	Logged alteration mineralogy, intensity, style	108	3724
Mineralisation	Logged mineralisation mineralogy, intensity, style	109	1565
Structure	Interpreted structural domains	76	1273
Magsus	Magnetic susceptibility of core samples from hand held meter	136	47768

After correction of minor issues, MA has concluded that the drillhole database for the Jervois project is satisfactory and suitable for use in estimating a Mineral Resource.

10.2.2 Topography

Topography was provided as a 4 m grid file (Jervois_4m_dtm_xyz) based on a LiDAR survey obtained in December 2017. There are two small excavations apparent in the LiDAR data on the Marshall-Reward structure of the Reward Deposit. No excavations are apparent Rockface and the narrow shallow excavation at Bellbird is not detectable at the 4 m resolution.

10.2.3 Weathering

Depth of oxidation (weathering) is logged by site geologists and is stored in the Lithology table of the drill hole database. Weathering profiles were interpreted by MA based on logging. An additional weathering code is included to delineate areas of high sulphur copper ratios (greater than 1:4.5), high sulphur areas will likely have an impact on the concentrate grades.

10.3 CURRENT PERSONAL INSPECTION

The Project was visited by Mr Ian Taylor from 1st to 3rd November 2020 to review the geology, drill core and field practices and discuss geological models with the site geologists.

10.4 VERIFICATION OPINION

In MA's opinion, the geological data used to inform the Reward, Bellbird and Rockface resource estimates were collected in a manner consistent with industry accepted best practice. As such the data is suitable for use to define a Mineral Resource.

11 MINERAL PROCESSING AND METALLURGICAL TESTING

11.1 HISTORY OF TESTWORK AT THE JERVOIS PROJECT

Several companies and laboratories have been involved with the supervision and testing of the Jervois deposit ore samples since 2012. The test work programmes are summarised as follows:

- Dunstan Metallurgical Services (DMS) managed the 2012/2013 scoping programme of metallurgical testing conducted at ALS Metallurgy in Perth.
- AMEC supervised the process development and test work management for the 2014 Jervois pre-feasibility study. This work was carried out at ALS Metallurgy in Perth and included some investigation of bismuth removal methods from concentrates.
- In 2015 Minelogix managed a more comprehensive programme of work that included primary and transition copper ore from Reward, primary copper ore from Bellbird, copper/lead/zinc primary and transition ore from Green Parrot (renamed Reward South), and lead/zinc ore from Reward. The test work was conducted at ALS Metallurgy in Perth to support a 2015 Pre-feasibility Study (PFS).
- In 2016 Minelogix supervised a small programme of work at Auralia Metallurgy on a sample from the Rockface deposit using the flowsheet and conditions derived from the previous test-work conducted at ALS Metallurgy.
- In 2019, Sedgman supervised further metallurgical test work at ALS including additional comminution work and flotation work on three composite samples from within the mine schedule, a bulk composite, six variability samples from Rockface and one variability sample from Reward.
- Core Resources completed metallurgical test work in 2019/2020 investigating optimisation of regrind size with a view to maximising penalty element rejection.
- Core Resources completed metallurgical test work in 2021 focusing on sulphide copper ore treatment from six deposits; Reward Open Pit, Reward Underground, Reward Deeps, Bellbird, Rockface Main and Rockface North.

11.2 METALURCIAL RECOVERIES

KGL have commissioned metallurgical testing of multiple composite samples from the Jervois project during 2021. Mineral processing and metallurgical factors do not have a significant impact on the mineral resource estimate insomuch as they relate to the prospects of 'eventual economic extraction' under the JORC Code.

Recent test work (commenced in 2021 and ongoing) shows that sulphide samples from each of the major deposits responded well to a simple flotation scheme comprising of rougher, regrind and two-stage cleaning. Copper concentrate grades of between 26% and 33% could be produced with copper recoveries of 85% to 91%. The average concentrate grade was 30.6% copper, and the average copper recovery was 87.7%.

Metallurgical Recoveries for copper, silver and gold are determined as functions of copper grade in oxide/transitional and sulphide ore. Sulphide recovery curves for copper concentrates of 27% are shown in Figure 11-1. Transitional ores have a reduced copper recovery but improved Ag ad Au recovery Figure 11-2.

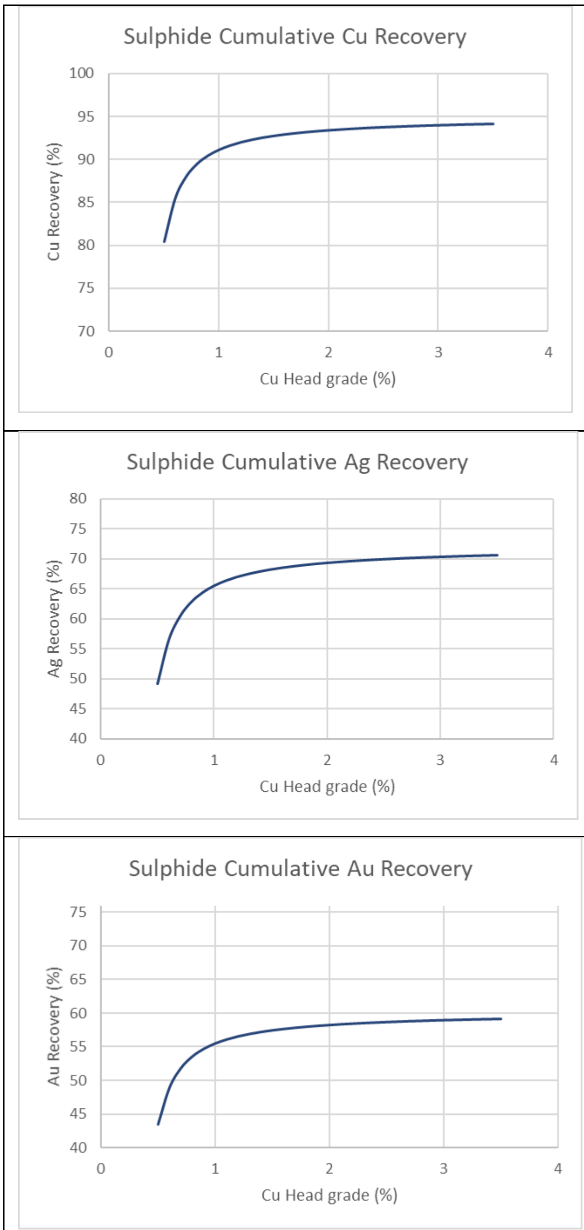


Figure 11-1. Recovery curves of Cu, Ag and Au for sulphide material

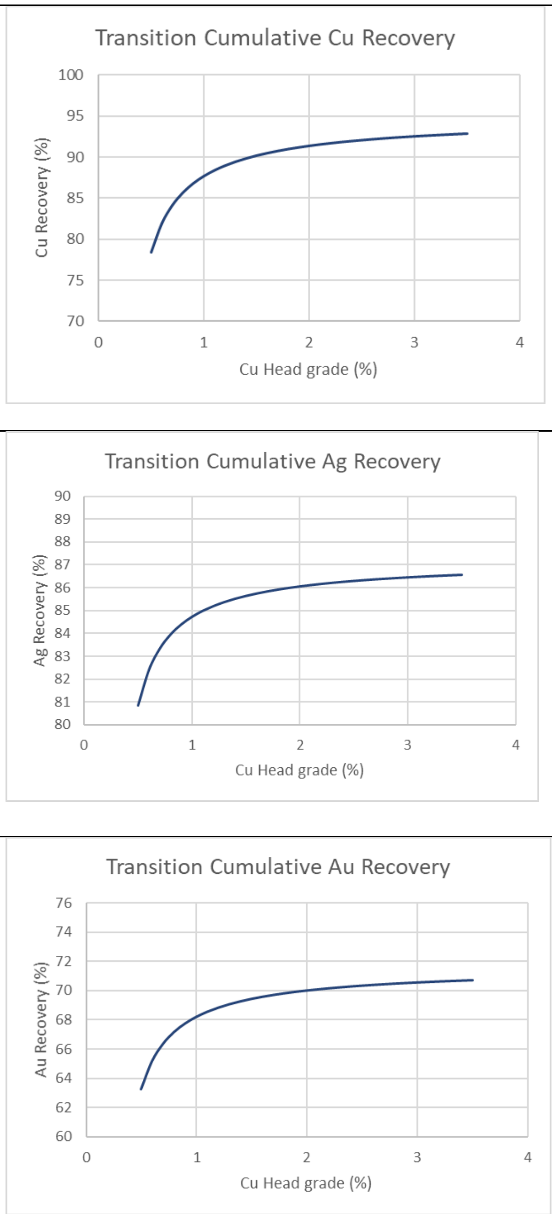


Figure 11-2. Recovery curves of Cu, Ag and Au for transitional material

The major flotation parameters for sulphide ores, established from the 2021 variability test work at a P80 of 125 µm, were as follows:

- 15 minutes of rougher flotation
- 10 minutes of cleaner flotation
- 8 minutes of recleaner flotation
- pH 9.0 in the rougher and both cleaner stages
- 125 to 265 g/t hydrated lime using Brisbane tap water (1130 g/t for site water when testing flowsheet confirmation composite)

The 2021 round of metallurgical test work has confirmed bismuth rejection using flotation is not viable due to the very fine-grained nature of the bismuth minerals. Leaching would be the only practical way of significantly reducing bismuth content in concentrate. Sulphidising of feed material (NaHS and PAX) will be necessary to enable higher recoveries for oxide and transitional ores. Historic test work has included sulphidising for treatment of these zones. Copper recovery losses are difficult to gauge but could be as high as 10% to 15% if sulphidising is not included.

Assumptions regarding the copper concentrate include payables of 95.5% copper price, 90% silver price above 30 g/t and 90% gold price above 1 g/t. No assumptions regarding lead or zind reporting to the concentrate are considered. Penalties for bismuth, flourine and uranium are considered. Bismuth attracts a penalty of US$1.5/t for every 100 ppm over 1,200 ppm up to 7,500 ppm. Flourine attracts a penalty of US$1.5/t for every 100 ppm over 400 ppm up to 7,000 ppm and Uranium attracts a penalty of US$1.0/t for every 1 ppm over 60 ppm up to 150 ppm. Note tonnes (t) are dry metric tonnes of concentrate.

Further advancements of the Resource Model could include sequential copper speciation allowing more robust recovery algorithms to be developed, as Acid Soluble or Cyanide Soluble Copper terms could be included in the equations.

12 MINERAL RESOURCE ESTIMATE – REWARD

12.1 GEOLOGICAL INTERPRETATION

Reward is interpreted as an original syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and a 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 breccia style structures.

Interpretation of higher-grade zones is based primarily on geological logging supported by abrupt changes in copper and/or silver and/or gold grades. High grade structural shoots are characterised by coarser grained sulphides and magnetic-sulphide breccia. Intervals encompassing high grade shoots were modelled using Leapfrog software with an anisotropic component conforming to the plunge of measured F2 fold hinges.

Cross sections of the interpreted implicit models for Marshall shoot and Deeps South are shown in Figure 12-1 and Figure 12-2.

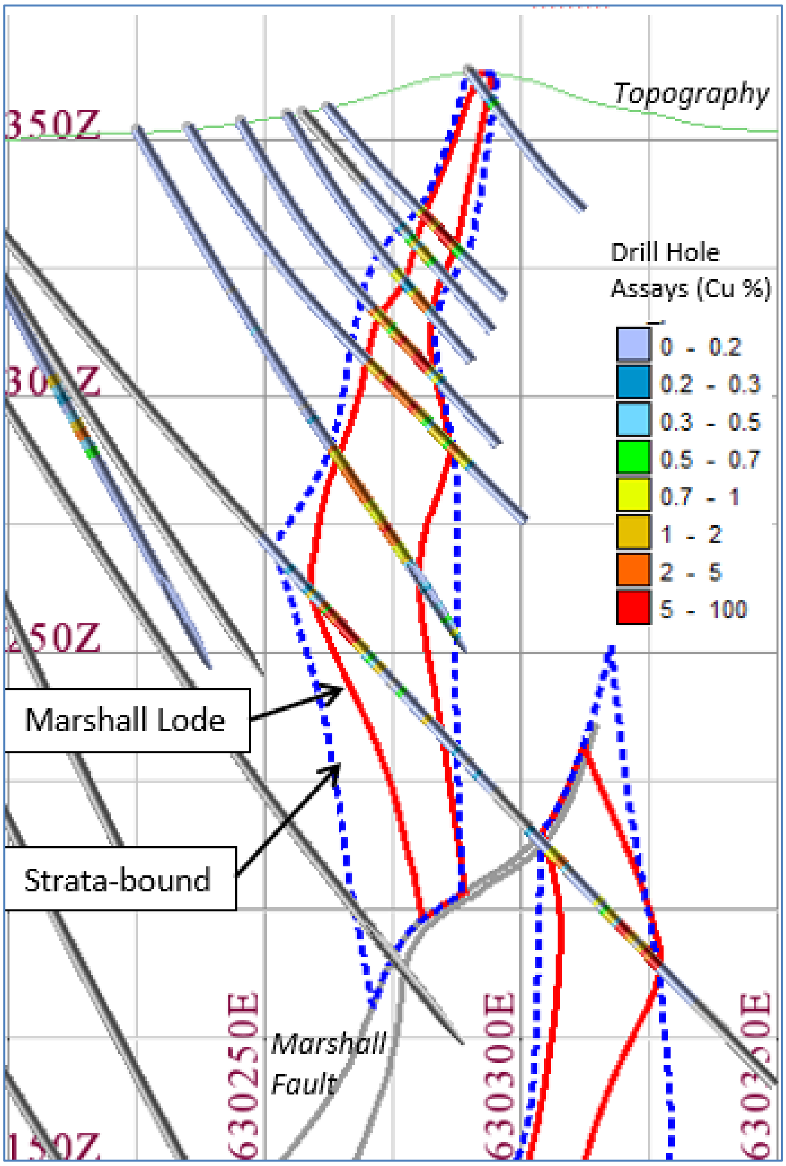


Figure 12-1. Marshall Lode Cross Section (7494525 mN±12.5m)

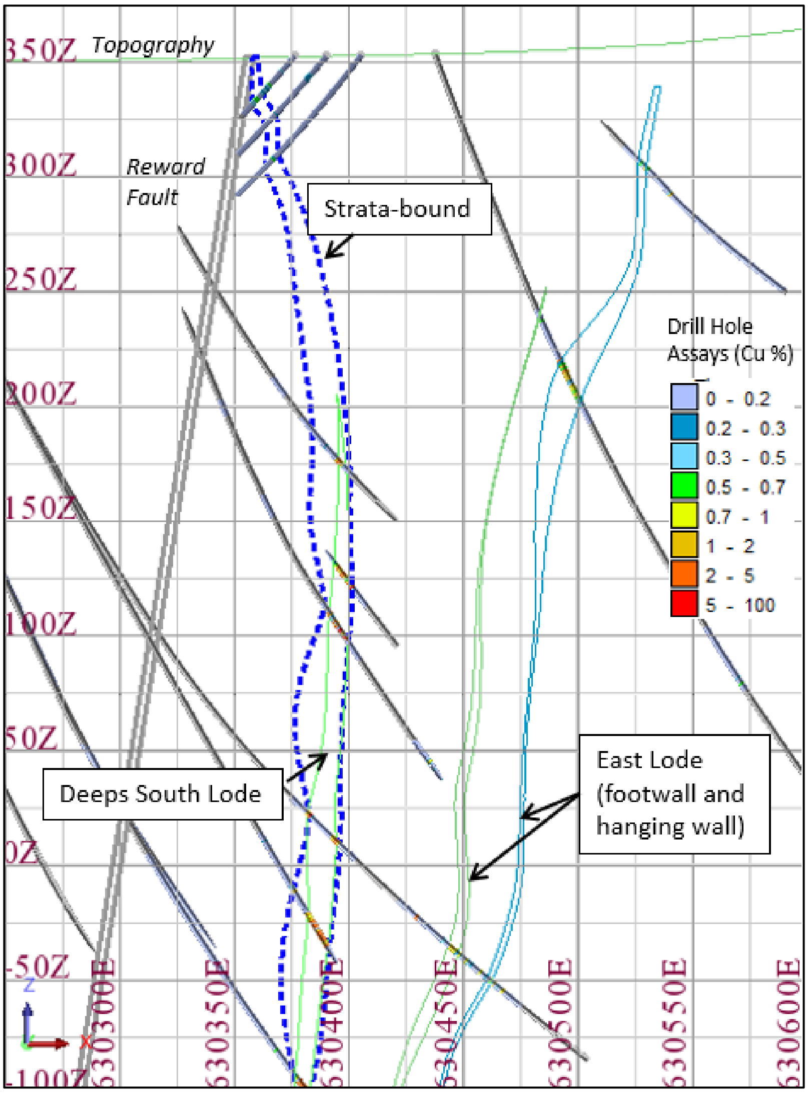


Figure 12-2. Deeps South and East Lodes, Cross Section (7495350 mN±12.5m)

12.1.1 Bulk Density Data

KGL procedures for the measurement of dry bulk density on drill core samples were supplied. Routine measurements were made on selected intervals of core approximately 10 cm in length.

The average density of all Reward material (13,846 readings) is 3.01 t/m^3 and 9,040 readings could be matched to logged oxidation states. Table 12-1 shows a summary of the results.

Table 12-1. Average density measurements by rock type

Code	Count	Density (t/m^3)	Lithology
Fpg	22	2.80	Pegmatite
Ha	4	3.04	Calc silicate
Hcs	116	2.91	Calc silicate
Hm	21	2.96	Marble
Vq	34	2.84	Quartz vein
Y	277	2.95	Mineralised lode undifferentiated
Ycbgm	38	2.89	Mineralised lode - Marble hosted
Ycs	5	2.89	Mineralised lode - Calcsilicate/skarn
Yma	28	3.04	Mineralised lode - Magnetite/ ironstone
Yqgm	66	2.97	Mineralised lode - Quartzite/psammite +/- Chlorite/Biotite and Garnet/Magnetit

Code	Count	Density (t/m^3)	Lithology
Z	281	2.90	Schist - undifferentiated
Zacgm	434	2.89	Muscovite and/or Sericite schist with Garnet and/or Magnetite
Zanco	997	2.92	Andalusite and/or Cordierite schist
Zchbi	21	2.88	Chlorite and/or Biotite schist with Garnet and/or Magnetite
Zcbgm	62	2.94	Chlorite and/or Biotite schist
Zcs	103	3.10	Calc silicate schist/skarn (incls. ga/ep)
Zmsgm	71	2.99	Muscovite and/or Sericite schist with Garnet and/or Magnetite
Zmuse	3325	2.93	Muscovite Schist
Zqgm	355	3.03	Quarrtzite/psammite schist +/- chlorite/biotite and garnet/magnetite
Zqp	2700	2.94	Quartzite and/or Psammite

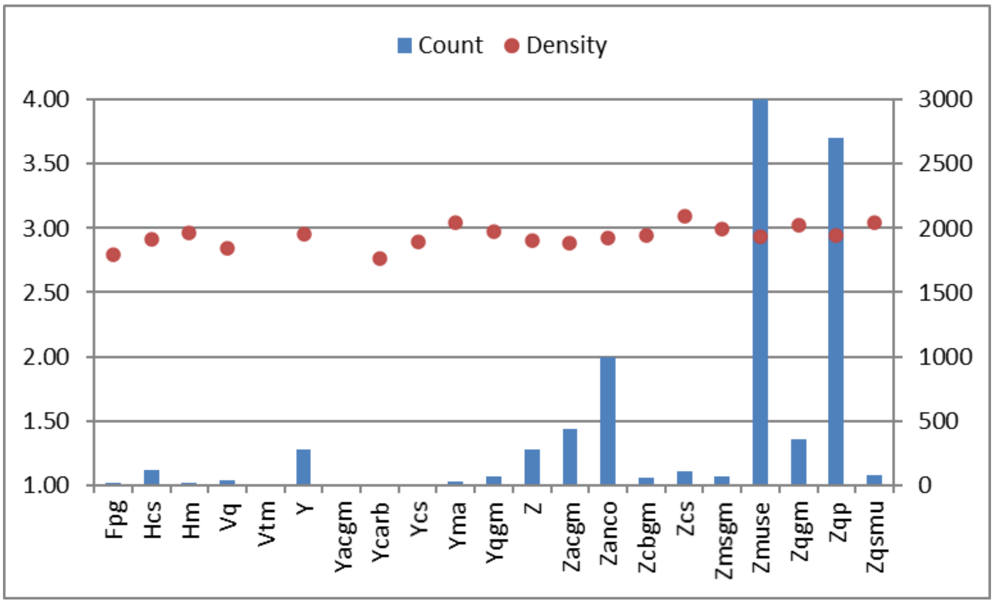


Figure 12-3. Mean Density by Rock Type

Relatively few readings (29) were logged as oxidised material, the oxide readings averaged 2.72 t/m^3, 225 readings matched to transitional material, and 8,320 records matched to fresh logging codes with both material types averaged 2.94 t/m^3.

12.2 DIMENSIONS

Reward is interpreted as a syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and a degree of structural remobilisation. Along strike of Reward are Reward South and Cox's Find deposits, these deposits have not been assessed in this resource report. The Reward deposit is formed within a structural corridor striking over 1.5 km (Figure 12-4). Within the structural corridor lie four high-grade shoots each approximately 200 m in length and plunge up to 800 m below the surface (Figure 12-5). The high-grade shoots are open to depth. The shoots range in thickness from 2 to 25 m. Main Shoot is the thickest mineralisation. Two new smaller shoots, Main FW and Main HW, have been defined between Main Shoot and the Deeps South Shoot.

Database extents are greater than the mineralised resource described in this report.

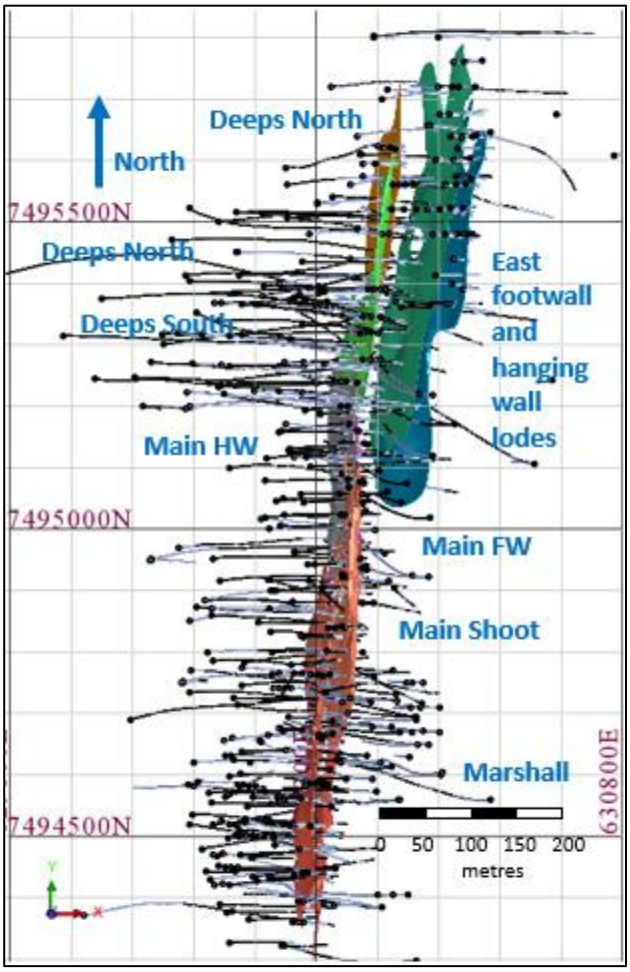


Figure 12-4. Plan View of Reward mineralisation with drill hole collars

12.2.1 Drill Hole Spacing

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 centres (50 x 50m grid). The higher grade shoots and shallower mineralisation (above 200m RL) has been infilled to approximately 25 x 25 m centres. Select drill sections are drilled with close spaced shallow holes located 10 to 15 m apart. These tight infill sections are spaced broadly throughout the Reward deposit.

12.2.2 Domains and Stationarity

A domain is a defined volume that delineates the spatial limits of a single grade population. Domains have a single orientation of grade continuity, are geologically homogeneous and have statistical and geostatistical parameters that are applicable throughout the volume (i.e. the principles of stationarity apply). Typical controls that can be used as the boundaries to domains include structural features, weathering, mineralisation halos and lithology.

Within Reward, domains were created primarily based on structural shoots (Figure 12-5), weathering and grade.

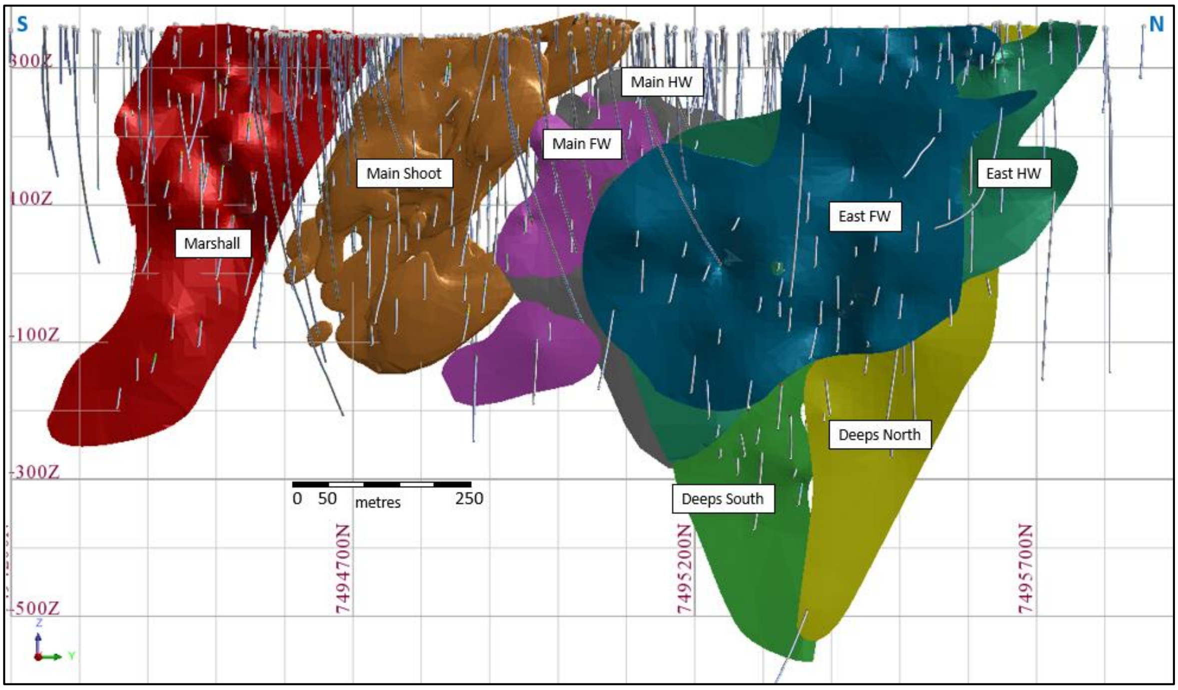


Figure 12-5. Long Section View showing wireframe domains

Domains were interpreted by MA using implicit modelling techniques to create 3D wireframes to represent each domain (Table 12-2). The copper domains are flagged within the sulphur domain, (sulphur domain is volumetrically inclusive of the copper domains). There are a few instances where the implicit modelling has interpolated the copper domain outside the sulphur domain.

Table 12-2. Domain Names - wireframe legend

Domain/shoot	Wireframe Name	Object	Trisolation
Strata-bound	reward_stratabound11.dtm	11	1
East Footwall	reward_east_fw12.dtm	12	1
East Hanging Wall	reward_east_hw13.dtm	13	1
Deeps South	reward_deeps_sth14.dtm	14	1
Deeps North	reward_deeps_nth15.dtm	15	1
Main Shoot	reward_main_shoot16.dtm	16	5
Marshall	reward_marshall17.dtm	17	2
Main Footwall	rw_main_fw18.dtm	18	2
Main Hanging Wall	rw_main_hw19.dtm	19	1

Earlier resource estimates included the Sykes and Johansson lodes to the west as part of the Reward Mineral Resource; the lodes are relatively small, poorly defined anomalous low grade discontinuous mineralisation and remain a potential exploration target.

12.2.3 Compositing

Selection of a composite length should be appropriate for the data, deposit and conceptual mining scenario (e.g. dominant assay interval length, open pit bench height, underground stoping method, lode thickness).

Care was taken to avoid splitting samples when compositing. The most common sample length at Reward is 1 m. The drill hole database was composited to 1 m intervals using Surpac's best fit algorithm, using a minimum permitted composite length of 0.75 m.

1.1.1 Summary Statistics

Summary statistics for each domain are shown below (Table 12-3 to Table12-11). Copper, lead and zinc assay data is stored as parts per million (ppm) in the database, allowing 4 decimal places to be used when converted to percentages.

Table 12-3. Summary Statistics, East Footwall

Str statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	234	234	234	210	199	230	220	214	195	207	90
Minimum	0.01	0.00	0.01	0.00	0.6	4.9	0.0	1	1	1	175
Maximum	10.17	0.75	3.25	0.79	116	41.4	9.2	3710	1900	688	3451
Mean	1.20	0.02	0.09	0.06	11.2	16.9	1.2	199	33	30	919
Std Deviation	1.47	0.08	0.25	0.09	15.6	7.5	1.5	467	158	71	620
CV	1.22	3.29	2.86	1.41	1.4	0.4	1.3	2	5	2	1
Skewness	2.72	6.42	9.50	4.12	3.9	1.0	2.4	5	9	6	2
10.0 Percentile	0.11	0.00	0.02	0.01	1.0	8.3	0.0	9	4	5	295
25.0 Percentile	0.32	0.00	0.02	0.01	3.0	11.6	0.2	23	5	5	461
Median	0.70	0.01	0.03	0.04	6.0	15.7	0.7	60	5	10	711
75.0 Percentile	1.39	0.01	0.06	0.07	13.0	20.2	1.6	166	10	20	1298
95.0 Percentile	4.49	0.08	0.31	0.22	40.1	31.6	4.3	818	50	101	2067
97.5 Percentile	5.63	0.19	0.58	0.27	50.5	37.5	5.5	1719	310	240	2644
99.0 Percentile	7.59	0.57	1.01	0.48	98.0	39.9	7.8	3095	710	420	3260

Table 12-4. Summary Statistics, East hanging wall

Str statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	236	238	238	227	217	238	219	229	187	221	102
Minimum	0.00	0.00	0.01	0.00	0.4	4.4	0.0	1.00	2.69	2.50	2
Maximum	8.88	2.01	0.71	0.91	213	35.6	9.8	2,480	430	5,230	4,480
Mean	1.02	0.04	0.08	0.09	14.2	15.1	1.5	236	10	60	584
Stdd Deviation	0.97	0.16	0.10	0.12	24.4	5.5	1.2	407	32	477	663
CV	0.95	4.44	1.21	1.27	1.7	0.4	0.8	2	3	8	1
Skewness	3.57	10.5	3.35	3.00	5.9	0.7	2.3	3	12	10	3
25.0 Percentile	0.45	0.00	0.03	0.02	4.0	11.3	0.6	15	5	5	190
Median	0.81	0.01	0.05	0.05	9.0	14.2	1.3	68	5	10	326
75.0 Percentile	1.33	0.02	0.10	0.11	16.0	18.4	2.1	260	5	10	744
95.0 Percentile	2.42	0.08	0.27	0.35	39.3	25.1	3.4	1,145	20	39	1,696
97.5 Percentile	2.97	0.14	0.33	0.43	64.2	27.3	3.9	1,583	35	65	1,890
99.0 Percentile	5.56	0.84	0.62	0.53	186.5	30.9	6.5	2,153	75	2,770	3,982

Table 12-5. Summary Statistics, Main Shoot

Str statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	1,768	1,830	1,785	1,698	1,737	1,694	1,522	1,648	1,340	1,624	620
Minimum	0.01	0.00	0.00	0.00	0.5	0.5	0.0	1.00	0.24	0.37	21
Maximum	26.00	46.20	12.80	35.10	2,340	51.4	20.1	19,000	490	9,870	66,916
Mean	1.61	0.96	0.48	0.40	57.6	18.3	2.5	537	17	236	4,624
Stdd Deviation	1.95	3.62	1.10	1.12	144.4	7.4	2.7	1,102	37	754	8,985
CV	1.21	3.77	2.27	2.81	2.5	0.4	1.1	2	2	3	2
Skewness	3.77	6.11	6.35	21.78	6.5	0.5	2.0	7	6	7	4
25.0 Percentile	0.44	0.04	0.06	0.08	8.0	13.5	0.5	89	5	15	668
Median	1.02	0.09	0.16	0.20	17.0	17.5	1.7	239	5	36	1,110
75.0 Percentile	2.08	0.31	0.46	0.45	39.6	22.4	3.4	531	12	110	3,036
95.0 Percentile	5.04	3.18	1.82	1.23	249.0	31.4	8.0	2,066	65	1,120	22,660
97.5 Percentile	6.70	14.15	3.12	1.64	448.0	35.0	9.9	3,480	120	2,000	32,205
99.0 Percentile	8.59	20.00	5.88	2.75	767.5	38.6	12.3	5,292	200	3,896	48,468

Table 12-6. Summary Statistics, Main FWl

Str statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	115	115	115	115	114	115	103	114	93	114	64
Minimum	0.04	0.00	0.01	0.01	1.0	3.8	0.2	2.50	1.91	2.50	143
Maximum	13.80	51.50	12.74	1.01	1,079	64.4	17.0	8,967	288	2,583	130,748
Mean	2.04	2.11	1.24	0.18	74.8	21.1	3.5	558	22	247	13,224
Std Deviation	2.24	6.64	2.44	0.20	161.7	12.8	3.7	1,102	44	491	22,108
CV	1.10	3.14	1.98	1.11	2.2	0.6	1.1	2	2	2	2
Skewness	2.44	5.08	3.08	1.96	3.9	1.5	2.1	5	5	3	3
25.0 Percentile	0.55	0.03	0.08	0.05	7.7	12.9	1.1	62	5	11	1,693
Median	1.21	0.16	0.26	0.10	18.0	16.4	2.5	199	8	31	3,271
75.0 Percentile	2.65	0.77	0.97	0.23	56.4	23.8	4.0	479	25	150	18,450
95.0 Percentile	5.82	12.80	6.69	0.62	406.5	48.9	13.7	2,412	50	1,500	57,942
97.5 Percentile	9.11	21.24	10.17	0.81	648.0	57.0	14.9	3,040	219	1,910	71,367
99.0 Percentile	12.08	42.11	12.48	0.96	915.0	63.1	16.8	6,967	264	2,365	104,635

Table 12-7. Summary Statistics, Main HW

Str statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. Samples	201	201	201	201	186	201	148	186	132	185	62
Minimum	0.07	0.00	0.01	0.00	0.8	2.6	0.3	1.00	1.01	1.09	366
Maximum	13.70	3.47	2.81	1.66	138	29.0	12.2	3,120	353	100	3,858
Mean	1.41	0.09	0.24	0.12	13.4	15.2	4.0	188	20	14	1,134
Sd Deviation	1.33	0.27	0.40	0.15	18.4	4.9	2.7	316	40	12	645
CV	0.95	2.98	1.65	1.32	1.4	0.3	0.7	2	2	1	1
Skewness	4.58	10.35	3.63	5.77	4.7	0.1	0.7	6	6	3	2
25.0Percentile	0.68	0.01	0.05	0.04	5.0	12.2	1.7	44	5	6	701
Median	1.11	0.03	0.11	0.08	8.6	15.2	3.3	93	9	10	921
75.0Percentile	1.70	0.07	0.23	0.15	14.5	18.5	5.8	216	25	20	1,462
95.0Percentile	3.80	0.28	0.96	0.33	32.0	24.2	8.7	594	53	30	2,419
97.5Percentile	4.58	0.50	1.62	0.44	50.2	24.9	9.6	830	77	40	2,710
99.0Percentile	5.64	0.80	2.32	0.66	127.9	26.6	12.1	1,664	312	65	3,420

Table12-8.Summary Statistics, DeepsSouth

Statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. Samples	553	539	539	553	533	539	404	538	390	538	210
Minimum	0.01	0.00	0.00	0.01	0.4	0.8	0.0	1.22	0.31	0.46	36
Maximum	14.8	15.7	11.6	13.7	595	61.3	30.1	24,625	89	1,210	5,695
Mean	2.42	0.35	0.24	0.74	37.7	22.9	5.8	895	7	80	738
Std Deviation	2.37	1.13	0.74	1.34	59.0	12.7	5.5	2,165	8	142	880
CV	0.98	3.28	3.08	1.81	1.6	0.6	1.0	2	1	2	1
Skewness	1.77	7.94	9.72	4.70	4.6	0.7	1.7	5	4	4	3
25.0Percentile	0.76	0.03	0.05	0.12	9.8	13.1	1.9	75	5	10	241
Median	1.63	0.08	0.08	0.29	18.9	19.9	4.1	208	5	28	461
75.0Percentile	3.44	0.19	0.18	0.71	41.1	31.2	7.5	717	5	76	913
95.0Percentile	6.98	1.41	0.64	2.94	140.0	47.6	18.7	4,911	25	369	2,301
97.5Percentile	9.01	2.64	1.60	4.77	192.9	50.2	22.1	8,599	29	486	3,510
99.0Percentile	10.5	6.56	3.64	5.98	318.0	54.6	25.2	10,000	40	738	5,167

Table12-9.Summary Statistics, DeepsNorth

Statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. Samples	101	101	101	99	91	101	101	92	82	92	39
Minimum	0.04	0.00	0.02	0.01	1.0	4.0	0.1	1.00	1.50	2.50	7
Maximum	15.77	5.39	9.33	7.36	303	49.3	20.6	7,470	45	590	3,154
Mean	1.79	0.45	0.43	0.49	33.3	18.2	4.6	334	6	65	771
Std Deviation	2.57	0.86	1.06	0.93	49.2	11.2	4.2	813	6	129	764
CV	1.44	1.91	2.46	1.89	1.5	0.6	0.9	2	1	2	1
Skewness	3.13	3.25	6.30	4.64	3.6	1.1	1.7	7	5	3	2
25.0Percentile	0.41	0.05	0.07	0.06	7.6	9.5	1.6	37	5	8	339
Median	0.87	0.10	0.14	0.18	15.0	14.7	3.2	146	5	11	508
75.0Percentile	2.01	0.32	0.34	0.51	43.1	22.8	6.4	370	5	35	878
95.0Percentile	6.58	2.59	2.11	2.12	96.8	43.2	14.3	1,058	13	385	2,908
97.5Percentile	9.85	2.93	2.59	2.92	244.5	46.5	15.6	1,526	28	565	3,125
99.0Percentile	14.13	4.47	6.26	5.32	275.3	49.2	20.4	4,535	39	585	3,154

Table12-10.Summary Statistics, Marshall

Statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. Samples	827	817	736	690	803	695	632	688	554	689	325
Minimum	0.01	0.00	0.00	0.00	0.0	0.7	0.0	1.00	0.58	0.21	102
Maximum	23.50	25.66	11.40	4.55	964	56.0	20.6	10,595	1,383	6,390	58,692
Mean	2.42	0.44	0.46	0.28	55.5	19.4	3.6	652	52	148	6,219
Std Deviation	2.43	1.56	0.97	0.37	91.6	10.1	3.2	1,074	123	415	10,617
CV	1.00	3.57	2.10	1.35	1.6	0.5	0.9	2	2	3	2
Skewness	2.33	11.14	5.83	4.03	4.8	0.9	1.7	4	6	9	2
25.0Percentile	0.80	0.05	0.07	0.06	12.0	12.3	1.3	88	5	20	641
Median	1.64	0.13	0.17	0.15	26.6	16.8	2.6	273	20	39	1,235
75.0Percentile	3.26	0.32	0.43	0.36	60.1	24.9	4.7	778	43	108	5,670
95.0Percentile	7.21	1.41	1.69	1.00	215.5	39.8	10.7	2,695	185	684	31,122
97.5Percentile	8.76	2.40	2.93	1.29	302.6	44.0	12.5	3,440	335	1,018	40,072
99.0Percentile	11.64	5.35	5.39	1.85	471.0	47.8	14.9	5,495	624	1,779	49,862

Table12-11.Summary Statistics, Stratabound

Statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	5,514	5,497	5,451	4,606	4,732	5,309	4,816	5,010	4,329	5,149	1,936
Minimum	0.00	0.00	0.00	0.00	0.1	0.3	0.0	1.00	0.39	2.50	13
Maximum	11.14	27.70	25.40	7.19	1,350	56.5	19.9	8,860	1,700	8,694	83,090
Mean	0.24	0.18	0.22	0.06	8.3	13.8	1.4	95	12	62	3,553
Std Deviation	0.47	1.10	0.90	0.16	37.6	8.1	1.6	292	38	280	8,390
CV	1.96	6.18	4.13	2.87	4.5	0.6	1.1	3	3	4	2
Skewness	9.49	14.62	12.94	22.70	23.6	1.7	3.7	16	28	15	5
25.0Percentile	0.04	0.01	0.03	0.01	1.0	8.4	0.5	6	5	10	832
Median	0.12	0.02	0.05	0.02	2.1	11.7	0.9	26	5	19	1,278
75.0Percentile	0.28	0.07	0.13	0.06	6.0	16.4	1.7	88	11	30	2,291
95.0Percentile	0.76	0.49	0.63	0.21	27.0	30.8	4.1	346	30	175	16,637
97.5Percentile	1.12	0.99	1.27	0.30	47.7	37.1	5.6	544	50	455	30,716
99.0Percentile	2.02	2.79	3.54	0.46	89.9	43.3	7.9	1,061	84	1,072	47,536

12.2.4 Grade Capping

Capping is the process of reducing the grade of the outlier sample to a value that is representative of the surrounding grade distribution. Reducing the value of an outlier sample grade minimises the overestimation of adjacent blocks in the vicinity of an outlier grade value.

Outlier values were defined per estimation domain using statistical parameters to ensure that the mean was not significantly affected by capping. Assessment of outliers was based on histograms, log probability plots and metal loss, additional considerations were the standard deviations, Tukey fences (interquartile ranges) and Sichel's mean.

Uncapped and capped summary statistics for each estimation domain for copper, silver and gold are presented in Table 12-12, Table 12-13 and Table 12-14 respectively.

Table 12-12. Grade capping summary statistics for copper by estimation domain

Copper	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
East FW	234	1.2	10.2	1.23	4	1.2	**5.77**	1.1	1.7%	-2.9%
East HW	236	1.0	8.9	0.95	3	1.0	**5.00**	0.8	1.3%	-2.1%
Deeps Sth	551	2.4	14.8	0.98	9	2.4	**10.0**	0.9	1.6%	-1.1%
Deeps Nth	118	1.7	15.8	1.45	3	1.6	**10.2**	1.3	2.5%	-4.4%
Main Shoot	1767	1.6	26.0	1.21	18	1.6	**8.60**	1.1	1.0%	-2.7%
Marshall	848	2.4	23.5	1.01	9	2.4	**11.0**	1.0	1.1%	-1.3%
Main FW	115	2.0	13.8	1.11	2	2.0	**10.3**	1.1	1.7%	-1.5%
Main HW	201	1.4	13.7	0.95	1	1.4	**5.68**	0.8	0.5%	-2.8%

Table 12-13. Grade capping summary statistics for silver by estimation domain.

Silver	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
East FW	219	10.2	116.0	1.50	4	9.5	**54**	1.2	1.8%	-6.8%
East HW	236	11.9	212.5	1.71	4	10.6	**57**	1.1	1.7%	-10.8%
Deeps Sth	537	37.4	595.0	1.58	9	35.3	**240**	1.3	1.7%	-5.7%
Deeps Nth	118	27.8	302.6	1.61	3	26.1	**198**	1.4	2.5%	-6.1%
Main shoot	1699	57.8	2340.0	2.52	26	52.8	**631**	2.1	1.5%	-8.6%
Marshall	831	54.8	963.6	1.66	13	51.6	**367**	1.4	1.6%	-5.8%
Main FW	115	74.2	1079.0	2.18	3	68.3	**615**	1.9	2.6%	-8.0%
Main HW	186	13.4	138.4	1.38	4	12.1	**61**	1.0	2.2%	-9.5%

Table 12-14. Grade capping summary statistics for gold by estimation domain

Gold	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
East FW	234	0.06	0.79	1.53	4	0.05	**0.30**	1.25	1.7%	-6.6%
East HW	234	0.09	0.91	1.32	2	0.09	**0.46**	1.21	0.9%	-2.9%
Deeps Sth	551	0.74	13.72	1.81	9	0.70	**5.12**	1.52	1.6%	-6.4%
Deeps Nth	118	0.48	7.36	1.83	2	0.45	**3.16**	1.47	1.7%	-7.6%
Main Shoot	1767	0.37	35.10	2.93	9	0.34	**3.17**	1.38	0.5%	-9.9%
Marshall	704	0.28	4.55	1.34	4	0.27	**2.07**	1.25	0.6%	-1.4%
Main FW	115	0.18	1.01	1.11	3	0.18	**0.86**	1.09	2.6%	-1.0%
Main HW	201	0.12	1.66	1.32	3	0.11	**0.48**	0.95	1.5%	-6.6%

Lead and zinc assays are generally very low with a small proportion of high grade values inconsistent with the majority of the data. Domains East FW, Deeps-North and Marshall had extreme lead outliers (Table 12-15 and Table 12-16).

Table 12-15. Grade capping summary statistics for lead by estimation domain

Lead	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
East FW	234	0.02	0.75	3.30	4	0.0	0.37	2.7	1.7%	-14.4%
East HW	236	0.03	1.24	3.42	2	0.0	0.28	1.7	0.8%	-16.5%
Deeps Sth	537	0.35	15.65	3.27	11	0.3	3.46	2.2	2.0%	-21.2%
Deeps Nth	118	0.40	5.39	2.02	2	0.4	3.11	1.8	1.7%	-5.8%
main shoot	1767	0.98	46.20	3.75	11	0.9	20.0	3.5	0.6%	-6.2%
Marshall	827	0.53	25.66	3.62	17	0.4	3.00	1.7	2.1%	-32.9%
Main FW	115	2.11	51.50	3.16	3	1.8	21.8	2.6	2.6%	-17.0%
Main HW	201	0.09	3.47	2.99	2	0.1	0.67	1.6	1.0%	-16.9%

Table 12-16. Grade capping summary statistics for zinc by estimation domain

Zinc	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
East FW	234	0.09	3.25	2.86	3	0.07	0.80	1.8	1.3%	-14.0%
East HW	236	0.08	0.71	1.18	4	0.08	0.36	1.0	1.7%	-4.7%
Deeps Sth	537	0.24	11.60	3.07	11	0.19	1.74	1.7	2.0%	-22.6%
Deeps Nth	118	0.39	9.33	2.51	2	0.34	3.08	1.7	1.7%	-13.6%
Main Shoot	1722	0.49	12.80	2.28	26	0.44	4.41	1.7	1.5%	-10.3%
Marshall	746	0.49	12.25	2.19	12	0.45	4.62	1.7	1.6%	-8.3%
Main FW	115	1.24	12.74	1.99	2	1.22	11.63	2.0	1.7%	-1.2%
Main HW	201	0.24	2.81	1.65	3	0.23	1.68	1.5	1.5%	-4.9%

In addition to the main commodities assessed, ancillary or and potentially penalty elements were assessed for stationarity and the requirement for grade capping. Sulphur and Iron did not require grade caps. Grade caps were applied to bismuth, uranium, tungsten, and fluorine.

Table 12-17. Grade capping summary statistics within the sulphur domain

Stratabound	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
S	7595	2.2	34.1	1.23	Uncapped					
Fe	8462	15.6	64.4	0.57	Uncapped					
Bi	8047	264.8	26,244.6	3.04	4	261.5	**10,000**	2.8	0.0%	-1.3%
U	6833	15.4	1,700	3.15	103	12.9	**122**	1.5	1.5%	-16.5%
W	8185	88.3	8,925	4.13	122	69.0	**1,080**	2.5	1.5%	-21.9%
F	3174	3786.7	120,743	2.30	48	3,573	**41,140**	2.0	1.5%	-5.6%

12.3 VARIOGRAPHY

The most important bivariate statistic used in geostatistics is the semivariogram (variogram). The experimental variogram is estimated as half the average of squared differences between data separated exactly by a distance vector ‘h’. Variograms models used in grade estimation should incorporate the main spatial characteristics of the underlying grade distribution at the scale at which mining is likely to occur.

Variogram analysis was undertaken in Snowdens Supervisor for copper and silver within each domain. Experimental Variograms were reasonably formed, due to the grade distribution expected in strata bound copper deposits. The experimental variograms for the additional elements were generally less well formed.

Normal Score Transformed 3D experimental variograms could generally be created. Where variogram maps proved difficult to interpret the line of lode (strike) and dip was set as direction one and two respectively, with the third direction generally selected as steeply plunging to the south, mimicking the general trend of the shoots.

3D experimental variogram modelling used a nugget (C_0) and two spherical models (C_1, C_2), although occasionally one spherical model was sufficient. The modelled variogram geometry is consistent with the interpreted mineralisation wireframes, incorporating a plunge component where identified and modelled accordingly.

Variogram sills were standardized to 1. Normal Scores Transformed variogram models were back transformed. Nugget effects were generally low to moderate for the defined copper domains, ranging from 0.16 to 0.50, and the range (A2) of the variograms varied from 50 m to 120 m. Geometric anisotropy was adopted and anisotropic ratios (ellipsoid) applied to reflect directional variograms. Anisotropic ellipses based on the resulting bearing, plunge, dip, and defined ranges and anisotropic ratios were graphically plotted in Surpac and displayed against the extracted assay composites to ensure modelled parameters were reasonably orientated. The major axis of the ellipse is orientated in the XY plane (Table 12-18), the plunge is the angle above (+) or below (-) the XY plane, and dip defines the rotation of the semi-major axis around the major axis. The overall ranges modelled for the major axis are well in excess of the drill spacing for all domains.

Variograms for the elements constrained by the copper domain are presented below: copper - Table 12-18, silver - Table 12-19, gold - Table 12-20, lead - Table 12-21 and zinc -Table 12-22

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Table 12-18. Variogram Parameters for Reward copper estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Lode	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
East FW	35.5	67.7	62.7	0.44	0.56	60	0	0	2.00	3.00	1.00	1.00
East HW	15.7	29.5	78.5	0.44	0.56	150	0	0	1.50	3.00	1.00	1.00
Deeps, Nth & Sth	31.3	78.8	63.3	0.37	0.63	84	0	0	1.12	1.68	1.00	1.00
Main Shoot	35.5	67.7	62.7	0.20	0.65	38	0.15	80	1.36	2.71	1.18	2.35
Marshall	4.3	29.5	-78.5	0.33	0.29	33	0.38	130	1.32	1.65	2.00	3.25
Main FW & HW	18.5	69.4	75.7	0.73	0.27	100	0	0	1.25	2.50	1.00	1.00

Table 12-19. Variogram Parameters for Reward silver estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Lode	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
East FW	54.6	75.9	44.6	0.70	0.3	50	0	0	1.00	1.00	1.00	1.00
East HW	18.3	39.3	77	0.47	0.53	75	0	0	1.34	1.50	1.00	1.00
Deeps Nth & Sth	18.3	39.3	77	0.47	0.53	75	0	0	1.34	1.50	1.00	1.00
Main Shoot	13.3	39.3	77	0.25	0.15	20	0.6	170	1.11	3.33	2.27	4.72
Marshall	5.9	10	84.9	0.30	0.71	70	0	0	1.17	2.00	1.00	1.00
Main FW	5.9	10	84.9	0.20	0.8	77	0	0	1.40	2.20	1.00	1.00
Main HW	18.5	69.4	75.7	0.35	0.65	80	0	0	1.00	2.00	1.00	1.00

Table 12-20. Variogram Parameters for Reward gold estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Lode	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
East FW & HW	21.7	58.5	70.6	0.30	0.4	20	0.3	110	1.00	2.00	1.57	2.20
Deeps Nth & Sth	31.3	78.8	63.3	0.25	0.37	39	0.38	100	1.56	2.60	1.54	4.00
Main Shoot	13.3	39.3	77	0.30	0.28	22	0.42	112	2.00	2.44	2.00	4.00
Marshall	5.9	10	84.9	0.31	0.28	22	0.41	88	2.00	2.44	2.00	4.00
Main FW	5.9	10	84.9	0.20	0.8	77	0	0	1.40	2.20	1.00	1.00
Main HW	18.5	69.4	75.7	0.35	0.65	80	0	0	1.00	2.00	1.00	1.00

Table 12-21. Variogram Parameters for Reward lead estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Lode	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
East FW	18.29	39.3	77	0.46	0.54	115	0	0	1.28	2.56	1.00	1.00
East HW	21.7	58.5	70.6	0.46	0.54	115	0	0	1.28	2.56	1.00	1.00
Deeps, Nth & Sth	31.3	78.8	63.3	0.30	0.7	124	0	0	2.48	2.48	1.00	1.00
Main Shoot	10.7	29.5	78.5	0.20	0.21	28	0.59	150	1.33	2.00	1.49	3.00
Marshall	7.9	29.9	84.2	0.34	0.66	110	0	0	1.31	2.20	1.00	1.00
Main FW	5.9	10	84.9	0.20	0.8	77	0	0	1.40	2.20	1.00	1.00
Main HW	18.5	69.4	75.7	0.35	0.65	80	0	0	1.00	2.00	1.00	1.00

Table 12-22. Variogram Parameters for Reward zinc estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Lode	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
East FW	18.2	39.3	77	0.30	0.7	180	0	0	2.25	4.50	1.00	1.00
East HW	18.2	39.3	77	0.20	0.14	38	0.66	140	2.00	3.17	2.00	3.04
Deeps Nth & Sth	18.5	69.4	75.7	0.20	0.8	158	0	0	1.34	3.16	1.00	1.00
Main Shoot	18.2	39.3	77	0.30	0.7	180	0	0	2.25	4.50	1.00	1.00
Marshall	18.2	39.3	77	0.24	0.76	95	0	0	1.58	2.38	1.00	1.00
Main FW	5.9	10	84.9	0.20	0.8	77	0	0	1.40	2.20	1.00	1.00
Main HW	18.5	69.4	75.7	0.35	0.65	80	0	0	1.00	2.00	1.00	1.00

Experimental variograms for the broader sulphur domain (strata-bound) was easier to interpret as the domains generally consisted of lower grade material (Table 12-23). Note copper, lead, zinc, silver and gold variograms are derived from samples within the sulphur domain excluding the samples within the copper domains. Iron, sulphur, bismuth, uranium, tungsten and fluorine variograms are informed by all samples within the sulphur domains.

Table 12-23. Variogram Parameters for Reward sulphur domain (strata-bound).

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Element	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
Cu	13.3	39.3	77	0.25	0.36	18	0.4	120	1.50	3.00	1.20	3.00
Pb	6.8	9.8	79.8	0.25	0.37	26	0.38	200	1.30	1.63	1.61	3.33
Zn	10.7	29.5	78.5	0.21	0.53	90	0.26	150	1.00	1.50	1.00	2.00
Ag	21.7	58.5	70.6	0.37	0.24	20	0.39	126	2.00	2.00	1.58	2.52
Au	11.7	49	74.7	0.57	0.43	190	0	0	1.27	2.53	1.00	1.00
Fe	13.6	59.6	80	0.1	0.72	40	0.18	400	1.33	2.00	1.33	4.00
S	16.7	50	74.7	0.2	0.47	34	0.33	137	1.31	1.70	1.41	1.83
Bi	21.7	58.5	70.6	0.3	0.4	20	0.3	110	1.00	2.00	1.57	2.20
U	21.7	58.5	70.6	0.3	0.49	50	0.21	130	1.00	2.00	1.30	2.65
W	21.7	58.5	70.6	0.25	0.42	10	0.33	150	1.00	1.00	1.50	3.00
F	16.7	49	74.7	0.15	0.44	80	0.41	130	2.67	8.00	1.67	2.60

Variograms for density data within fresh material is shown in Table 12-24.

Table 12-24. Variogram Parameters for Density Estimation

Domain	Variogram Orientation			Variogram Parameters					Variogram Ratios			
Element	bearing	plunge	dip	C0	C1	A1	C2	A2	Semi-Major	Minor	Semi-Major	Minor
density	10	50	80	0.17	0.31	10	0.52	40	1.25	1.5	1.25	1.5

Anisotropic ellipses based on directional variogram ranges and the modelled bearing, plunge and dip were graphically plotted in Surpac and displayed against the extracted assay composites to ensure modelled parameters were reasonably orientated.

12.4 GRADE ESTIMATION

This section describes the MRE methodology and summarises the key assumptions considered by MA. In the opinion of MA, the Mineral Resource Statement reported herein is a reasonable representation of the Reward deposit based on current sampling data. Grade estimation was undertaken using Geovia's Surpac™ software package (v7.2). Ordinary Kriging ("OK") was used for the grade estimation for copper, silver and gold (and all other elements estimated that are not reported as economically significant).

Copper is the primary element of interest, with silver, gold, lead and zinc estimated using the copper domains as hard boundaries and dynamic search ellipses. Marshall and Main Shoot have sufficient samples above the oxide-fresh transition to warrant using the top of fresh as an additional constraint during estimation.

Sulphur, iron, bismuth, uranium, tungsten and fluorine use the sulphur domain as a hard boundary.

All elements are estimated into the country rock using samples outside both the copper and sulphur domains. Sulphur, iron, bismuth, uranium, tungsten and flourine are estimated with soft boundaries across the copper domains.

Dynamic search ellipses were used inside the copper domains, while fixed searches orientated to the regional lithology and larger estimation blocks were used in the country rock.

12.4.1 Block Model

The Reward block model uses regular shaped blocks measuring 2.5 m x 10 m x 5 m (Table 12-25). The choice of the block size was patterned with the trend and continuity of the mineralisation, taking into account the dominant drill pattern in conjunction with the size and orientation of the deposit. To accurately represent the volume of the mineralised domains inside each block, volume sub-blocking to 1.25 m x 5 m x 2.5 m was used. Blocks above original topography were excluded from model estimation. Estimation resolution was set at the parent block size for blocks within defined domains. For estimates (Fe, S, Bi, U and W) outside defined domains (barren blocks) were estimated with a block resolution of 5 m x 20 m x 10 m.

Table 12-25. Block Model Extents

Type	X	Y	Z
Minimum Coordinates	630,001.25	7,494,145	-597.5
Maximum Coordinates	630,681.25	7,495,745	402.5
User Block Size	2.5	10.0	5.0
Min. Block Size	1.25	5.0	2.5
Rotation	0	0	0

12.4.2 Block Model Attributes

Interpreted mineralised domains were coded to the block model. Sufficient variables were added to allow grade estimation, resource classification and reporting. Blocks above the original topography are screened out. Final block model attributes are defined in Table 12-26.

Table 12-26. Block Model Attributes assigned to the 3D model

Attribute Name	Type	Decimals	Description
ag_id	Float	4	silver inverse distance estimate capped
ag_nn	Float	4	silver nearest neighbour estimate capped
ag_ok	Float	4	silver ordinary krige estimate capped
au_ok	Float	4	gold ordinary krige estimate capped
bi_ok	Float	0	bismuth ordinary krige estimate capped
cu_id	Float	4	copper inverse distance estimate capped
cu_nn	Float	4	copper nearest neighbour estimate capped
cu_ok	Float	4	copper ordinary krige estimate capped
density	Float	2	Density
f_ok	Float	0	fluorine ordinary krige estimate capped
fe_ok	Float	4	iron ordinary krige estimate capped
lode	Character	-	Mineralisation Domain

Attribute Name	Type	Decimals	Description
lode_id	Integer	-	lode number
pb_ok	Float	4	lead ordinary krige estimate capped
rescat	Integer	-	Resource classification (1 measured 2 indicated 3 inferred 4 unclassified 5 mined out 6 rock)
rock	Integer	-	Air=0 Rock=1
Ratio_scu	calculated	2	The ratio of sulphur to copper
s_ok	Float	4	sulphur ordinary krige estimate capped
u_ok	Float	1	uranium ordinary krige estimate capped
w_ok	Float	0	tungsten ordinary krige estimate capped
wth	Character	-	FR = Fresh, PO = Partially oxidised, OX = Oxidised Rock
z_ads	Float	2	average distance to samples
z_brg	Float	2	bearing of search ellipse
z_cbs	Float	2	Conditional bias slope
z_dh	Integer	-	number of informing drillholes
z_dhid	Character	-	hole_id
z_dip	Float	2	dip of search ellipse
z_dns	Float	2	distance to nearest sample
z_ke	Float	2	krige efficiency
z_kv	Float	2	krige variance
z_ns	Integer	-	number of informing samples
z_ps	Integer	-	1 First Pass; 2 Second Pass Estimate
zn_ok	Float	4	zinc ordinary krige estimate capped

12.4.3 Informing Samples and Search Parameters

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 2.5 were applied to the semi-major and minor axis of the search ellipse.

The minimum and maximum samples utilised were 8 and 20 for the first pass and reduced to 6 and 15 for the second pass. Third pass informing samples were further reduced to a minimum of 2 and maximum of 10. Search distances were factored by the estimation pass. Grade capping was applied to all elements except iron and sulphur.

Table 12-27 shows the ratios of volume tonnes and metal informed by each pass.

Table 12-27. Percentage of Model Estimated with Each Pass

Pass	Volume	Tonnes	Metal
1	48%	49%	56%
2	35%	35%	29%
3	17%	17%	15%

Dynamic searches were utilised to reflect the local orientation of the lodes. Local undulations in the lodes were determined from the mid-point of mineralised drill hole intercepts. The intercepts were wire-framed and sliced in 10 m sections. Wireframe slices were smoothed with points every 10 m providing a 10 m grid reflecting the orientation of the lodes. The grid was wireframed and the dip and strike of each triangle defined a unique local search orientation for each block.

12.4.4 Discretisation

The krige estimate used a 1 x 5 x 2 discretisation (XYZ), giving discretisation nodes spaced evenly within the block. The distance between nodes approximates 2.5 times the sample composite length.

12.5 DENSITY ESTIMATION

The default density of the block model is 2.80 t/m^3. All oxide material is assigned 2.6 t/m^3. The mineralised transitional material is assigned 3.0 t/m^3 and the transitional waste is assigned a density of 2.8 t/m^3. Density values were further improved with a 2-pass estimation strategy.

Density within the fresh material was estimated using OK of measured density values with the defined density variogram (Table 12-24) and a minimum of 5 and maximum of 12 samples within an ellipse measuring 70 m along the major axis, 56 m along the semi-major axis and 46.7 m along minor axis. The density search ellipse had a constant orientation, bearing 010°, plunge of 50° and a dip of 80°. The distribution of measured density data was insufficient to populate all blocks with an estimated density and alternate estimates of density were considered

There is a distinct correlation between density and iron content of the samples. Figure 12-6 shows the regression between the two variables, low density readings (<2.0) were excluded from the regression.

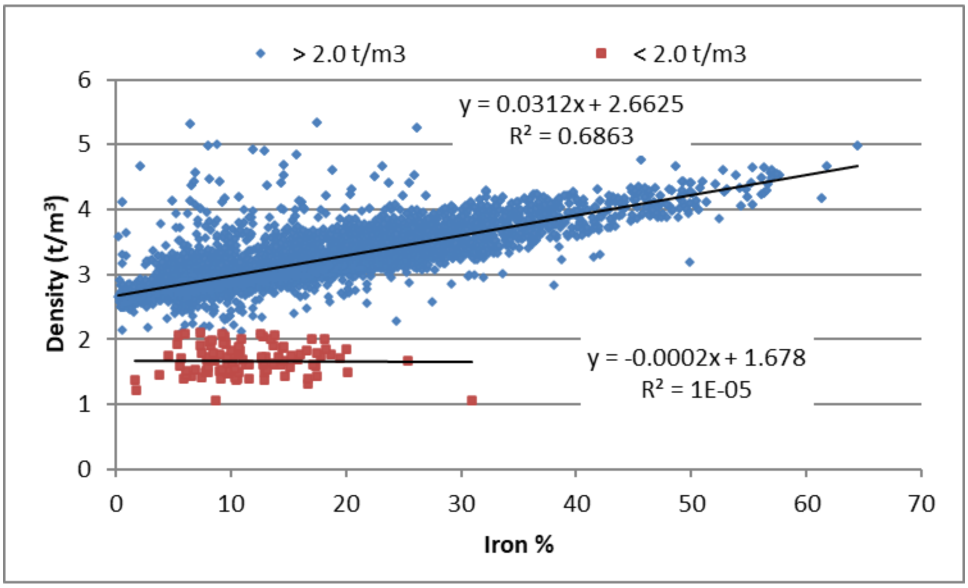

Figure 12-6. Density as a function of Iron Content

The second pass estimate of density utilised density data derived from the iron regression shown in Figure 12-6. During the second pass search distances were doubled and the required samples were reduced to a minimum of 1 and a maximum of 9.

The average modelled density of mineralised oxide material is 2.60 t/m^3, transitional material is 3.02 t/m^3, the high sulphide material averages 3.07 t/m^3 and mineralised fresh material averages 3.09 t/m^3.

12.6 VALIDATION

The block model was validated by visual and statistical comparison of drill hole and block grades and through grade-tonnage analysis. Initial comparisons occurred visually on screen, using extracted composite samples and block models. Further validation used swath plots to compare block estimates with informing sample statistics along parallel sections through the deposits.

12.6.1 Alternate Estimation Methods

Alternative estimation methods Nearest Neighbour and ID^2 were utilised to ensure the Krige estimate was not reporting a global bias (Figure 12-7). The alternate estimates provided expected correlations. Nearest Neighbour shows less tonnes and higher grade (less contained metal) as it does not employ averaging techniques to assign the block grade, with distal blocks being informed by a single closest sample rather than several weighted samples. The ID^2 estimate is closer to kriging as it does use averaging weighted by distance but cannot assign anisotropy, nor have the ability to de-cluster the input data or account for nugget effect. Using the kriging algorithm provides a reliable estimate due to the ability of kriging to de-cluster data and weight the samples based on a variogram (which incorporates the nugget effect and anisotropy).

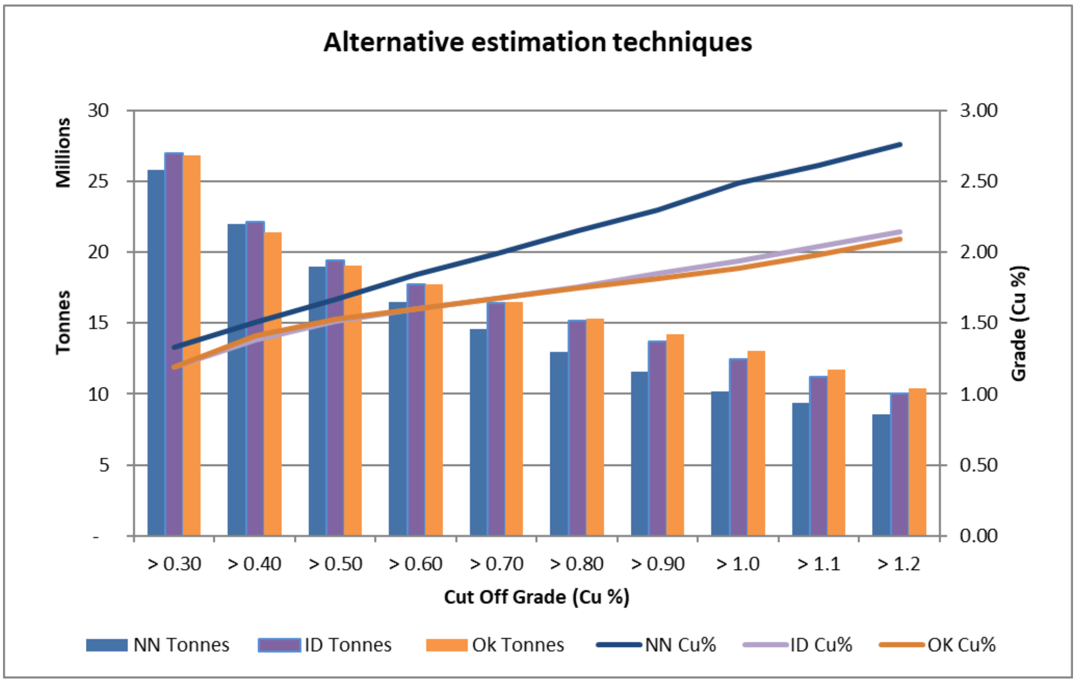

Figure 12-7. Alternative estimation results at nominated cut-offs (capped grades)

12.6.2 Global Bias check

A comparison of global mean values within the grade domains shows a reasonably close relationship between composites and block model values (Figure 12-8). The domains Deeps-North and Marshall both appear to be estimated low. Marshall is well drilled in the upper portions above the Marshall Fault in the open pit potential area and both grade and drill density decrease with depth. This observation is confirmed when the OK estimate is compared to a Nearest Neighbour global estimate, a form of declustered averaging (Figure 12-9). Declustering techniques minimize bias due to data clustering (commonly occurs in high grade areas) and can be used to get an unbiased prediction of the global mean.

Domain Deeps-North is complex with good copper grades against the Reward Fault. Grade and thickness of the shoot quickly decreases away from the fault and there is also less drilling north of the fault. This is also confirmed in Figure 12-9, where the NN global estimate and OK estimate are closer to the first bisector. Silver appears underestimated compared to the clustered assay data (Figure 12-10). Using NN as a proxy for declustered assays the OK estimates compare well with the NN data (Figure 12-11). The gold present in the deposit is relatively minor, but still significant (Figure 12-12). The Deeps South OK estimate overestimates gold compared to the NN (declusterd) estimate.

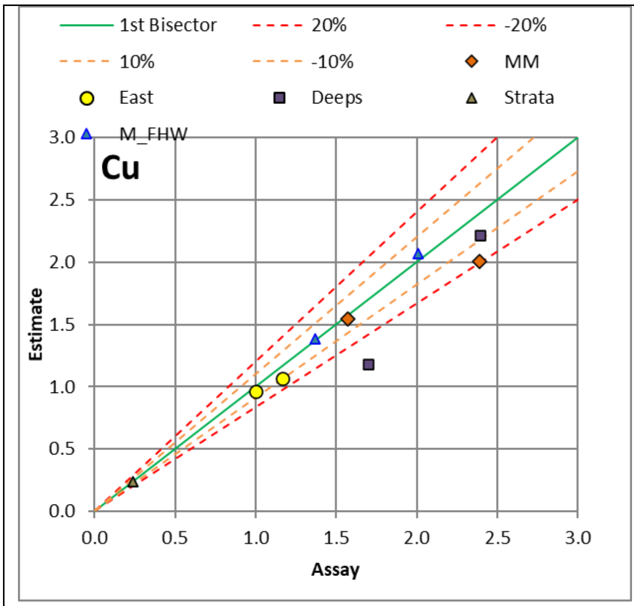

Figure 12-8. Global Copper Validation by Domains

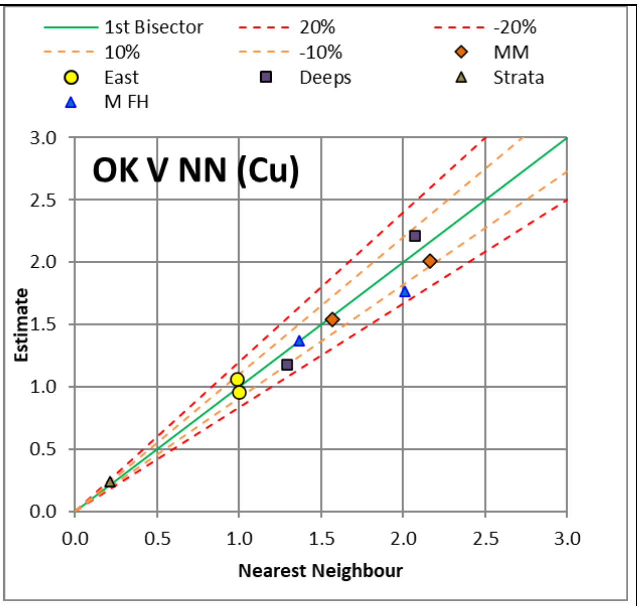

Figure 12-9. Global Copper by Domain comparing OK and NN

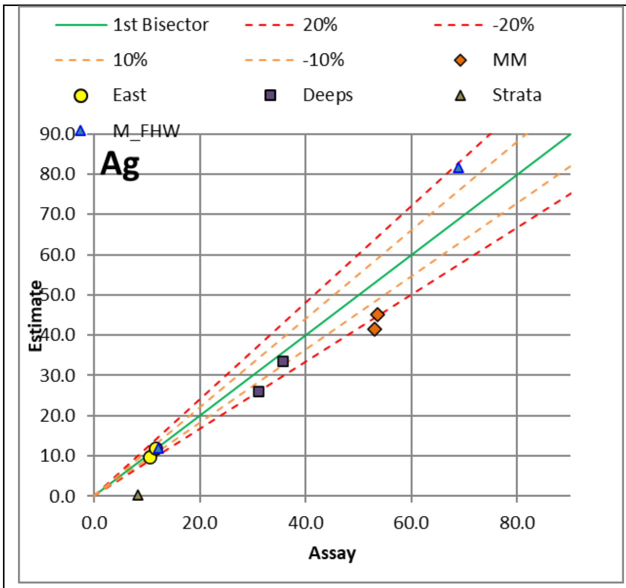

Figure 12-10. Global Silver Validation by Domains

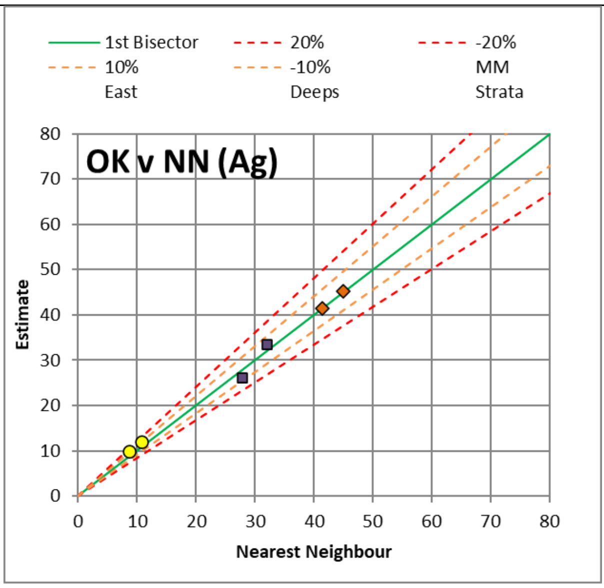

Figure 12-11. Global Silver by Domain comparing OK and NN

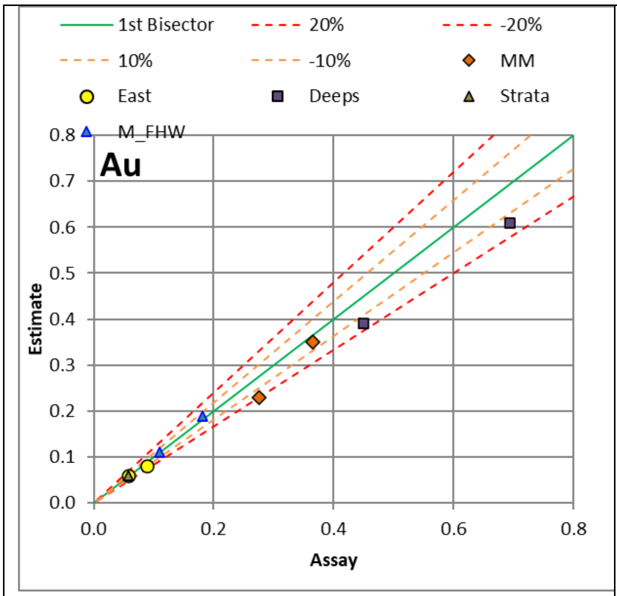

Figure 12-12. Global Gold Validation by Domains

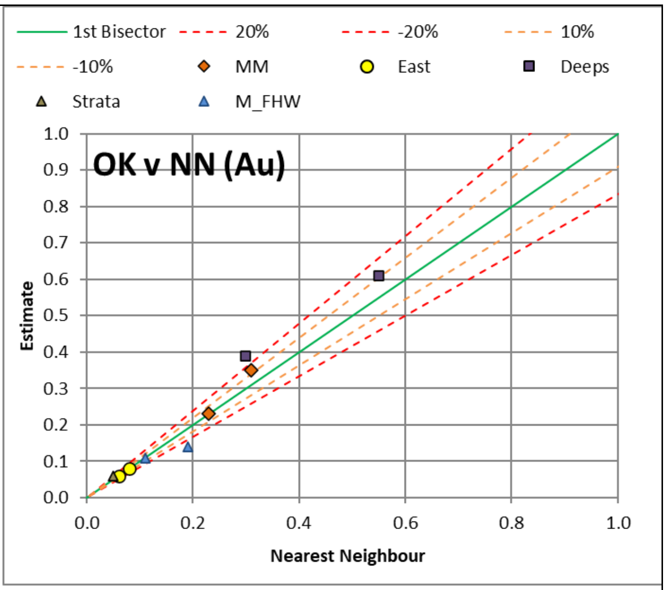

Figure 12-13. Global Gold by Domain comparing OK and NN

12.6.3 Local Bias Check

Swath plots were generated on vertical E-W 25 m wide swaths to assess local bias along strike by comparing the OK estimate with informing composite means for copper, lead, zinc, silver, gold, bismuth and sulphur. Results show no significant bias between OK estimates and informing samples and the smoothing effects of kriging are apparent. Copper is the dominant economic element and three domains have been selected, Deeps South, Main Shoot and Marshall. Figure 12-14, Figure 12-16 & Figure 12-18 show a good representation of the copper mineralisation. Sections with significantly more assay data have an impact on the local grade of adjacent sections, (Figure 12-14 Cu and Figure 12-15 Ag) both show the estimates remaining low in line with the number of assays seen on section 7,495,300 mN swamping the estimate north and south. Marshall Shoot also shows the impact of the heavily drilled sections 7,494,525 and 7,494,550 mN on surrounding grades.

Silver estimates (Figure 12-15, Figure 12-17 & Figure 12-19) generally show a good correlation between informing silver samples and block grades. Deeps South shows increasing silver grade to the north where there are fewer informing samples to control the edge effect, coincident with model truncation against the cross fault separating Deeps South from North. Main Shoot has worked well, (Figure 12-17) with an appropriate amount of smoothing evident. Silver is richer at the southern end of Main Shoot, showing a similar grade at the northern end of Marshall Lode (Figure 12-19), silver grade drops off in Marshall Lode to the south.

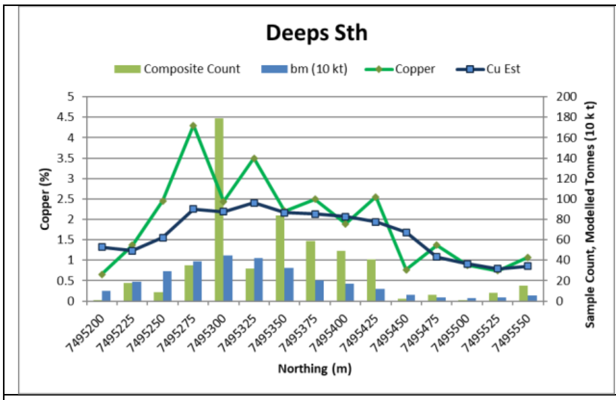

Figure 12-14. Swath Plot Deeps-South - copper

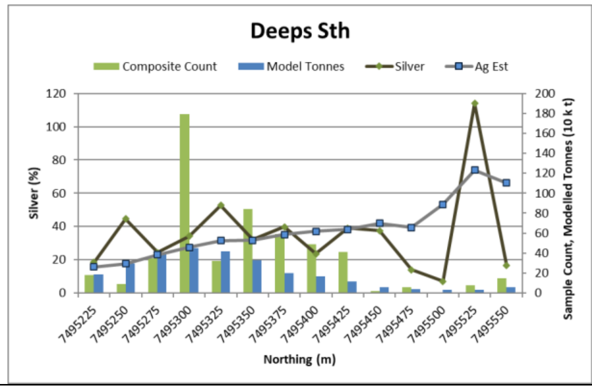

Figure 12-15. Swath Plot, Deeps-South - silver

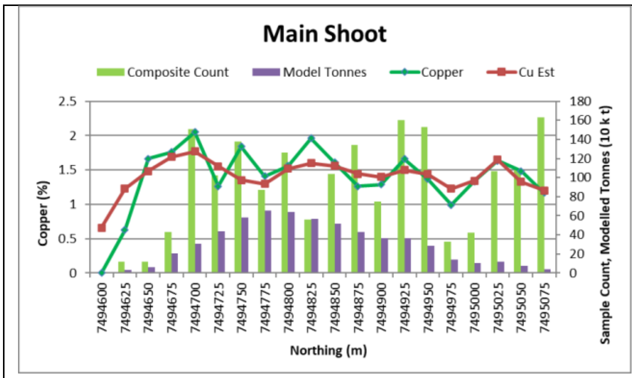

Figure 12-16. Swath Plot Main-Shoot - copper

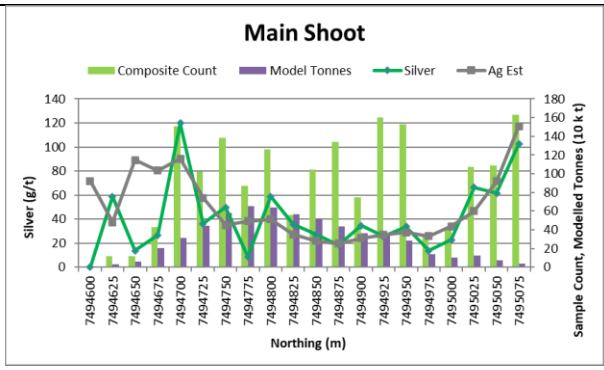

Figure 12-17. Swath Plot, Main-Shoot - silver

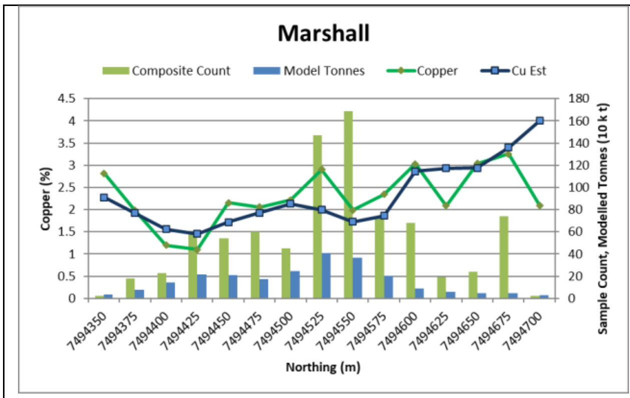

Figure 12-18. Swath Plot Marshall - copper

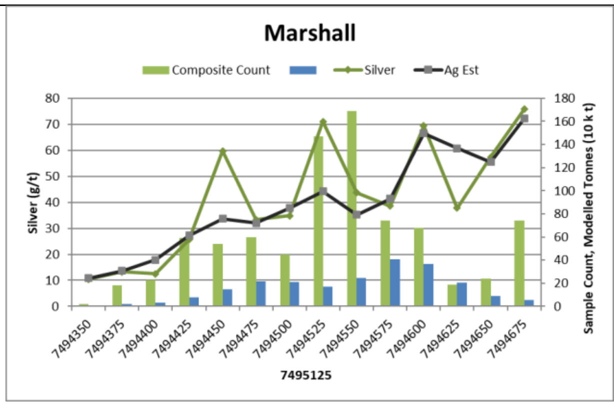

Figure 12-19. Swath Plot, Marshall - silver

Swath plots were also generated on horizontal swaths 20 m wide to assess local bias with depth.

The eastern lodes (East FW and East HW) are drilled on a wider grid. The 20 m swaths show see-sawing sample numbers and grades and the estimate has largely smoothed this to the mean grades (Figure 12-20). Deeps South (Figure 12-21) shows the number of copper assays reduce below -100 m RL corresponding to a sharp increase in grade. The estimated grade increases but not as rapidly as the sample grades due to the estimate taking into account the grades of proximal samples above -100 m RL. Marshall lode shows decreasing grade with depth (Figure 12-23)

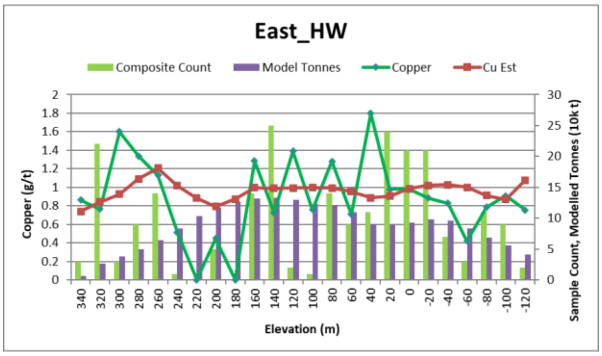

Figure 12-20. Swath Plot (Z) East-HW - copper

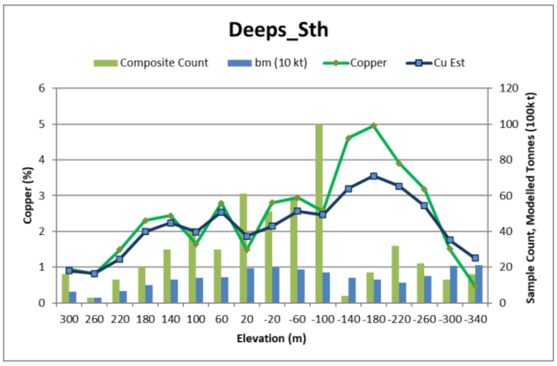

Figure 12-21. Swath Plot (Z) Deeps South - copper

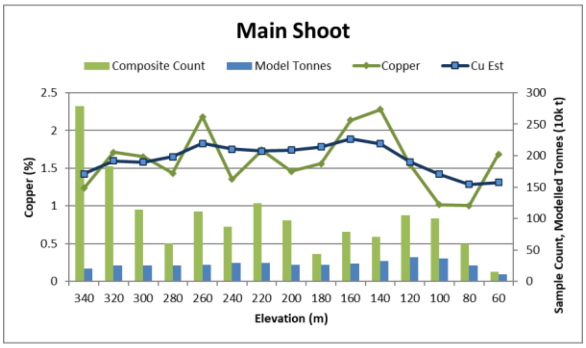

Figure 12-22. Swath Plot (Z) Main Shoot - copper

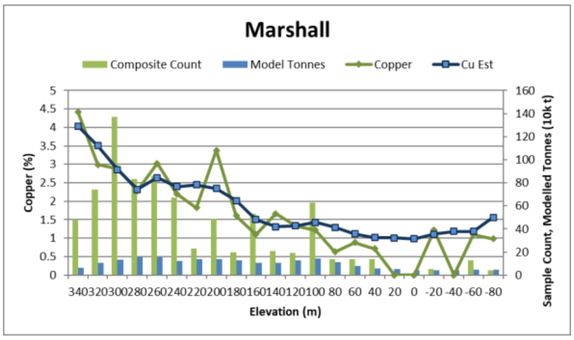

Figure 12-23. Swath Plot (Z) Marshall - copper

12.6.4 Comparison with previous estimates

The updated Reward Mineral Resource estimate shows a 20% increase in contained copper metal to 243.9 kt at a consistent grade of 1.80% copper. The Indicated classified tonnes has increased by 23%.

Both resource estimates are reported as combination of open cut and underground potential. A lower cut-off grade of 0.5% Cu is applied to material above 200 m RL, and above 1% Cu below 200 m RL. The 2020 resource is shown in Table 12-28 and the current resource estimate is shown in Table 12-29.

Table 12-28. June 2020 Resource Estimate, (Taylor 2020)

Resource		Material	Grade (%)			Metal		
Area	Category	(Mt)	Cu %	Ag g/t	Au g/t	Cu kt	Ag Moz	Au koz
Open Cut Potential >0.5 % Cu	indicated	3.34	1.86	41.8	0.44	62	4.49	47.5
	Inferred	0.76	0.93	9.5	0.06	7	0.23	1.4
Sub Total (< 200 mRL)		*4.10*	*1.69*	*35.8*	*0.37*	*69*	*4.72*	*48.9*
Underground Potential > 1% Cu	indicated	3.69	2.22	42.8	0.51	82	5.07	60.2
	inferred	3.50	1.48	26.8	0.18	52	3.01	20.7
Sub Total (> 200 mRL)		7.19	1.86	35.0	0.35	134	8.08	80.9
Resource Sub totals	indicated	7.03	2.05	42.3	0.48	144	9.56	107.7
	inferred	4.26	1.38	23.7	0.16	59	3.24	22.1
Total		11.28	1.80	35.3	0.36	203	12.80	129.8

Table 12-29. January 2022 Resource Estimate (Current)

Resource		Material	Grade (%)			Metal		
Area	Category	(Mt)	Copper	Silver	Gold	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	3.84	1.80	39.4	0.31	69.1	4.86	38.2
	Inferred	0.65	0.92	9.2	0.07	5.9	0.19	1.5
Sub Total (< 200 mRL)		4.48	1.67	35.0	0.28	75.0	5.04	39.7
Underground Potential > 1% Cu	Indicated	4.78	2.12	42.6	0.45	101.6	6.55	69.2
	Inferred	4.32	1.56	19.6	0.20	67.3	2.72	27.8
Sub Total (> 200 mRL)		9.10	1.86	31.7	0.33	168.9	9.28	96.6
Resource Sub totals	**Indicated**	**8.62**	**1.98**	**41.2**	**0.39**	**170.7**	**11.4**	**107.4**
	Inferred	**4.96**	**1.48**	**18.2**	**0.18**	**73.2**	**2.9**	**29.2**
Total		**13.58**	**1.80**	**32.8**	**0.31**	**243.9**	**14.3**	**136.7**

12.7 CUT-OFF GRADES

Cut off grades applied are 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 be the depth limit for potential open pit mining. KGL are considering the optimal transition depth for the change over from open pit to underground mining in the feasibility study currently under way.

Classified resources (combined Indicated and Inferred) as defined above are presented at increasing copper cut offs highlighting the deportment of associated elements (Table 12-30). Figure 12-24 shows the resource as grade tonnage curves by resource category.

Table 12-30. Deportment of Associated Elements within Reward Copper Mineralisation

cut-off	Tonnes (M t)	Cu (%)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
0.50	**13.58**	**1.80**	**32.8**	**0.31**	**0.39**	**0.29**	**17.4**	**2.50**	**318**	**14**	**77**	**2950**
0.75	12.91	1.86	33.8	0.32	0.40	0.29	17.5	2.54	323	14	77	3000
1.00	12.32	1.90	34.4	0.33	0.40	0.30	17.7	2.58	326	14	77	3050
1.25	9.44	2.14	37.6	0.37	0.41	0.32	17.9	2.78	354	15	81	3110
1.50	7.02	2.41	41.2	0.42	0.43	0.34	18.3	3.01	389	15	85	3070

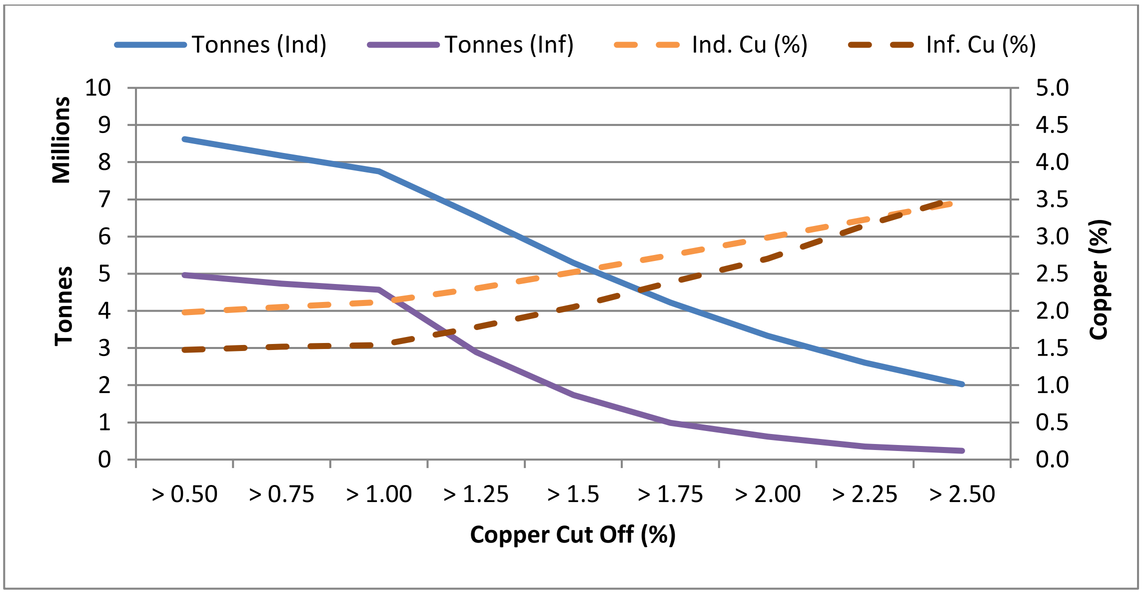

Figure 12-24. Classified Resource - Grade Tonnage Curves

12.7.1 Reasonable Prospects for eventual Economic Extraction

Assumptions for reasonable prospects for eventual economic extraction applied to this deposit include but may not be limited to Table 12-31 (prices are AUD).

Table 12-31. Adopted costs for reasonable prospects of economic extraction

Parameter	unit	Average
Mill Throughput per annum (Mtpa)	Mt	1.6
Strip ratio	Ore t/ waste t	1:12.55
General and Administration Cost	$/t ore	5.25
Copper price	$/t	12,080
Silver price	$/oz	25.32
Average Open Pit Mining cost	$/total tonne mined	3.46
Average Underground Mining cost	$/total tonne mined	43.4
Sulphide ore processing cost	$/t ore	22.31
Oxidised ore processing cost	$/t ore	22.31
Pit bench angle	Degrees	48.5
Ore loss	%	5
Dilution	%	5

12.8 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 historic mining activities justified the classification of indicated and inferred resources. Data quality does not preclude Measured but geological confidence and grade continuity are not sufficiently defined to assign Measured Resources; this can change with further drilling.

Indicated resources are the portions of the deposit with a drill spacing of 50 m x 50 m and demonstrate a reasonable level of confidence in the geological continuity of the mineralisation, supported by some infill drilling. 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.

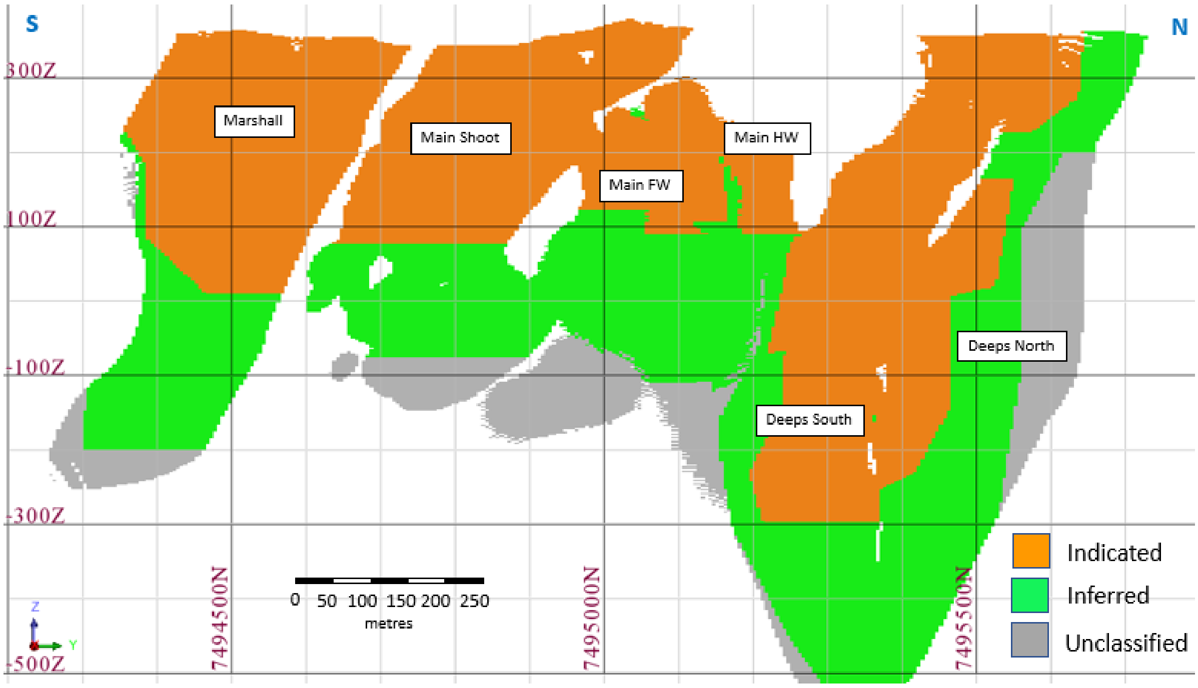

Figure 12-25. Reward Resource categories

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

12.9 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 Reward Deposit is a large steeply dipping syn-depositional 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 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 silver and gold are calculated as functions of copper grade in oxide, transitional and sulphide ore (see 11).

Sulphur has been estimated through-out the block model. Iron and sulphur have been estimated within the sulphur domain and outside the sulphur domain (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.

12.10 REWARD RESOURCE SUMMARY

The resource is reported above a depth of 200 m RL and a 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 12-32. January 2022 Resource Estimate (Current)

Resource		Material	Grade (%)			Metal		
Area	Category	(Mt)	Copper	Silver	Gold	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	3.84	1.80	39.4	0.31	69.1	4.86	38.2
	Inferred	0.65	0.92	9.2	0.07	5.9	0.19	1.5
Sub Total (< 200 mRL)		4.48	1.67	35.0	0.28	75.0	5.04	39.7
Underground Potential > 1% Cu	Indicated	4.78	2.12	42.6	0.45	101.6	6.55	69.2
	Inferred	4.32	1.56	19.6	0.20	67.3	2.72	27.8
Sub Total (> 200 mRL)		9.10	1.86	31.7	0.33	168.9	9.28	96.6
Resource Sub totals	**Indicated**	**8.62**	**1.98**	**41.2**	**0.39**	**170.68**	**11.4**	**107.4**
	Inferred	**4.96**	**1.48**	**18.2**	**0.18**	**73.23**	**2.9**	**29.2**
Total		**13.58**	**1.80**	**32.8**	**0.31**	**243.91**	**14.3**	**136.7**

Weathering of the deposits has an impact on metallurgical recoveries. KGL is modelling different recoveries based on the amount of sulphur present. Table 12-33 shows the deposits reported by weathering profiles, including the High Sulphur resource (S/Cu > 4.5).

Table 12-33. Reward Resource by weathering profile (above 200 m RL above 0.5% Cu and below 200 m RL above 1.0% Cu)

Resource		Mass	Grades										Metal				
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
Indicated	Oxide	0.24	1.76	0.81	0.37	53.6	0.40	14.9	1.96	400	16	106	4.2	1.9	0.9	0.41	3.1
	Transitional	0.31	2.07	0.77	0.33	57.2	0.29	14.2	2.34	465	18	96	6.4	2.4	1.0	0.57	2.9
	High Sulphur	0.25	1.12	0.64	0.27	33.5	0.34	18.8	6.33	701	14	83	2.7	1.6	0.7	0.27	2.7
	Fresh	7.83	2.01	0.43	0.35	40.3	0.39	18.1	2.86	379	15	96	157.3	33.6	27.7	10.14	99.0
Inferred	Oxide	0.002	0.94	0.26	0.11	10.9	0.06	9.4	0.81	149	10	142	-	-	-	0.00	-
	Transitional	0.01	0.73	0.15	0.08	9.2	0.04	12.4	0.87	154	14	54	0.1	-	-	0.00	-
	High Sulphur	0.02	1.13	1.41	0.37	44.0	0.20	16.4	6.13	367	8	61	0.2	0.3	0.1	0.03	0.1
	Fresh	4.93	1.48	0.28	0.18	18.2	0.18	16.6	1.76	191	12	44	72.9	13.6	9.0	2.88	29.1
Subtotal	Oxide	0.24	1.75	0.81	0.37	53.3	0.40	14.8	1.95	398	16	106	4.2	1.9	0.9	0.41	3.1
	Transitional	0.32	2.04	0.76	0.32	56.27	0.28	14.1	2.30	459	18	95	6.5	2.4	1.0	0.57	2.9
	High Sulphur	0.27	1.12	0.70	0.28	34.3	0.33	18.6	6.32	675	14	81	2.9	1.9	0.8	0.29	2.8
	Fresh	12.76	1.80	0.37	0.29	31.8	0.31	17.5	2.43	306	14	76	230.2	47.2	36.7	13.03	128.0
Total		13.58	1.80	0.39	0.29	32.8	0.31	17.4	2.50	318	14	77	243.9	53.4	39.4	14.32	136.7

Reward Resources reported by lode is shown in Table 12-34.

Table 12-34. Reward Deposit by lode (January 2022)

Reward Resource		Material	Grade (%)			Metal		
Category	Area	Mt	Cu (%)	Ag (g/t)	Au (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Indicated	Deeps Nth	0.31	2.23	27.04	0.68	6.8	0.265	6.69
	Deeps Sth	1.93	2.45	36.51	0.67	47.2	2.263	41.48
	Main FW	0.20	2.53	124.42	0.21	5.0	0.786	1.34
	Main HW	0.40	1.42	11.97	0.12	5.7	0.155	1.56
	Main shoot	3.66	1.74	44.45	0.38	63.7	5.230	44.14
	Marshall	1.68	2.30	49.35	0.20	38.7	2.666	10.96
	East FW	0.13	1.13	5.90	0.03	1.5	0.025	0.13
	East HW					0.0	0.000	0.00
	Stratabound	0.31	0.67	0.40	0.09	2.1	0.004	0.91
Sub-total		**8.62**	**1.98**	**41.1**	**0.39**	**170.7**	**11.4**	**107.2**
Inferred	Deeps Nth	0.43	2.25	39.75	0.47	9.8	0.555	6.61
	Deeps Sth	0.46	1.43	18.90	0.36	6.6	0.282	5.36
	Main FW	0.11	1.72	29.99	0.20	2.0	0.111	0.74
	Main HW	0.61	1.48	10.40	0.11	9.0	0.204	2.15
	Main shoot	0.90	1.45	31.00	0.26	13.0	0.892	7.48
	Marshall	0.36	1.59	10.84	0.15	5.8	0.127	1.76
	East FW	1.01	1.39	10.40	0.06	14.1	0.339	2.07
	East HW	1.05	1.22	12.08	0.07	12.8	0.406	2.36
	Stratabound	0.02	0.99	0.40	0.14	0.2	0.000	0.10
Sub-total		**4.96**	**1.48**	**18.3**	**0.18**	**73.2**	**2.9**	**28.6**
Total		**13.58**	**1.80**	**32.8**	**0.31**	**243.9**	**14.3**	**135.8**

13 MINERAL RESOURCE ESTIMATE – BELLBIRD

Bellbird is located on the western limb of the regional scale "J"-fold. Bellbird differs from Reward and Rockface in that the host rocks are extensively sheared, and magnetite is present in smaller amounts in its alteration zone. In addition, bornite has been intersected in some drill holes, a mineral less common at Reward.

Bellbird is interpreted by KGL as a syn-depositional copper-rich, polymetallic massive sulphide deposit that has undergone deformation, metamorphism and a high degree of structural remobilisation, including intense shearing and remobilisation of sulphides, possibly enhanced by a late-stage hydrothermal event. The intense shearing is associated with the nearby Jervois Shear zone.

Bellbird domains were created primarily based on structural shoot orientations (Figure 13-1), weathering, and grade. Cross sections of the interpreted implicit models for Main Lode and the associated hanging wall lodes are shown in Figure 13-2 and Figure 13-3.

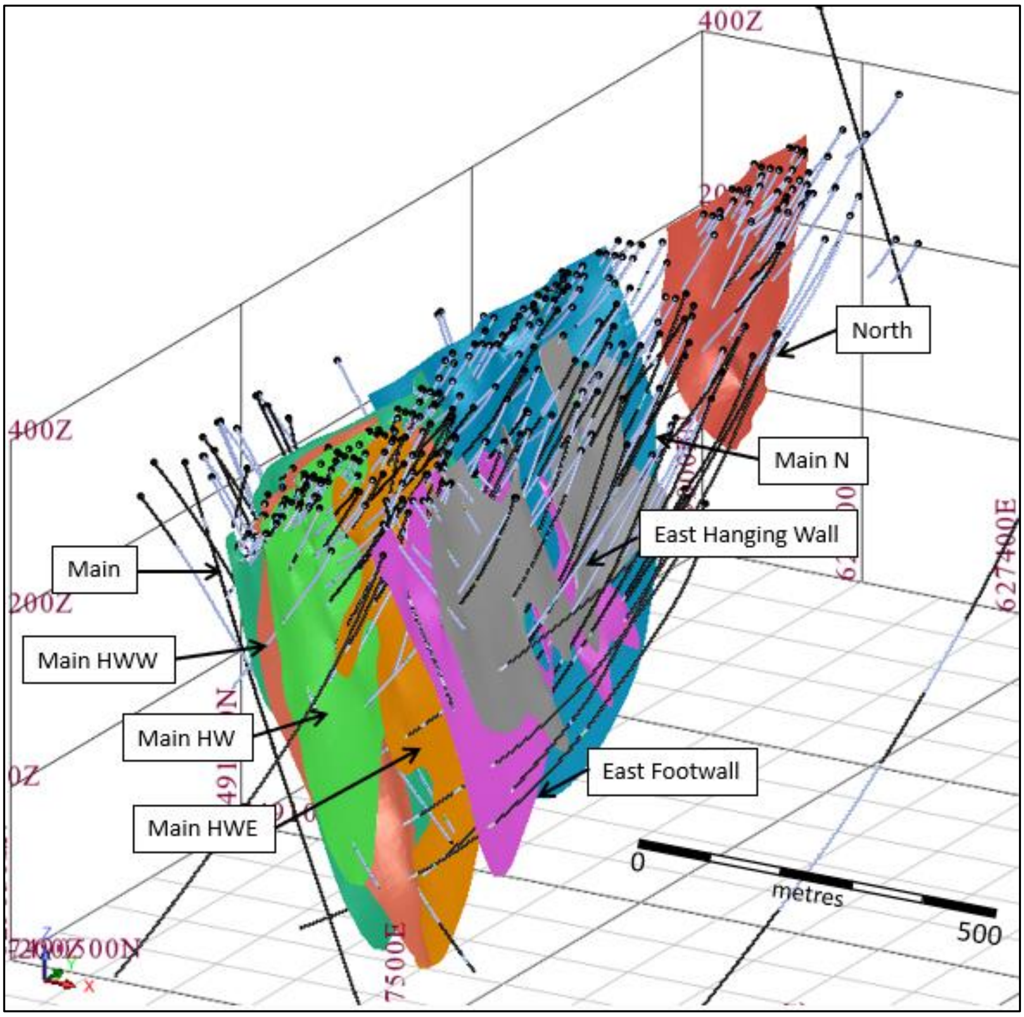

Figure 13-1. Oblique View Showing Interpreted Bellbird Domains

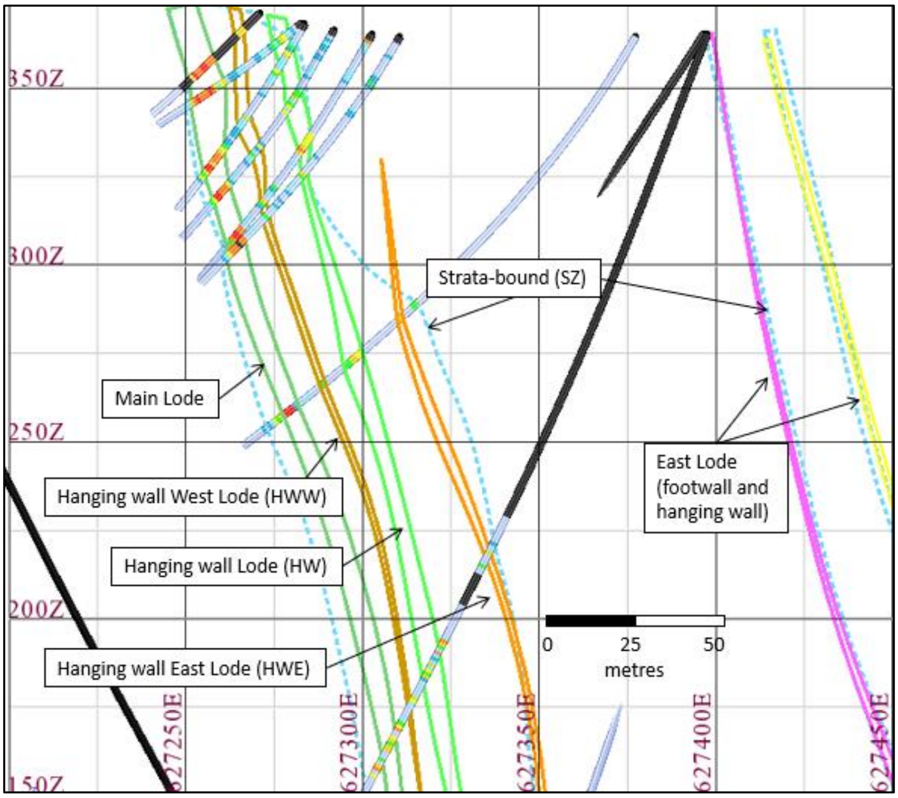

Figure 13-2. Bellbird Lodes (E-W section 7,490,725 m N ± 12.5 m)

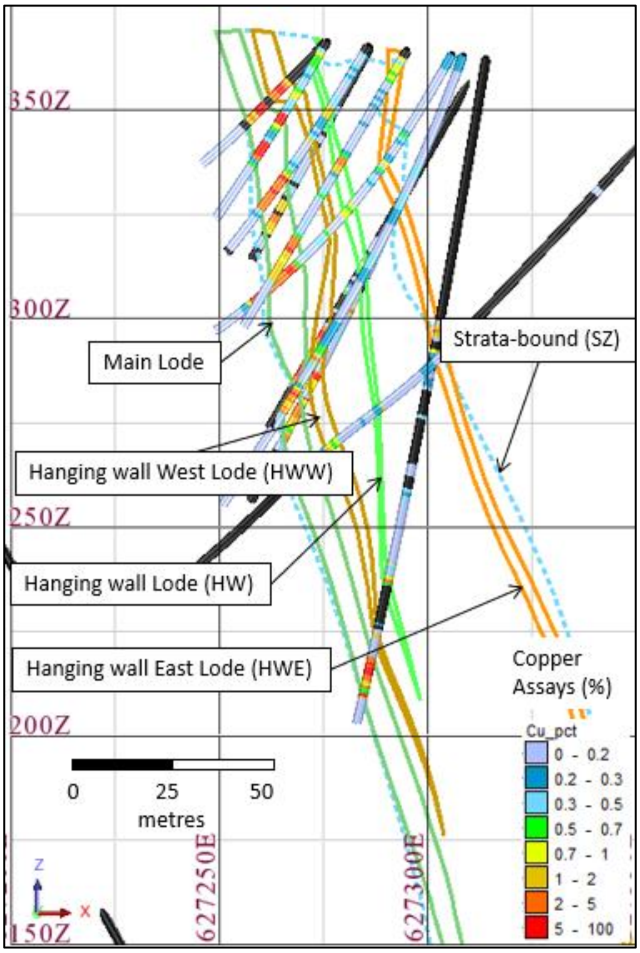

Figure 13-3. Main and Hanging Wall Lodes, Cross Section (7,490,800 m N ± 12.5 m)

KGL procedures for the measurement of dry bulk density on drill core samples were supplied. Routine measurements were made on selected intervals of core approximately 10 cm in length.

Density measurements are summarised by rock type in Table 13-1 and Figure 13-4, codes prefixed with Y are mineralised rock codes.

Table 13-1. Average Density Measurements by Rock Type

Code	Count	Density	Description
Fpg	22	2.80	Pegmatite
Ha	4	3.04	Amphibolite (gabbro), sheared amphibolite, Metagabbro
Hcs	116	2.91	Calc silicate
Hm	21	2.96	Marble
Vq	34	2.84	Quartz vein
Y	277	2.95	Mineralised lode undifferentiated
Ycarb	38	2.89	Mineralised lode - Marble hosted
Ycs	5	2.89	Mineralised lode - Calcsilicate/skarn ('Mrbl_Cs' Group if modelling carbonate)
Yma	28	3.04	Mineralised lode - Magnetite/ ironstone
Yqgm	66	2.97	Mineralised lode - Quartzite/psammite +/- Chlorite/Biotite and Garnet/Magnetite
Z	281	2.91	Schist - undifferentiated
Zacgm	434	2.89	Muscovite and/or Sericite schist with Garnet and/or Magnetite
Zanco	997	2.92	Andalusite and/or Cordierite schist
Zcbgm	62	2.94	Chlorite and/or Biotite schist with Garnet and/or Magnetite
Zchbi	21	2.88	Chlorite and/or Biotite schist
Zcs	41	2.88	Calc silicate schist/skarn (incls. ga/ep)
Zmuse	355	2.89	Muscovite Schist
Zqgm	53	2.96	Quarrtzite/psammite schist +/- chlorite/biotite and garnet/magnetite
Zqp	205	2.79	Quartzite and/or Psammite
Zqsmu	30	2.86	Quartz-sericite/muscovite schist

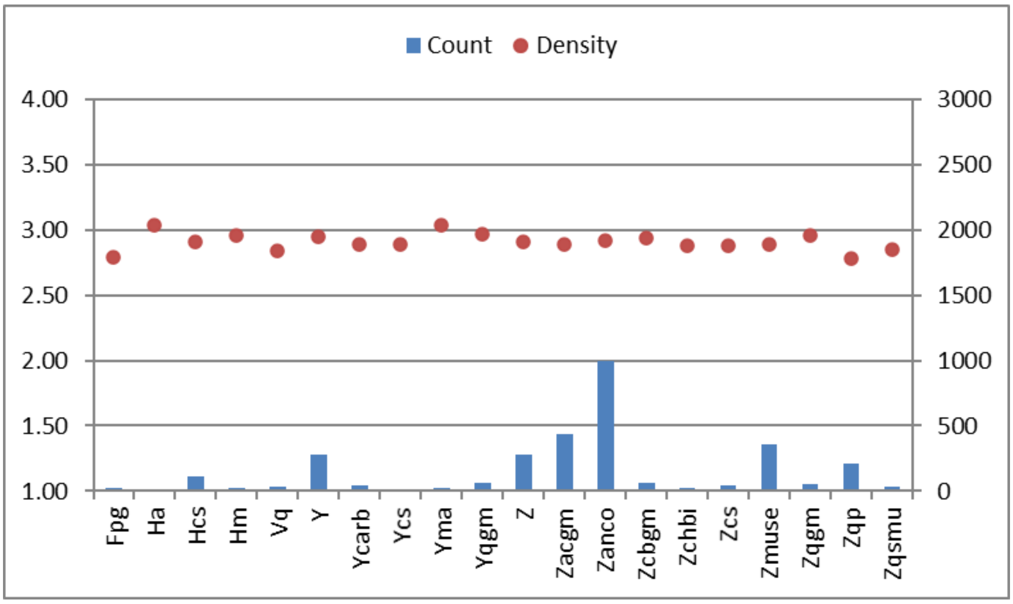

Figure 13-4. Mean Density by Rock Type

The average density of all material (3,090 readings) is 2.91. 219 records could not be matched to logged oxidation states; 28 records were logged as oxidised material and averaged 2.73 t/m^3; 76 records matched to transitional and 2,767 records matched to fresh logging codes, with both averaging 2.91 t/m^3.

13.1 DIMENSIONS

The sheared Bellbird mineralisation is interpreted by KGL as a syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and remobilisation. The deposit lies in the western limb of a regional drag fold. The Bellbird deposits strike over 1.5 km (Figure 13-5), within the structural corridor with three remobilised high grade structures, each approximately 500 m in length, dipping steeply east up to 600 m below the surface (Figure 13-6). Structures are open to depth and vary in thickness from 2 to 25 m. The southern portion of the structural zone has two associated hanging wall lodes. To the east, hosted in psammite are two lower grade east dipping lodes referred to as the east lodes.

Database extents (Table 13-2) are greater than the mineralised resource described in this report.

Table 13-2. Database Extents

	Min (m)	Max (m)	Extents (m)
Northing	7,490,428	7,492,210	1,782
Easting	627,026	627,949	923
RL	353	380	27
Hole Depth	16	710.1	NA

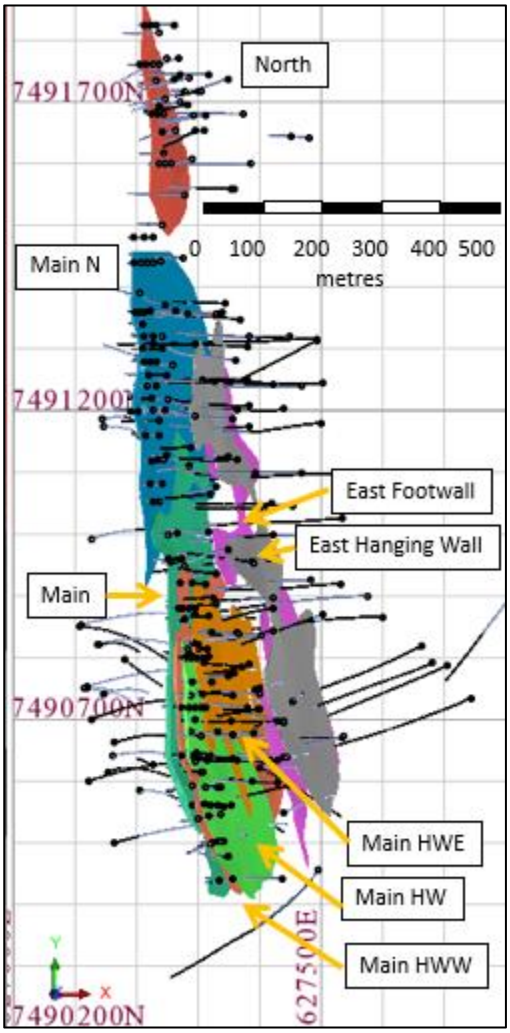

Figure 13-5. Plan View of Bellbird Mineralisation 1.0% Cu Grade Shell with Drill Hole Collars

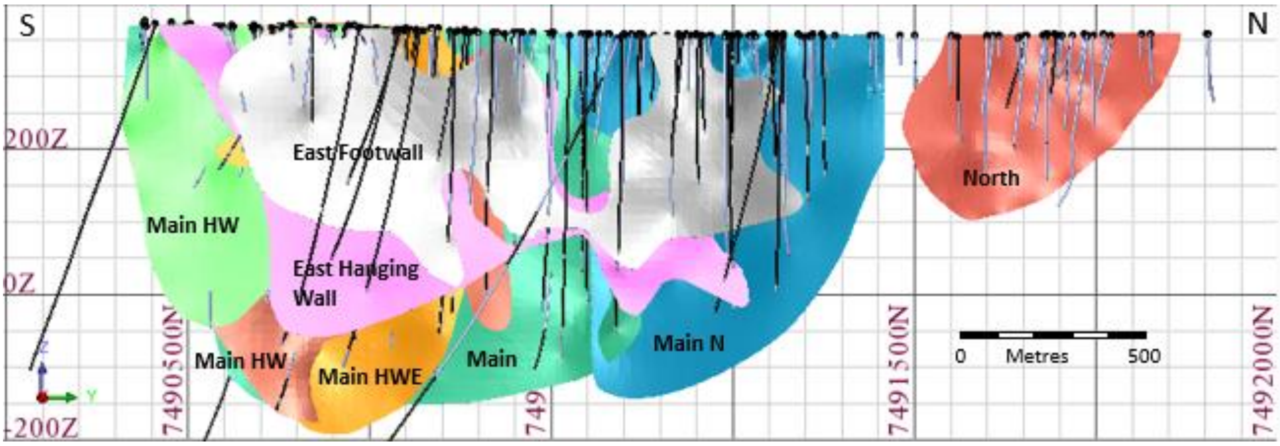

Figure 13-6. Long Section View Showing Wireframe Domains

13.1.1 Drill Hole Spacing

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 x 50m grid) in more peripheral areas. The shallower mineralisation (above 300m RL) has been infilled to approximately 25 x 25 m and as tight as 10 m near surface on sections 80 m apart.

13.1.2 Domains and Stationarity

A domain is a defined volume that delineates the spatial limits of a single grade population. Domains have a single orientation of grade continuity, are geologically homogeneous and have statistical and geostatistical parameters that are applicable throughout the volume (i.e. the principles of stationarity apply). Typical controls that can be used as the boundaries to domains include structural features, weathering, mineralisation halos and lithology.

Within Bellbird, domains were created primarily on the basis of structural lodes, weathering and grade. Domains were interpreted by MA using implicit modelling techniques (Table 13-3) to create 3D wireframes to represent each domain.

Table 13-3. Domain Names - Wireframe Legend

Lode Name	Domain Group	Domain	Wireframe Name	Object	Trisolation
Sulphide Domain	Sulphide	SZ	bb_sz11.dtm	11	3
Main north	Copper	Main N	bb_main_n12.dtm	12	1
Main lode	Copper	Main	bb_main13.dtm	13	1
Main hanging wall east	Copper	Main HWE	bb_main_hwe14.dtm	14	1
Main hanging wall	Copper	Main HW	bb_main_hw15.dtm	15	1
Main hanging wall West	Copper	Main HWW	bb_main_hww16.dtm	16	1
North	Copper	North	bb_north17.dtm	17	1
East footwall	Copper	East FW	bb_east_fw18.dtm	18	1
East hanging wall	Copper	East HW	bb_east_hw19.dtm	19	1

13.1.3 Compositing

Selection of a composite length should be appropriate for the data, deposit and conceptual mining scenario.

Care was taken to avoid splitting samples when compositing. The most common sample length at Bellbird is 1 m. The drill hole database was composited to 1 m intervals using Surpac's best fit algorithm, using a minimum permitted composite length of 0.75 m.

13.1.4 Summary Statistics

Summary statistics for each domain are shown below (Table 13-4 to Table 13-12). Copper, lead and zinc assay data is stored as parts per million (ppm) in the database allowing 4 decimal places to be used when converted to percentages.

Table 13-4. Summary Statistics, Main Lode

Statistics - Main	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	879	879	879	829	848	721	608	691	520	688	206
Minimum value	0.046	0.001	0.002	0.005	0.250	1.81	0.01	5	5	3	262
Maximum value	13.59	0.17	0.08	0.93	87.9	47.2	29.7	1865	122	645	3528
Mean	2.800	0.028	0.023	0.14	17.2	15.5	4.8	356	17	31	1017
Std Deviation	2.717	0.030	0.014	0.16	17.4	6.3	4.8	425	25	44	518
CV	0.97	1.07	0.61	1.13	1.0	0.4	1.0	1	2	1	1
Skewness	1.83	2.40	1.90	2.48	2.0	1.3	1.6	1.90	3.06	7.39	1.58
10.0 Percentile	0.539	0.005	0.010	0.02	3.0	9.1	0.2	25	5	10	520
25.0 Percentile	0.966	0.010	0.014	0.04	5.8	10.9	1.4	65	5	10	621
Median	1.835	0.019	0.020	0.09	12.0	14.0	3.3	189	5	20	884
75.0 Percentile	3.707	0.034	0.027	0.18	22.0	18.7	6.6	464	16	30	1308
95.0 Percentile	8.784	0.090	0.052	0.46	54.1	27.0	15.0	1308	80	90	1969
97.5 Percentile	10.685	0.112	0.065	0.63	72.5	31.4	17.4	1864	122	122	2324
99.0 Percentile	13.570	0.169	0.080	0.88	87.9	37.1	19.6	1865	122	156	2931

Table 13-5. Summary Statistics, Main-North Lode

Statistics - Main N	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	fluorine
Number of samples	228	228	228	218	228	215	192	212	184	214	45
Minimum value	0.002	0.001	0.013	0.005	0.250	2.59	0.01	1	5	4	82
Maximum value	11.09	0.31	0.84	3.60	56.1	33.7	22.3	838	122	1080	3111
Mean	1.783	0.034	0.112	0.38	11.4	14.7	4.2	195	12	28	1095
Std Deviation	1.714	0.052	0.169	0.59	11.6	5.7	4.8	201	12	76	671
CV	0.96	1.55	1.50	1.55	1.0	0.4	1.1	1	1	3	1
Skewness	2.48	3.93	3.14	3.69	2.0	0.8	1.7	1.67	5.21	12.49	1.19
10.0 Percentile	0.365	0.005	0.025	0.04	2.0	8.2	0.0	21	5	10	356
25.0 Percentile	0.739	0.010	0.038	0.09	4.0	10.8	0.7	54	5	10	621
Median	1.180	0.019	0.057	0.19	8.0	14.0	2.8	129	10	20	966
75.0 Percentile	2.374	0.036	0.089	0.41	13.5	18.1	5.7	254	13	30	1400
95.0 Percentile	5.070	0.104	0.544	1.43	36.0	25.4	13.5	691	30	55	2749
97.5 Percentile	6.320	0.244	0.784	2.37	50.0	29.4	18.3	838	42	83	3083
99.0 Percentile	10.130	0.310	0.840	3.60	56.1	31.8	21.5	838	52	218	3111

Table 13-6. Summary Statistics, North Lode

Statistics - North	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	92	90	90	56	82	32	32	32	32	32	2
Minimum value	0.001	0.001	0.010	0.010	0.250	4.72	0.01	5	5	5	1046
Maximum value	4.87	11.95	14.37	0.79	102.0	24.8	8.1	283	30	320	1135
Mean	0.837	2.076	2.782	0.08	19.5	10.4	2.4	63	7	32	1091
Std Deviation	0.928	3.117	3.961	0.15	25.8	4.8	2.5	66	6	55	45
CV	1.11	1.50	1.42	1.90	1.3	0.5	1.0	1	1	2	0
Skewness	1.94	1.80	1.53	3.61	1.8	1.3	0.7	1.61	2.85	4.47	0.00
10.0 Percentile	0.010	0.016	0.067	0.01	0.6	6.1	0.0	7	5	10	0
25.0 Percentile	0.227	0.071	0.208	0.01	4.0	7.1	0.3	15	5	10	1046
Median	0.560	0.488	0.550	0.03	7.5	8.1	1.6	38	5	10	1091
75.0 Percentile	1.093	2.750	4.220	0.08	21.0	12.6	4.4	89	5	35	1135
95.0 Percentile	2.860	9.710	11.950	0.38	83.5	20.3	6.8	197	20	80	1135
97.5 Percentile	3.615	11.750	14.260	0.75	97.0	23.1	7.5	250	25	205	1135
99.0 Percentile	4.250	11.950	14.370	0.75	101.5	24.8	8.1	283	30	320	1135

Table 13-7. Summary Statistics, Main Hanging Wall East

Statistics - M_HWE	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	106	106	106	93	100	89	71	83	62	80	34
Minimum value	0.013	0.001	0.006	0.005	0.250	6.75	0.01	1	5	3	306
Maximum value	2.72	0.03	0.03	0.14	13.5	22.0	4.2	188	16	117	2098
Mean	0.798	0.009	0.018	0.03	4.3	12.8	1.1	38	6	15	1217
Std Deviation	0.585	0.007	0.005	0.03	3.6	3.7	1.0	44	3	17	459
CV	0.73	0.74	0.26	0.90	0.8	0.3	0.9	1	0	1	0
Skewness	1.23	1.16	0.25	1.63	1.0	0.5	1.1	1.79	2.77	4.21	-0.18
10.0 Percentile	0.194	0.003	0.013	0.01	0.9	8.5	0.0	3	5	5	501
25.0 Percentile	0.358	0.004	0.014	0.01	1.3	9.5	0.3	6	5	7	837
Median	0.727	0.007	0.018	0.03	3.0	11.9	0.8	24	5	10	1207
75.0 Percentile	1.052	0.012	0.021	0.05	6.1	15.4	1.7	52	5	16	1589
95.0 Percentile	1.909	0.023	0.026	0.11	12.0	19.6	2.9	141	15	40	1856
97.5 Percentile	2.417	0.024	0.028	0.14	13.0	20.7	3.6	184	15	70	1984
99.0 Percentile	2.720	0.030	0.030	0.14	13.5	21.5	4.1	188	15	109	2098

Table 13-8. Summary Statistics, Main Hanging Wall

Statistics - M_HW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	337	337	337	322	325	253	212	242	195	242	57
Minimum value	0.070	0.001	0.005	0.005	0.250	5.21	0.01	4	5	5	130
Maximum value	3.91	0.05	0.03	0.41	22.90	35.8	5.7	512	96	1010	1699
Mean	1.048	0.011	0.020	0.07	5.4	14.0	1.0	128	12	36	801
Std Deviation	0.846	0.009	0.006	0.07	4.5	4.3	1.0	117	13	67	326
CV	0.81	0.80	0.28	1.00	0.8	0.3	1.0	1	1	2	0
Skewness	1.68	1.89	-0.07	2.13	1.7	1.3	1.3	1.80	3.17	12.65	0.37
10.0 Percentile	0.280	0.003	0.012	0.01	1.0	9.2	0.0	25	5	10	368
25.0 Percentile	0.525	0.005	0.017	0.02	2.0	11.1	0.0	49	5	18	677
Median	0.783	0.010	0.020	0.05	4.0	13.4	0.8	94	5	30	772
75.0 Percentile	1.318	0.013	0.023	0.10	7.0	16.3	1.6	166	12	40	939
95.0 Percentile	3.034	0.030	0.030	0.23	14.5	21.2	3.0	407	40	89	1397
97.5 Percentile	3.700	0.038	0.030	0.28	19.0	23.1	3.6	512	53	97	1647
99.0 Percentile	3.910	0.048	0.030	0.41	22.9	26.3	4.6	512	68	144	1647

Table 13-9. Summary Statistics, Main Hanging Wall West

Statistics - M_HWW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	343	343	343	320	329	259	224	245	194	245	72
Minimum value	0.070	0.001	0.007	0.005	0.250	4.61	0.01	3	5	3	364
Maximum value	6.480	0.04	0.06	0.76	29.6	26.0	10.9	472	122	500	2008
Mean	1.114	0.010	0.021	0.07	5.2	11.1	1.6	86	12	19	963
Std Deviation	1.252	0.008	0.007	0.12	5.5	3.1	1.7	100	19	37	306
CV	1.12	0.80	0.35	1.68	1.0	0.3	1.1	1	2	2	0
Skewness	2.57	1.84	1.63	4.21	2.6	1.6	1.9	2.55	4.48	10.12	1.09
10.0 Percentile	0.214	0.003	0.013	0.01	1.0	8.1	0.0	13	5	5	675
25.0 Percentile	0.384	0.005	0.018	0.02	2.0	9.1	0.3	25	5	10	767
Median	0.660	0.009	0.020	0.03	4.0	10.6	1.1	55	5	10	892
75.0 Percentile	1.360	0.012	0.024	0.07	6.0	12.1	2.3	98	10	20	1071
95.0 Percentile	3.611	0.028	0.034	0.25	16.0	16.4	4.9	357	34	41	1491
97.5 Percentile	5.749	0.036	0.038	0.50	28.0	19.3	6.2	472	75	58	1734
99.0 Percentile	6.480	0.040	0.055	0.76	29.6	22.4	8.7	472	122	192	1974

Table 13-10. Summary Statistics, East Footwall

Statistics - E_FW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	67	61	61	63	49	57	56	44	38	44	34
Minimum value	0.090	0.001	0.020	0.005	0.250	4.10	0.03	3	5	5	416
Maximum value	9.140	1.73	7.99	0.21	83.0	43.7	21.1	1853	62	50	2019
Mean	1.382	0.157	0.533	0.03	12.8	11.7	3.3	264	18	13	1091
Std Deviation	1.983	0.335	1.482	0.04	17.7	8.6	4.2	486	14	8	344
CV	1.43	2.14	2.78	1.16	1.4	0.7	1.3	2	1	1	0
Skewness	2.48	3.18	4.20	2.61	2.6	1.9	2.3	2.21	1.35	2.77	0.18
10.0 Percentile	0.242	0.003	0.032	0.01	1.7	5.5	0.2	13	5	5	619
25.0 Percentile	0.340	0.010	0.042	0.01	2.0	6.6	0.5	26	10	8	834
Median	0.554	0.018	0.093	0.02	5.7	8.5	1.9	63	15	10	1082
75.0 Percentile	1.366	0.134	0.244	0.04	15.5	12.0	3.8	140	22	14	1341
95.0 Percentile	6.475	0.963	3.085	0.12	59.1	31.7	13.8	1554	49	26	1547
97.5 Percentile	7.837	1.268	5.713	0.15	83.0	39.3	18.2	1853	56	40	1830
99.0 Percentile	9.015	1.583	7.898	0.19	83.0	39.3	18.2	1853	62	50	2019

Table 13-11. Summary Statistics, East Hanging Wall

Statistics - E_HW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	126	121	121	89	114	117	106	107	96	107	54
Minimum value	0.003	0.002	0.003	0.005	0.250	0.54	0.01	1	5	3	124
Maximum value	5.980	4.21	10.55	0.11	52.9	8.7	8.0	239	122	68	2460
Mean	1.108	0.409	0.938	0.02	9.2	2.6	1.1	38	10	14	1013
Std Deviation	1.308	0.896	2.277	0.02	11.7	2.1	1.7	55	14	9	541
CV	1.18	2.19	2.43	1.21	1.3	0.8	1.6	1	1	1	1
Skewness	2.18	2.88	2.95	3.05	2.5	1.1	2.3	2.28	6.13	2.74	0.12
10.0 Percentile	0.188	0.004	0.005	0.01	1.0	0.8	0.0	3	5	5	309
25.0 Percentile	0.319	0.006	0.013	0.01	3.0	1.0	0.1	6	5	10	484
Median	0.661	0.023	0.059	0.01	5.0	1.3	0.3	14	5	10	1129
75.0 Percentile	1.295	0.314	0.296	0.02	9.0	4.2	1.2	39	10	20	1405
95.0 Percentile	4.523	2.554	6.745	0.08	33.5	7.1	5.4	184	22	30	1761
97.5 Percentile	5.495	3.865	9.607	0.11	52.9	8.0	6.4	224	44	32	2218
99.0 Percentile	5.980	4.210	10.550	0.11	52.9	8.5	7.7	239	88	54	2218

Table 13-12. Summary Statistics, Shear Zone (Stratabound)

Statistics	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	4433	4416	4429	3559	4195	3881	3555	3558	3052	3596	956
Minimum value	0.000	0.000	0.001	0.000	0.250	0.69	0.01	1	5	3	201
Maximum value	5.460	11.90	17.30	3.67	107.0	41.9	19.7	3380	230	4750	3459
Mean	0.217	0.052	0.098	0.03	2.4	10.3	0.7	46	8	23	1193
Std Deviation	0.320	0.440	0.700	0.09	5.3	3.5	1.1	123	11	102	397
CV	1.47	8.46	7.14	3.12	2.2	0.3	1.6	3	1	4	0
Skewness	7.33	15.11	14.99	23.56	9.5	2.2	7.0	14.83	9.00	31.84	1.05
10.0 Percentile	0.017	0.001	0.016	0.01	0.3	7.1	0.0	3	5	5	709
25.0 Percentile	0.050	0.003	0.019	0.01	0.5	8.2	0.1	6	5	10	918
Median	0.136	0.005	0.022	0.01	1.0	9.6	0.4	17	5	10	1189
75.0 Percentile	0.296	0.010	0.028	0.03	2.1	11.7	0.9	44	5	20	1417
95.0 Percentile	0.620	0.035	0.094	0.09	7.0	16.6	2.1	165	20	51	1756
97.5 Percentile	0.778	0.153	0.300	0.13	12.0	18.9	2.9	270	30	84	1943
99.0 Percentile	1.183	1.145	1.980	0.27	24.0	22.8	4.5	464	54	175	2361

Table 13-13. Summary Statistics, Sulphur Domain

Statistics	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
Number of samples	5850	5212	5439	4547	5487	1488
Minimum value	0.45	0.01	1	5	3	124
Maximum value	47.2	29.7	5890	1201	4750	3833
Mean	10.7	1.4	100	10	25	1177
Standard Deviation	5.0	2.6	265	27	100	470
Coefficient of variation	0.5	1.9	3	3	4	0
Skewness	1.3	4.2	8.63	22.94	31.27	1.04
10.0 Percentile	6.3	0.0	3	5	5	633
25.0 Percentile	8.1	0.1	8	5	10	846
50.0 Percentile (median)	10.0	0.5	27	5	10	1159
75.0 Percentile	12.7	1.3	81	10	20	1433
95.0 Percentile	19.7	5.9	433	26	60	1957
97.5 Percentile	23.0	9.4	719	44	90	2219
99.0 Percentile	28.3	14.1	1156	86	176	2827

13.1.5 Grade Capping

Capping is the process of reducing the grade of the outlier sample to a value that is representative of the surrounding grade distribution. Reducing the value of an outlier sample grade minimises the overestimation of adjacent blocks in the vicinity of an outlier grade value.

Outlier values were defined per estimation domain using statistical parameters to ensure that the mean was not significantly affected by capping. Assessment of outliers was based on histograms, log probability plots and metal loss. Additional considerations were the standard deviations, Tukey fences (interquartile ranges) and Sichel's mean.

Uncapped and capped summary statistics for each estimation domain for copper, silver and gold are presented in Table 13-14 to Table 13-17.

Table 13-14. Grade Capping Summary Statistics for Copper by Estimation Domain

Copper	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main N	228	1.8	12.5	0.99	2	1.8	**11.1**	1.0	0.9%	-0.4%
Main	879	2.8	20.8	1.00	9	2.8	**13.6**	1.0	1.0%	-0.6%
Main HW	337	1.1	4.8	0.82	4	1.0	**3.91**	0.8	1.2%	-0.5%
Main HWE	106	0.8	2.9	0.74	2	0.8	**2.72**	0.7	1.9%	-0.2%
Main HWW	343	1.2	10.1	1.25	6	1.1	**6.48**	1.1	1.8%	-3.1%
North	92	0.9	5.1	1.14	1	0.9	**4.88**	1.1	1.1%	-0.3%
East FW	67	1.8	34.3	2.50	2	1.4	**9.14**	1.4	3.0%	-21.3%
East HW	126	1.1	9.8	1.31	2	1.1	**5.98**	1.2	1.6%	-3.6%

Table 13-15. Grade Capping Summary Statistics for Silver by Estimation Domain

Silver	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main N	225	11.8	83.0	1.13	5	11.4	**56.1**	1.0	2.2%	-3.1%
Main	879	17.1	244.0	1.21	9	16.6	**87.9**	1.1	1.0%	-2.8%
Main HW	330	5.5	50.0	0.98	4	5.4	**22.9**	0.8	1.2%	-2.8%
Main HWE	98	4.4	15.3	0.84	2	4.3	**13.5**	0.8	2.0%	-0.5%
Main HWW	324	5.5	58.0	1.25	5	5.2	**29.6**	1.0	1.5%	-4.2%
North	85	19.1	107.0	1.35	1	19.0	**102.0**	1.3	1.2%	-0.3%
East FW	49	20.3	436.0	3.09	2	12.8	**83.0**	1.4	4.1%	-36.8%
East HW	114	8.3	71.7	1.49	4	8.0	**52.9**	1.4	2.9%	-4.0%

Table 13-16. Grade Capping Summary Statistics for Gold by Estimation Domain

Gold	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main N	220	0.67	35.90	5.0	4	0.4	**3.60**	1.6	1.8%	-44.7%
Main	879	0.14	2.25	1.3	5	0.1	**0.93**	1.2	0.6%	-2.2%
Main HW	329	0.08	1.00	1.3	4	0.1	**0.41**	1.0	1.2%	-5.2%
Main HWE	93	0.03	0.17	0.9	1	0.0	**0.14**	0.9	1.1%	-0.8%
Main HWW	318	0.09	2.70	2.8	5	0.1	**0.76**	1.7	1.6%	-18.4%
North	59	0.10	0.80	1.8	1	0.1	**0.79**	1.8	1.7%	-0.1%
East FW	65	0.03	0.29	1.4	1	0.0	**0.21**	1.2	1.5%	-3.9%
East HW	114	0.01	0.15	1.7	3	0.0	**0.11**	1.6	2.0%	-2.7%

Lead and zinc assays are generally very low with a small proportion of high grade values inconsistent with the majority of the data (Table 13-17 and Table 13-18 respectively).

Table 13-17. Grade Capping Summary Statistics for Lead by Estimation Domain

Lead	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main N	225	0.04	2.18	3.6	3	0.03	**0.31**	1.6	1.3%	-19.9%
Main	879	0.03	1.45	2.0	9	0.03	**0.17**	1.1	1.0%	-7.2%
Main HW	342	0.01	0.09	0.9	4	0.01	**0.05**	0.8	1.2%	-1.4%
Main HWE	106	0.01	0.03	0.7	2	0.01	**0.03**	0.7	1.9%	-0.8%
Main HWW	338	0.01	0.13	1.1	6	0.01	**0.04**	0.8	1.8%	-5.7%
North	93	2.02	12.55	1.6	2	2.01	**11.95**	1.5	2.2%	-0.4%
East FW	61	0.20	4.36	3.0	1	0.16	**1.73**	2.2	1.6%	-21.6%
East HW	121	0.43	6.27	2.3	2	0.41	**4.21**	2.2	1.7%	-4.1%

Table 13-18. Grade Capping Summary Statistics for Zinc by Estimation Domain

Zinc	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main N	225	0.17	8.83	4.0	5	0.11	**0.84**	1.5	2.2%	-31.8%
Main	879	0.02	0.43	1.0	9	0.02	**0.08**	0.6	1.0%	-5.0%
Main HW	342	0.02	0.05	0.3	7	0.02	**0.03**	0.3	2.0%	-0.7%
Main HWE	106	0.02	0.05	0.3	2	0.02	**0.03**	0.3	1.9%	-0.8%
Main HWW	338	0.02	0.08	0.4	2	0.02	**0.06**	0.4	0.6%	-0.3%
North	93	2.79	23.40	1.6	2	2.70	**14.37**	1.5	2.2%	-3.5%
East FW	61	0.56	9.67	2.9	1	0.53	**7.99**	2.8	1.6%	-4.9%
East HW	121	0.95	11.75	2.5	2	0.94	**10.55**	2.4	1.7%	-1.2%

Low grade material outside the copper domains and inside the sulphide domain were assessed for outliers, and grade caps were applied to the low grade Cu, Pb, Zn, Au and Ag values.

Table 13-19. Grade Capping Summary Statistics for the Low Grade Stratabound Material

Stratabound	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Cu	4,553	0.28	12.5	2.19	113	0.23	**1.22**	1.1	2.5%	-16.5%
Pb	4,536	0.06	11.9	8.23	46	0.03	**1.51**	5.2	1.0%	-44.3%
Zn	4,549	0.11	17.3	6.94	46	0.07	**2.17**	3.9	1.0%	-39.7%
Au	4,295	0.03	5.6	4.40	43	0.03	**0.41**	2.0	1.0%	-19.6%
Ag	4,315	2.75	107.0	2.25	62	2.46	**23.00**	1.5	1.4%	-10.8%

In addition to the main commodities assessed, ancillary and/or potential penalty elements were assessed for stationarity and the requirement for grade capping. Grade caps were not applied to sulphur and iron. Grade caps were applied to bismuth, uranium, tungsten, and fluorine as summarised in Table 13-20.

Table 13-20. Grade Capping Summary Statistics within the Sulphur Domain

Copper	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	**Cap**	CV	% Cap	% Δ
Fe	5871	10.6	47.2	0.48	Uncapped					
S	5193	1.3	29.7	1.89	Uncapped					
Bi	5421	99.8	5890	2.66	28	94.3	**1600**	2.2	0.5%	-5.6%
W	4539	10.4	1201	2.63	46	9.2	**86**	1.3	1.0%	-11.2%
U	5469	24.6	4750	4.09	55	20.3	**174**	1.2	1.0%	-17.5%
F	1480	1178	3833	0.40	30	1169	**2420**	0.4	2.0%	-0.8%

13.2 VARIOGRAPHY

Variogram analysis was undertaken in Snowden's Supervisor within each domain. Experimental variograms were reasonably formed, due to the grade distribution expected in a stratabound copper deposit. The experimental variograms for the additional elements were generally less well formed.

Natural 3D experimental variograms were assessed, and commonly experimental variograms were better formed when a normal scores transformation was applied. Where variogram maps proved difficult to interpret the line of lode (strike) and dip was set as direction one and two respectively, with the third direction generally selected as moderately dipping to the south, mimicking the general trend of the shoots.

3D experimental variogram modelling used a nugget (C_0) and two spherical models (C_1, C_2), although occasionally one spherical model was sufficient. The modelled variogram geometry is consistent with the interpreted mineralisation wireframes, incorporating a plunge component where identified and modelled accordingly.

Geometric anisotropy was adopted and anisotropic ratios (ellipsoid) applied to reflect directional variograms. Anisotropic ellipses based on the resulting bearing, plunge, dip, and defined ranges and anisotropic ratios were graphically plotted in Surpac and displayed against the extracted assay composites to ensure modelled parameters were reasonably orientated. The major axis of the ellipse is orientated in the XY plane, the plunge is the angle above (+) or below (-) the XY plane, and dip defines the rotation of the semi-major axis around the major axis. The overall ranges modelled for the major axis are well in excess of the drill spacing for all domains.

Variogram sills were standardised to 1. Generally domains had sufficient data and grade continuity to create distinguishable experimental variograms suitable for modelling (Table 13-21 to Table 13-27).

Variogram models interpreted within the sulphide domain are summarised in Table 13-28. Table 13-29 shows the variograms used for low grade Cu, Pb, Zn, Au and Ag outside the copper domains and inside the sulphide domain.

Table 13-21. Semi-variogram Parameters Based on the Main Domain

Main	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major / Semi-Major	Major / Minor	Major / Semi-Major	Major / Minor
Cu	187.1	47.7	67.4	0.18	0.47	42	0.25	140	1.62	3.23	1.46	2.41
Pb	187.1	47.7	67.4	0.43	0.39	30	0.19	120	1.00	2.00	1.50	3.00
Zn	184.1	56.8	61.8	0.07	0.62	12	0.91	80	1.00	1.33	1.33	2.00
Au	194.1	56.8	61.8	0.39	0.17	45	0.44	90	1.50	2.25	1.29	2.00
Ag	187.1	47.7	67.4	0.18	0.19	20	0.63	150	1.00	1.33	1.50	2.14

Table 13-22. Semi-variogram Parameters Based on the Main North Domain

Main N	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Cu*, Pb, Zn, Au, Ag	197.1	47.7	67.4	0.43	0.22	38	0.35	123	1.58	1.90	1.54	3.08

*Variogram modelled on this element

Table 13-23. Semi-variogram Parameters Based on the Main HWW Domain

Main HWW	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi -Major	Major / Minor	Major/Semi - Major	Major / Minor
Cu*, Au	180.4	19.3	74	0.45	0.55	100	0	0	1.67	2.50	1.00	1.00
Pb*, Ag	205.4	65.2	51.9	0.35	0.36	36	0.29	80	1.33	2.00	1.33	2.00
Zn	225.7	72	93.9	0.26	0.24	12	0.5	75	1.33	2.00	1.07	1.50

Table 13-24. Semi-variogram Parameters Based on the Main HWE Domain

Main HWE	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Cu*, Au	194.1	56.8	61.8	0.37	0.35	40	0.28	91	2.00	2.67	1.52	1.82
Pb*, Ag	187.1	47.7	67.4	0.24	0.52	84	0.24	200	2.00	3.50	1.67	3.33
Zn	194.1	56.8	61.8	0.29	0.20	12	0.51	75	1.33	2.00	1.29	1.88

Table 13-25. Semi-variogram Parameters Based on the Main HW Domain

Main HW	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Cu	194.1	56.8	61.8	0.34	0.30	40	0.36	91	2.00	2.67	1.52	1.82
Pb*, Ag	187.1	47.7	67.4	0.24	0.52	84	0.24	200	2.00	3.50	1.67	3.33
Zn	194.1	56.8	61.8	0.29	0.20	12	0.51	75	1.33	2.00	1.29	1.88
Au	194.1	56.8	61.8	0.37	0.35	40	0.28	91	2.00	2.67	1.52	1.82

Table 13-26. Semi-variogram Parameters Based on the East HW and FW Domain

East HW & FW	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Cu*, Au	184.1	56.8	61.81	0.35	0.65	150	0	0	1.50	2.50	1.00	1.00
Pb*, Zn, Ag	184.1	56.8	61.81	0.29	0.29	27	0.42	246	1.50	3.00	1.64	2.73

Table 13-27. Semi-variogram Parameters Based on the North Domain

North	Rotation			Variogram			Anisotropy 1	
Element	brg	plg	dip	Co	C1	A1	Major/Semi-Major	Major / Minor
Cu*, Au	355	0	-75	0.5	0.50	260	2.60	4.33
Pb*, Ag	346.5	28.9	-72.8	0.37	0.63	100	1.33	2.00
Zn	352.4	9.7	-74.8	0.45	0.55	72	1.50	2.00

Table 13-28. Semi-variogram Parameters Based on the Sulphide Domain

Sulphide Element	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / minor	Major/Semi-Major	Major / minor
Fe	325.9	56.8	-51.9	0.2	0.35	46	0.45	166	1.28	2.30	1.22	2.44
S	200.8	41.6	48.1	0.2	0.54	90	0.26	257	1.13	2.25	1.61	2.57
Bi	178.5	28.9	72.8	0.17	0.60	38	0.23	100	1.00	1.65	1.25	1.67
U	182.3	38.4	70.7	0.6	0.34	25	0.05	120	2.00	2.78	1.20	2.00
W	178.5	28.9	72.8	0.39	0.47	30	0.14	255	1.11	2.31	2.55	4.25
F	260	75	0	0.12	0.50	82	0.38	290	3.28	6.83	1.45	2.42

Table 13-29. Semi-variogram Parameters Based on the Stratabound Domain (Outside Copper Domains)

Stratabound Element	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
	brg	plg	dip	Co	C1	A1	C2	A2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Cu	187.1	47.7	67.4	0.49	0.30	34	0.21	200	1.42	2.13	1.47	3.33
Pb	199.1	56.8	61.8	0.43	0.45	70	0.12	193	1.67	6.36	1.11	2.92
Zn	210.4	65.2	51.9	0.28	0.53	64	0.2	252	1.00	2.00	1.74	3.41
Au	187.1	47.7	67.4	0.69	0.18	14	0.13	275	1.00	1.17	1.81	3.93
Ag	226.7	72	32.9	0.53	0.36	54	0.12	250	2.25	3.00	1.04	2.08

Variography for density utilised unconstrained density data, limited data was collected in the oxide and transition portion of the deposit. Variogram parameters for density are presented in Table 13-30.

Table 13-30. Semi-variogram Parameters, Density

Variable	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
	Bearing	Plunge	dip	Co	C1	A1	C2	C2	Major/Semi-Major	Major / Minor	Major/Semi-Major	Major / Minor
Density	333.5	7.6	-49.6	0.42	0.31	52	0.27	369	3.25	6.50	2.46	4.92

13.3 GRADE ESTIMATION

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

13.3.1 Block Model

The Bellbird block model uses regular shaped blocks measuring 2.5 m x 10 m x 5 m (Table 13-31). The choice of the block size was aligned with the trend and continuity of the mineralisation and took into account the dominant drill pattern in conjunction with the size and orientation of the deposit. To accurately represent the volume of the mineralised domains inside each block, volume sub-blocking to 1.25 m x 5 m x 2.5 m was used. Blocks above original topography were excluded from model estimation. Estimation resolution was set at the user block size for blocks within defined domains. Estimates (Fe, S, Bi, U, W and F) outside defined domains (barren blocks) were estimated using a block resolution of 5 m x 20 m x 10 m.

Table 13-31. Block Model Extents

Type	X	Y	Z
Minimum Coordinates	627,000	7,490,280	-200
Maximum Coordinates	627,640	7,492,040	440
User Block Size	2.5	10	5
Min. Block Size	1.25	5	2.5
Rotation	0	0	0

Interpreted mineralised domains were coded to the block model. Sufficient variables were added to allow grade estimation using several techniques, resource classification and reporting of resources. Blocks above the original topography are screened out. Final block model attributes are defined in Table 13-32.

Table 13-32. Block Model Attributes Assigned to the 3D Model

Attribute Name	Type	Decimals	Background	Description
ag_id	Float	1	0	silver inverse distance estimate capped
ag_nn	Float	1	0	silver nearest neighbour estimate capped
ag_ok	Float	1	0	silver ordinary krige estimate capped
ag_okr	Float	2	0	silver ordinary krige estimate un-capped
au_ok	Float	2	0	gold ordinary krige estimate capped
bi_ok	Float	0	0	bismuth ordinary krige estimate capped
cu_id	Float	4	0	copper inverse distance estimate capped
cu_nn	Float	4	0	copper nearest neighbour estimate capped
cu_ok	Float	4	0	copper ordinary krige estimate capped
cu_okr	Float	4	0	copper ordinary krige estimate un-capped
density	Float	2	2.8	density
f_ok	Float	0	0	fluorine ordinary krige estimate capped
fe_ok	Float	2	0	iron ordinary krige estimate capped
lode	Character	-	WS	Mineralisation Domain
lode_id	Integer	-	-99	lode number
pb_ok	Float	4	0	lead ordinary krige estimate capped
rescat	Integer	-	6	Resource classification (1 measured 2 indicated 3 inferred 4 unclassified 5 mined out 6 rock)
rock	Integer	-	1	Air=0 Rock=1
s_ok	Float	2	0	sulphur ordinary krige estimate capped
u_ok	Float	1	0	uranium ordinary krige estimate capped
w_ok	Float	0	0	tungsten ordinary krige estimate capped
wth	Character	-	FR	FR = Fresh, PO = Partially oxidised, OX = oxidised
z_ads	Float	2	0	average distance to samples
z_brg	Float	2	0	bearing of search ellipse
z_cbs	Float	2	0	Conditional bias slope
z_dh	Integer	-	0	number of informing drill holes
z_dhid	Character	-	0	hole_id
z_dip	Float	2	0	dip of search ellipse
z_dns	Float	2	0	distance to nearest sample
z_ke	Float	2	0	krige efficiency
z_kv	Float	2	0	krige variance
z_ns	Integer	-	0	number of informing samples

Attribute Name	Type	Decimals	Background	Description
z_ps	Integer	-	0	1 First Pass; 2 Second Pass Estimate
zn_ok	Float	4	0	zinc ordinary krige estimate capped

13.3.2 Informing Samples and Search Parameters

Dynamic searches were utilised to reflect the local orientation of the lodes. Local undulations in the lodes were determined from the mid-point of mineralised drill hole intercepts. The intercepts were wire-framed and sliced in 10 m sections. Wireframe slices were smoothed, adding points every 10 m along the slice, providing a 10 m grid reflecting the orientation of the lodes. The grid was wire-framed and the dip and strike of each triangle defined a unique local search orientation for each block

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 6 and 16 for the first pass and reduced to 4 and 14 for the second pass. Third pass informing samples were further reduced to a minimum of 3 and maximum of 8. Search distances were factored by the estimation pass (Table 13-33). Table 13-34 shows the ratios of volume tonnes and metal informed by each pass.

Table 13-33. Search Parameters

Pass	One	Two	Three
Min	8	6	3
Max	16	14	8
Perhole	4	4	N
Search	Ellipsoid	Ellipsoid	Ellipsoid
Ratio 1	1.5	1.5	1.5
Ratio2	2.4	2.4	2.4

Table 13-34. Percentage of Model Estimated with Each Pass

Pass	Volume	Tonnes	Metal
1	40%	40%	44%
2	47%	46%	43%
3	13%	13%	13%

13.3.3 Discretisation

The krige estimate used a 1 x 5 x 2 discretisation (XYZ), giving discretisation nodes spaced evenly within the block. The distance between nodes approximates 2.5 times the sample composite length.

13.4 DENSITY ESTIMATION

The default density of the block model is 2.90 t/m^3. All oxide material is assigned 2.60 t/m^3. The mineralised transitional material is assigned 2.9 t/m^3 and the transitional waste is assigned a density of 2.60 t/m^3. Density values were further improved with a 2-pass estimation strategy. The Mineral Resource averages 2.89 t/m^3.

Density within the fresh material was estimated using OK of measured density values with the defined density variogram (Table 13-30), and a minimum of 5 and maximum of 12 samples within an ellipse measuring 60 m along the major axis, 48 m along the semi-major axis and 40 m along the minor axis. The density search ellipse had a constant orientation, bearing 333.5°, plunge of 7.6° and a dip of -49.6°.

There is a moderate correlation between density and iron content in the samples (Figure 13-7). The high density low Fe samples and the scattered samples with high Fe relative to density were excluded from the regression. The correlation between iron and density (R^2 0.59) is similar to Reward data (R^2 0.69) and not as strong as the Rockface correlation (R^2 0.90).

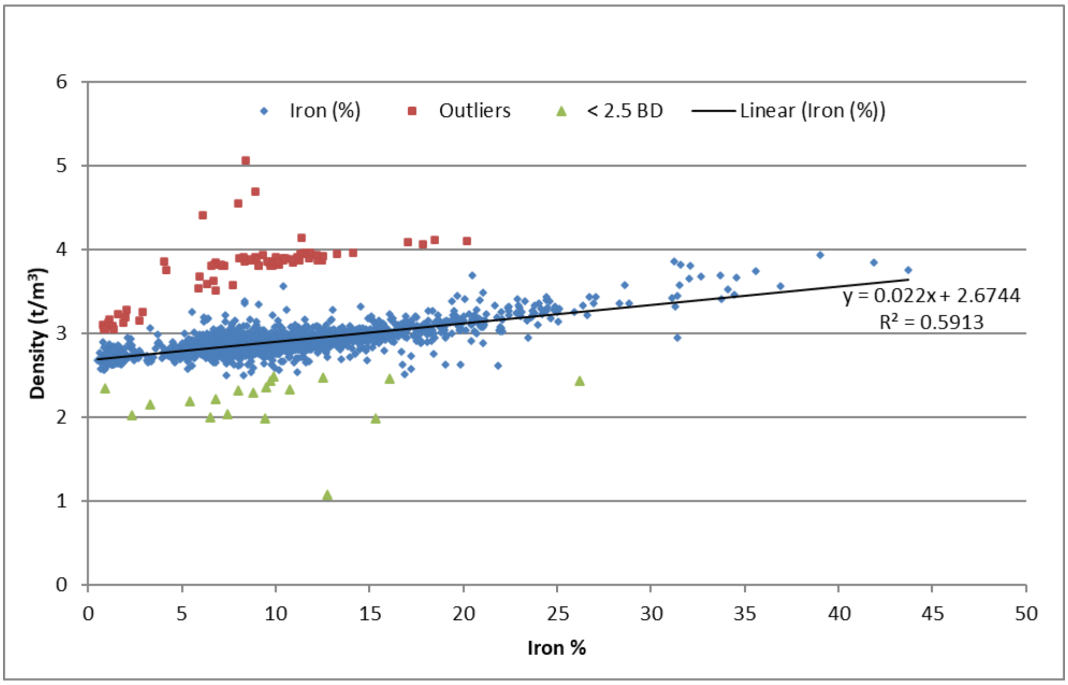

Figure 13-7. Density as a Function of Iron Content

Pass one used measured density readings (n = 3,090, average 2.91, Variance 0.04 and CV 0.07) to estimate the block density. Un-estimated blocks received a second pass utilising density data derived from the iron regression shown in Figure 13-7. During the second pass, search distances were doubled and the required samples were reduced to a minimum of 1 and a maximum of 9.

The average modelled density of mineralised oxide material is 2.60 t/m^3, transitional material is 2.90 t/m^3, the high sulphide material averages 2. 93 t/m^3 and mineralised fresh material averages 2.89 t/m^3.

13.5 VALIDATION

The block model was validated by visual and statistical comparison of drill hole and block grades and through grade-tonnage analysis. Initial comparisons occurred visually on screen, using extracted composite samples and block models. Further validation used swath plots to compare block estimates with informing sample statistics along parallel sections through the deposits.

13.5.1 Alternate Estimation Methods

Alternative estimation methods Nearest Neighbour and ID^2 were utilised to ensure the Krige estimate was not reporting a global bias (Figure 13-8). The alternate estimates provided expected correlations. Nearest Neighbour shows less tonnes and higher grade (less contained metal) as it does not employ averaging techniques to assign the block grade, with distal blocks being informed by a single closest sample rather than several weighted samples. The ID^2 estimate is closer to kriging as it does use averaging weighted by distance but cannot assign anisotropy, nor can it de-cluster the input data or account for nugget effect. Using the kriging algorithm provides a reliable estimate due to the ability of kriging to de-cluster data and weight the samples based on a variogram (which incorporates the nugget effect and anisotropy).

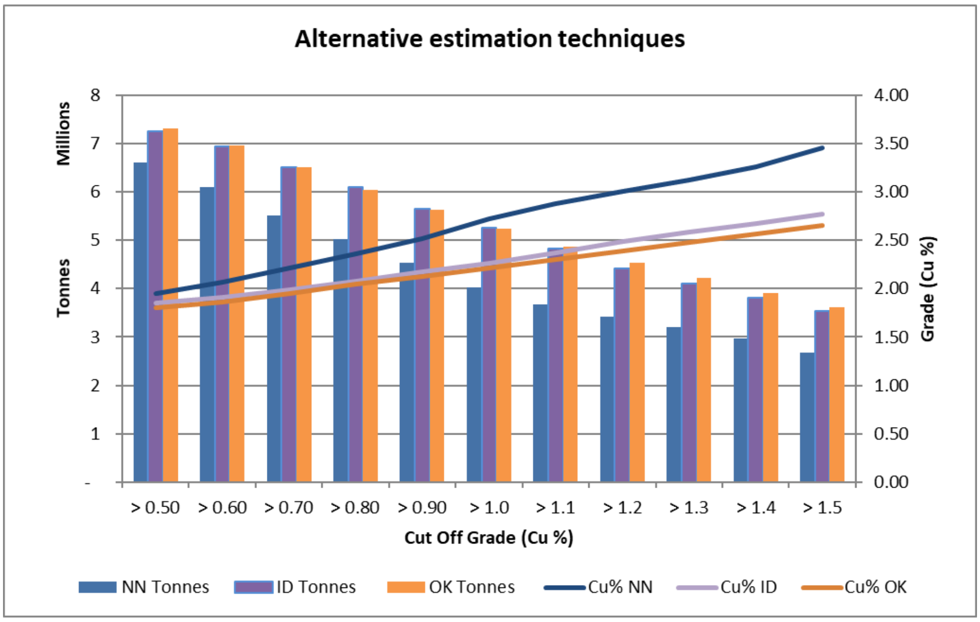

Figure 13-8. Alternative Estimation Results at Nominated Cut-Offs (Capped Grades)

13.5.2 Global bias check

A comparison of global mean values within the grade domains shows a reasonably close relationship between composites and block model values (Figure 13-9). Main lode is the highest grade domain and appears to represent the global mean assay grade well. Copper grades reduces to the north. The correlations improve when compared to the NN estimate (declustered) (Figure 13-10). The global estimate for silver performs well and North lode has the highest silver content (Figure 13-11). The gold mineralisation represented in the deposit is relatively minor, but still significant (Figure 13-12), with the main-north lode having the highest tenor of gold mineralisation. The gold NN (declustered) estimate shows similar trends to the OK estimate (Figure 13-12).

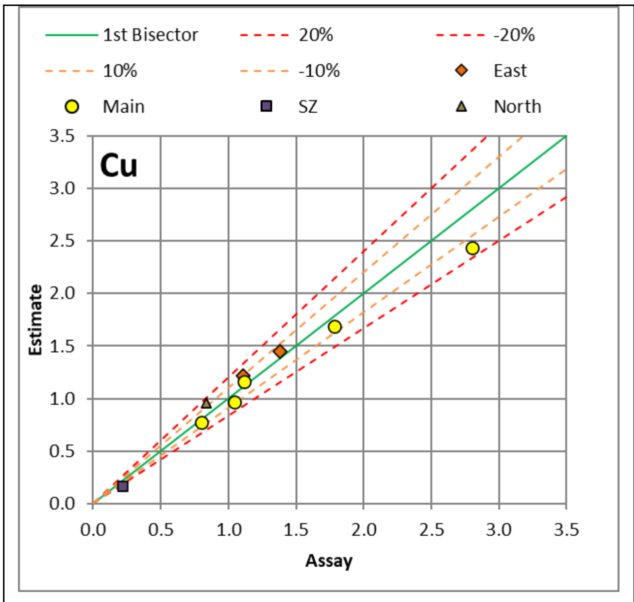

Figure 13-9. Global Copper Validation by Domains Comparing OK and Average Sample Data

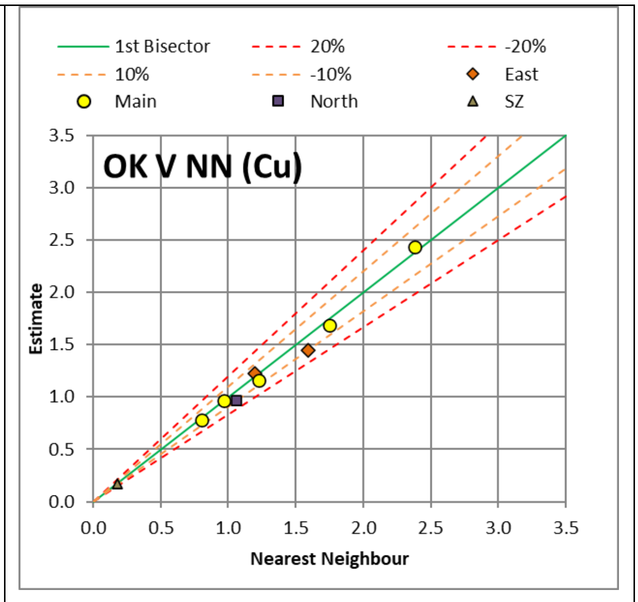

Figure 13-10. Global Copper by Domain Comparing OK and De-Clustered NN Estimate

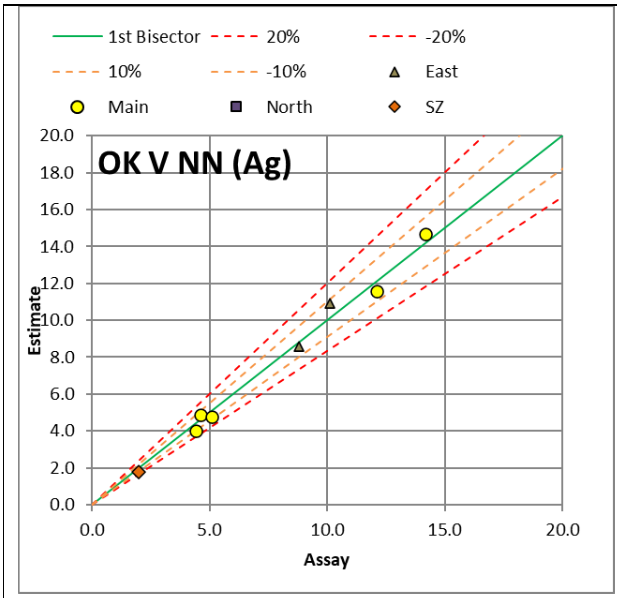

Figure 13-11. Global Silver Validation by Domains Comparing OK and De-Clustered NN Estimate

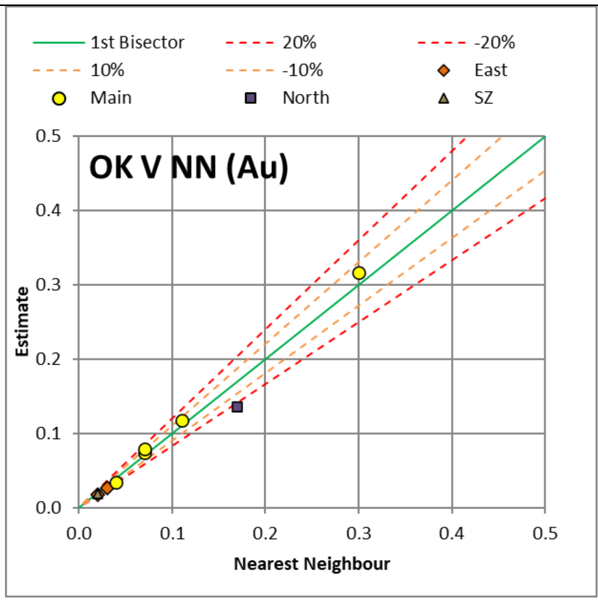

Figure 13-12. Global Gold by Domain Comparing OK and De-Clustered NN Estimate

13.5.3 Local bias Check

Swath plots were generated on vertical E-W 25 m wide swaths, to assess local bias along strike by comparing the OK estimate with informing composite means for copper and silver. Results show no significant bias between OK estimates and informing samples and the smoothing effects of kriging are apparent.

The broad trend demonstrated by the raw data is honoured by the block model (Figure 13-13), and the interpolated grades are generally lower than the composite values.

The comparison illustrates the effect of the interpolation, which results in smoothing of the block grades compared to the raw grades. The swaths (Figure 13-13) between 7,491,250 and 7,491,300 mN show elevated copper assays not reflected in the model. These areas include the northern extent of the East FW and HW lodes (low grades) and where the Main N lode bifurcates, (single section 7491300 mN) thus disproportionately increasing the number of high grade assays compared to estimated tonnes. Overall, the comparison between the OK and assay swath plots show a reasonably close correlation.

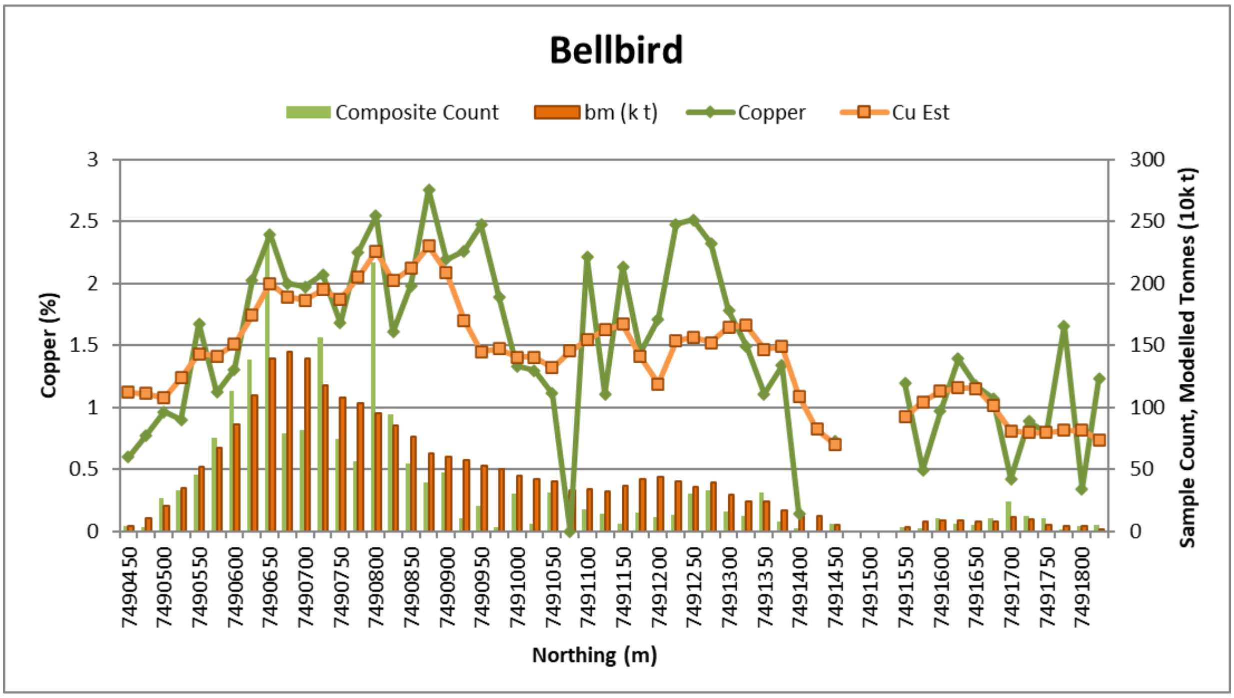

Figure 13-13. Swath Plot - Bellbird Deposit

Individual domain copper trends are provided in Figure 13-14 to Figure 13-19.

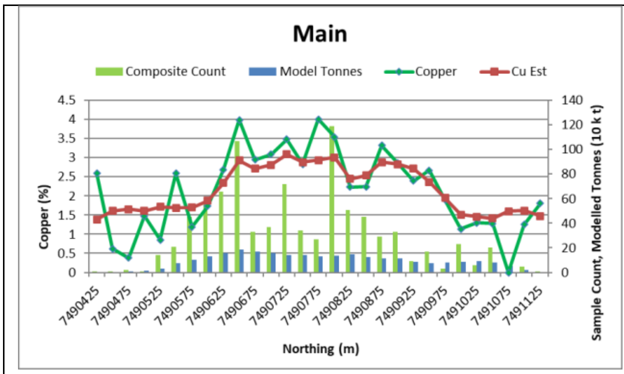

Figure 13-14. Swath Plot Main - Copper

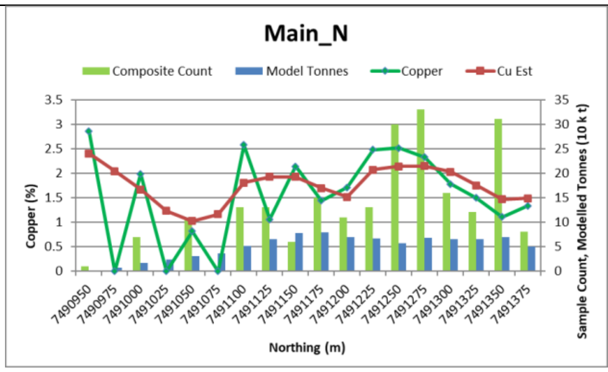

Figure 13-15. Swath Plot Main N - Copper

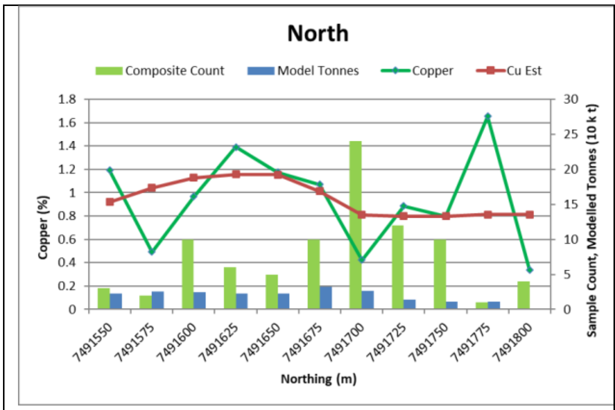

Figure 13-16. Swath Plot North - Copper

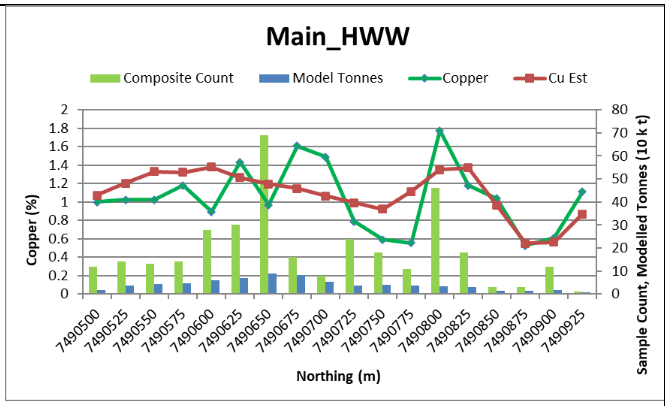

Figure 13-17. Swath Plot Main HWS - Copper

The eastern lodes are structurally continuous, though the grades are erratic and drilling is limited (Figure 13-16Figure 13-18 and Figure 13-19)

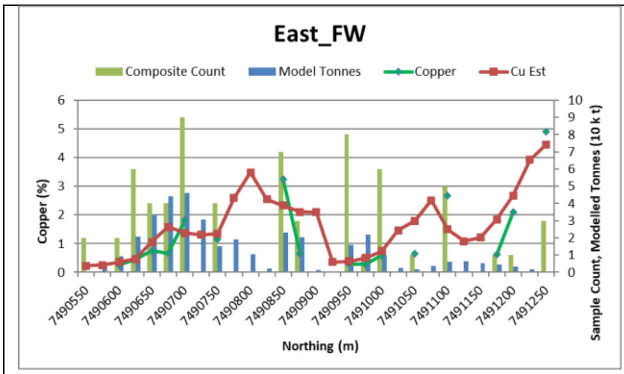

Figure 13-18. Swath Plot East HW - Copper

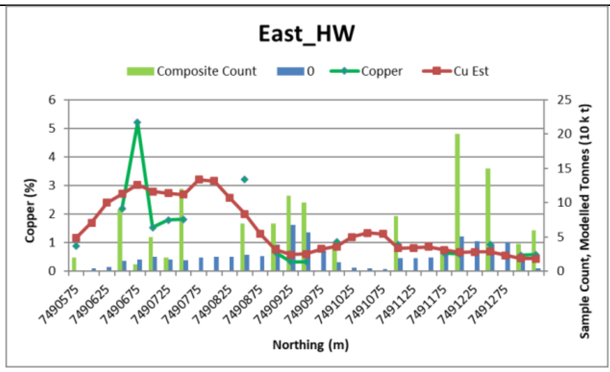

Figure 13-19. Swath Plot East FW - Copper

The broad trend demonstrated by the silver data is honoured by the model estimate (Figure 13-20). Silver grades (number of assays and assayed grade) become erratic in North lode (north of 7,491,500 mN). The North lode is also enriched in lead and zinc.

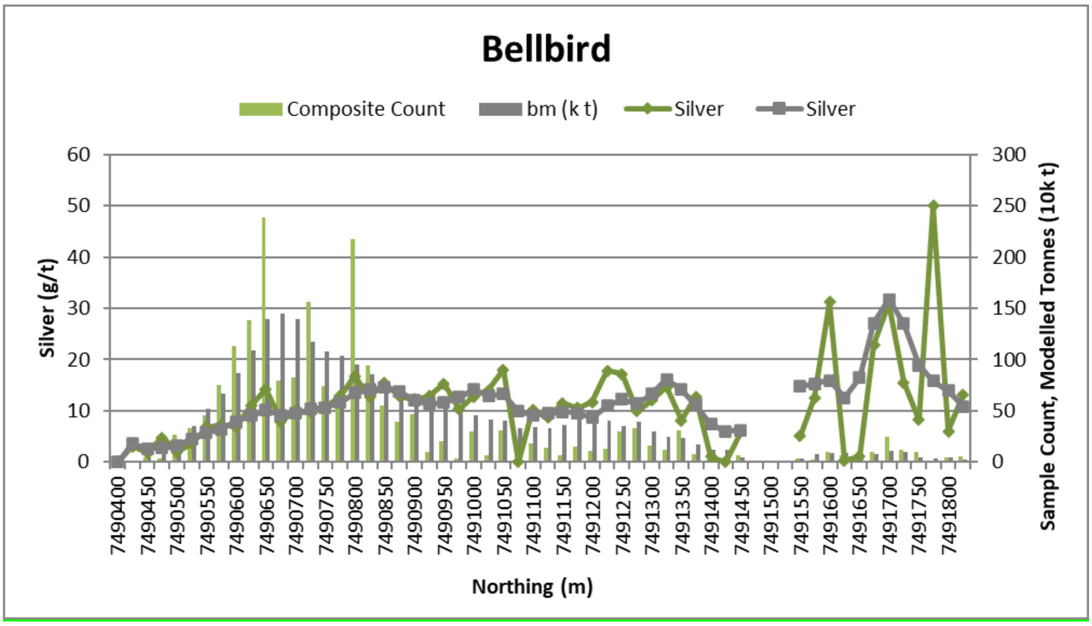

Figure 13-20. Swath Plot, Bellbird - Silver

13.5.4 Comparison with previous estimates

The current Bellbird Mineral Resource estimate has increased resource tonnes by 28% and increased copper metal by 10%. Estimated copper grade is lower at 1.97%.

Both resource estimates are reported as a combination of open cut and underground potential. A lower cut-off grade of 0.5% Cu is applied to material above 200 m RL, and above a 1% Cu cut-off below 200 m RL. The 2020 resource is shown in Table 13-35 and the current resource estimate is shown in Table 13-36.

Table 13-35. June 2020, Bellbird Resource Estimate (Taylor 2020)

Resource (June 2020)		Mineralised	Grade			Metal		
Area	Category	Mass (Mt)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	1.33	3.08	17.4	0.23	40.9	0.74	9.83
	Inferred	1.40	1.19	9.1	0.10	16.6	0.41	4.49
Subtotal (< 200 m RL)		2.73	2.11	13.2	0.16	57.5	1.16	14.03
Underground Potential > 1% Cu	Indicated	0.34	3.52	22.4	0.18	11.9	0.24	1.95
	Inferred	1.43	2.36	16.6	0.10	33.7	0.76	4.59
Subtotal (> 200 m RL)		1.76	2.58	17.7	0.12	45.6	1.00	6.81
Total Resources (June 2020)		4.49	2.30	15.0	0.15	103.1	2.17	21.66

Table 13-36. February 2022, Bellbird Resource Estimate

Resource (February 2022)		Mineralised Mass (Mt)	Grade			Metal		
Area*	Category		Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	2.03	2.20	13.1	0.16	44.5	0.85	10.5
	Inferred	1.44	1.36	9.3	0.15	19.5	0.43	6.9
Subtotal (< 200 m RL)		3.47	1.85	11.5	0.16	64.0	1.28	17.4
Underground Potential > 1% Cu	Indicated	0.38	2.62	17.7	0.14	9.9	0.22	1.7
	Inferred	1.92	2.06	12.0	0.10	39.5	0.74	6.0
Subtotal (> 200 m RL)		2.29	2.15	12.9	0.10	49.4	0.95	7.6
Resource Categories Subtotal	Indicated	2.41	2.26	13.8	0.16	54.4	1.07	12.2
	Inferred	3.35	1.76	10.8	0.12	59.0	1.17	12.9
Total Resource (current)		5.76	1.97	12.1	0.14	113.4	2.24	25.0

13.6 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 be the depth limit for potential open pit mining. KGL are considering the optimal transition depth for the change over from open pit to underground mining in the feasibility study currently under way.

Classified resources (combined Indicated and Inferred) as defined above are presented at increasing copper cut-offs highlighting the deportment of associated elements (Table 13-37). Figure 13-21 shows the resource as grade tonnage curves by resource category.

Table 13-37. Deportment of Associated Elements with Copper Mineralisation

cut-off	Tonnes (M t)	Cu (%)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
0.50	5.76	1.97	12.1	0.14	0.19	0.36	11.6	2.08	137	12	21	1104
0.75	5.24	2.10	12.8	0.14	0.19	0.37	11.7	2.18	143	12	21	1104
1.00	4.72	2.24	13.4	0.14	0.18	0.37	11.8	2.28	151	13	21	1101
1.25	3.98	2.45	14.4	0.15	0.18	0.38	11.9	2.42	164	13	21	1099
1.50	3.30	2.67	15.6	0.16	0.18	0.40	12.1	2.58	176	13	22	1098

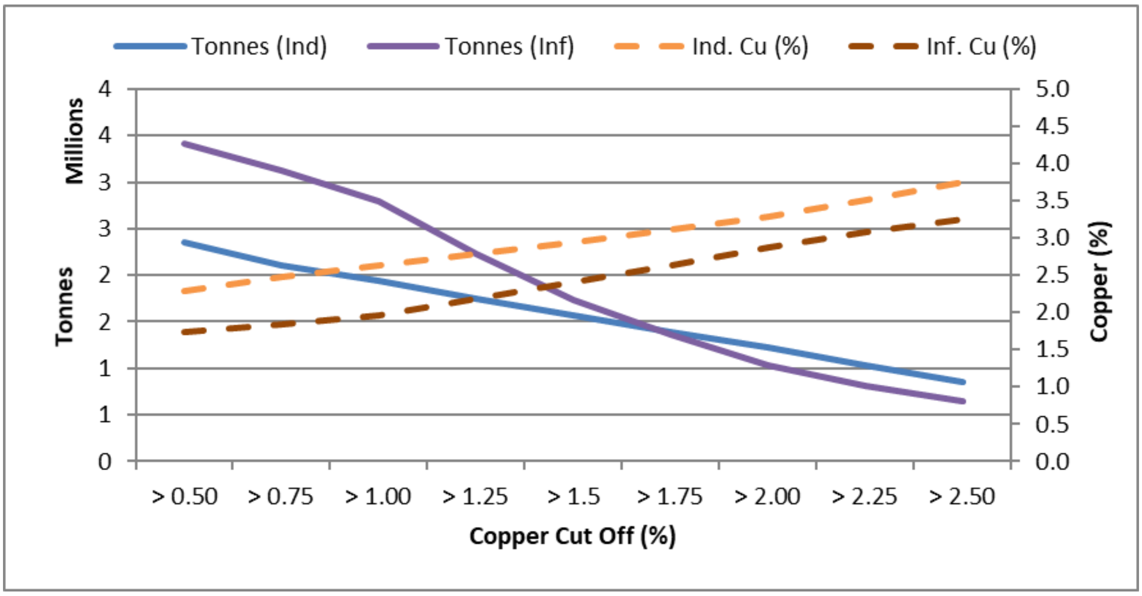

Figure 13-21. Classified Resource - Grade Tonnage Curves

13.6.1 Reasonable Prospects for eventual Economic Extraction

Assumptions for reasonable prospects for eventual economic extraction applied to this deposit include but may not be limited to Table 13-38 (prices are AUD).

Table 13-38. Adopted Costs for Reasonable Prospects of Economic Extraction

Parameter	unit	Average
Mill Throughput per annum (Mtpa)	Mt	1.6
Strip ratio	Ore t/ waste t	1:8.36
General and Administration Cost	$/t ore	5.25
Copper price	$/t	12,080
Silver price	$/oz	25.32
Average Open Pit Mining cost	$/total tonne mined	3.46
Average Underground Mining cost	$/total tonne mined	43.4
Sulphide ore processing cost	$/t ore	22.31
Oxidised ore processing cost	$/t ore	22.31
Pit bench angle	Degrees	48.5
Ore loss	%	5
Dilution	%	5

13.7 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 Indicated and Inferred Resources. Data quality does not preclude Measured, but geological confidence and grade continuity are not sufficiently defined to assign Measured Resources; this can change with further drilling.

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

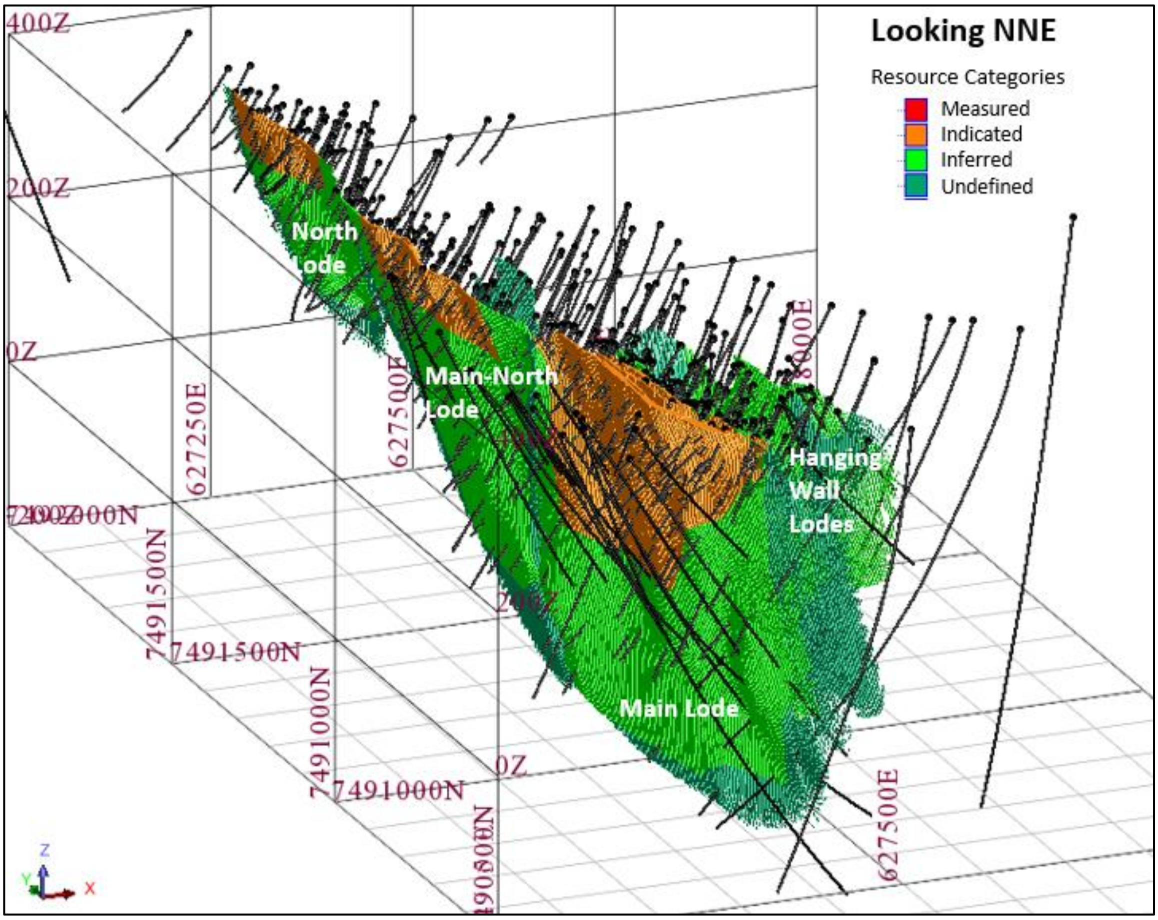

Figure 13-22. Classified Resources -Bellbird Deposit

13.8 MINING AND METALLURGICAL METHODS AND PARAMETERS AND OTHER MATERIAL MODIFYING FACTORS CONSIDERED

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 syn-depositional copper deposit likely resulting in a high strip ratio. Mineralisation below the 200 m RL 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 (Section 11).

13.9 BELLBIRD RESOURCE SUMMARY

The Mineral Resource statement reported herein is a reasonable representation of the Bellbird deposit based on current sampling data.

The resource (Table 13-39) 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 13-39. Bellbird Mineral Resource Estimate 2021

Resource		Mineralised Mass (Mt)	Grade			Metal		
Area*	Category		Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	2.03	2.20	13.1	0.16	44.5	0.85	10.5
	Inferred	1.44	1.36	9.3	0.15	19.5	0.43	6.9
Subtotal (< 200 m RL)		3.47	1.85	11.5	0.16	64.0	1.28	17.4
Underground Potential > 1% Cu	Indicated	0.38	2.62	17.7	0.14	9.9	0.22	1.7
	Inferred	1.92	2.06	12.0	0.10	39.5	0.74	6.0
Subtotal (> 200 m RL)		2.29	2.15	12.9	0.10	49.4	0.95	7.6
Resource Categories Subtotal	Indicated	2.41	2.26	13.8	0.16	54.4	1.07	12.2
	Inferred	3.35	1.76	10.8	0.12	59.0	1.17	12.9
Total Resource		5.76	1.97	12.1	0.14	113.4	2.24	25.0

* 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 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 applying different recovery curves based on weathing states (amount of sulphur) and deleterious elements present. Table 13-40 shows the deposits reported by weathering profiles, including areas of high sulphur (S/Cu > 4.5).

Table 13-40. Bellbird Resource by Resource Category and Weathering

Resource		Mass	Grades										Metal				
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
Indicated	Oxide	0.30	2.33	0.03	0.04	11.9	0.16	12.0	0.57	214	8	24	6.9	0.1	0.1	0.11	1.5
	Transitional	0.32	1.96	0.05	0.09	11.6	0.16	11.8	1.32	172	7	26	6.2	0.2	0.3	0.12	1.7
	High Sulphur	0.04	1.02	0.12	0.16	9.5	0.10	14.4	5.93	287	9	32	0.5	0.1	0.1	0.01	0.1
	Fresh	1.75	2.34	0.06	0.08	14.7	0.16	13.3	2.92	189	10	28	40.9	1.0	1.4	0.83	8.8
Inferred	Oxide	0.02	1.11	0.22	0.40	7.7	0.08	9.5	0.27	39	6	18	0.2	0.0	0.1	0.00	0.0
	Transitional	0.07	1.16	0.41	0.59	8.5	0.11	8.7	0.60	42	7	18	0.9	0.3	0.4	0.02	0.3
	High Sulphur	0.05	1.09	0.74	1.08	22.3	0.15	13.5	6.25	162	10	18	0.5	0.4	0.5	0.04	0.2
	Fresh	3.21	1.79	0.27	0.56	10.7	0.12	10.6	1.77	98	14	17	57.4	8.7	18.0	1.11	12.3
Subtotal	Oxide	0.31	2.26	0.04	0.06	11.6	0.16	11.9	0.55	203	8	24	7.1	0.1	0.2	0.12	1.6
	Transitional	0.39	1.81	0.12	0.18	11.0	0.15	11.2	1.18	147	7	24	7.0	0.5	0.7	0.14	1.9
	High Sulphur	0.09	1.06	0.45	0.65	16.3	0.12	13.9	6.10	221	9	25	1.0	0.4	0.6	0.05	0.4
	Fresh	4.96	1.98	0.20	0.39	12.1	0.13	11.6	2.17	130	13	21	98.3	9.7	19.4	1.94	21.2
Total		5.76	1.97	0.19	0.36	12.1	0.14	11.6	2.08	137	12	22	113.4	10.7	20.9	2.24	25.0

* Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes

Bellbird Resources reported by lode are shown in the table below.

Table 13-41. Bellbird Resource by Lode (February 2022)

Category	Area	Mt	Cu (%)	Ag (g/t)	Au (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Indicated	Main	1.53	2.86	17.62	0.15	43.7	0.865	7.59
	Main_HW	0.16	1.04	6.40	0.08	1.6	0.032	0.38
	Main_HWW	0.35	1.25	5.60	0.09	4.4	0.063	0.98
	Main_N	0.22	1.65	10.50	0.42	3.7	0.075	3.00
	North	0.06	0.94	14.40	0.04	0.5	0.027	0.07
	SZ	0.09	0.59	3.60	0.04	0.5	0.011	0.13
Subtotal		**2.41**	**2.26**	**13.9**	**0.16**	**54.4**	**1.1**	**12.2**
Inferred	Main	1.07	2.03	11.01	0.07	21.6	0.378	2.47
	Main_HW	0.36	1.09	4.87	0.08	3.9	0.056	0.91
	Main_HWE	0.18	0.88	4.47	0.04	1.6	0.026	0.22
	Main_HWW	0.23	1.41	4.68	0.09	3.3	0.035	0.70
	Main_N	0.73	1.74	12.44	0.30	12.7	0.293	7.03
	North	0.14	1.11	22.90	0.21	1.5	0.103	0.95
	East_FW	0.27	2.10	10.86	0.02	5.8	0.096	0.18
	East_HW	0.35	2.40	15.73	0.03	8.4	0.178	0.37
	SZ	0.01	0.54	4.00	0.13	0.1	0.002	0.05
Subtotal		**3.35**	**1.76**	**10.8**	**0.12**	**59.0**	**1.2**	**12.9**
Total		**5.76**	**1.97**	**12.1**	**0.14**	**113.4**	**2.2**	**25.0**

14 MINERAL RESOURCE ESTIMATE – ROCKFACE

Rockface is interpreted by KGL as a syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and a significant degree of structural remobilisation. The deposit occurs in the fold hinge of the J-fold, (described in Section 7.2). Rockface contains the highest grade of the three identified deposits within the Jervois Project.

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 sulphide breccia, are enriched (> 1.0 %) in copper. Bornite veins and veinlets overprint S2 foliation which suggests bornite was introduced relatively late in the sequence of mineralising events. Recent results show the western margin of the North shoot has significant bornite veins raising the copper content. A shoot (Rockhole) west of Rockface has been identified near surface and remains a prospective drill target at depth.

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 Leapfrog software, with an anisotropic component conforming to the plunge of measured F2 fold hinges.

The Rockface deposit strikes 070° to 080° (Figure 14-1). The estimation shoots were created primarily based on structural orientations and grade. Cross sections of the interpreted implicit models for Main Shoot and the associated hanging wall shoots are shown in Figure 14-3 and Figure 14-4.

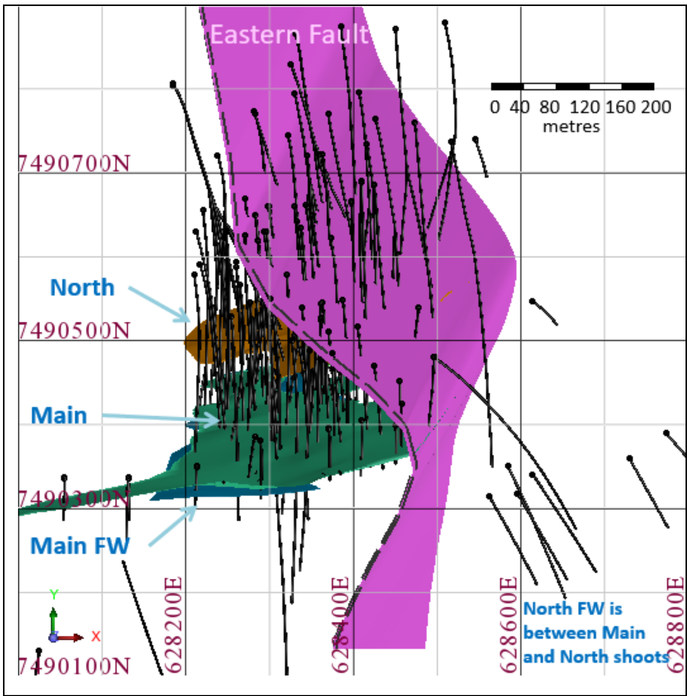

Figure 14-1. Plan View of Rockface Showing the East Bounding Fault

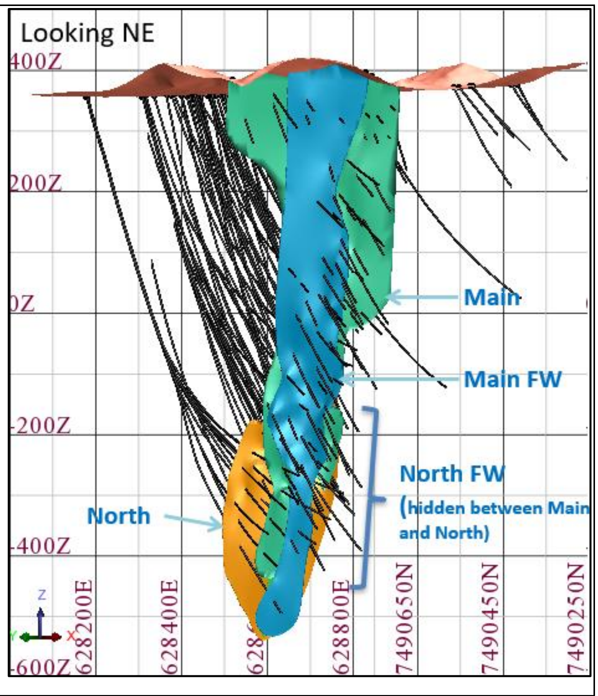

Figure 14-2. Oblique View Showing Interpreted Domains

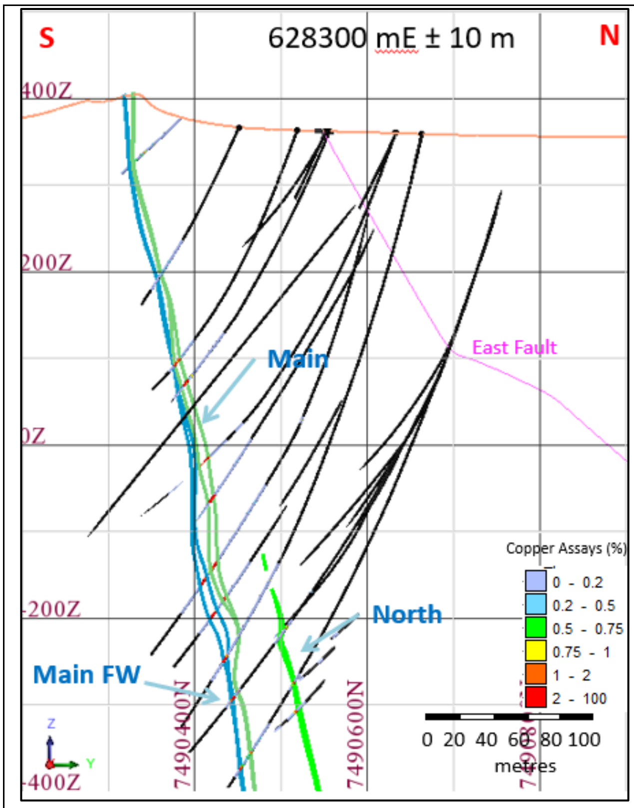

Figure 14-3. Rockface Lodes (N-S section 628,300 m E ± 10 m)

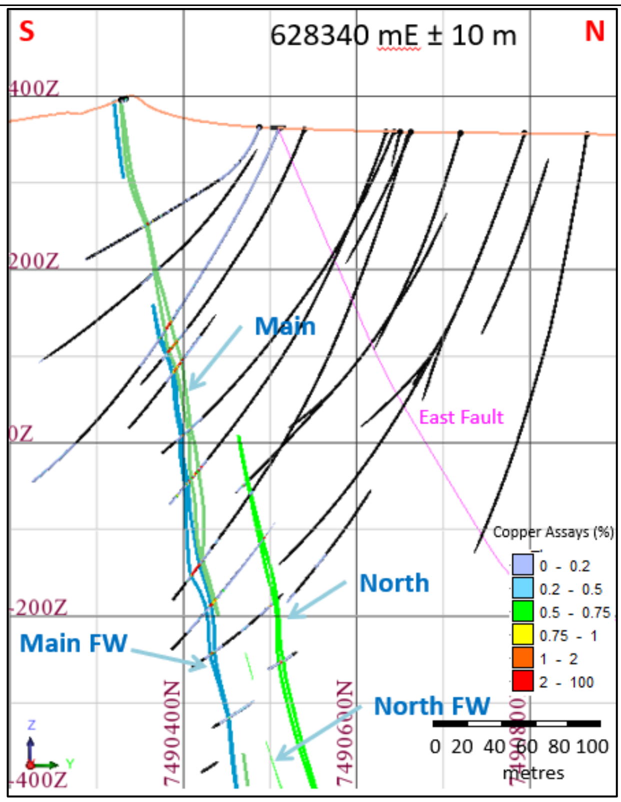

Figure 14-4. Rockface Lodes (N-S section 628,340 m E ± 10 m)

14.1.1 Bulk Density Data

KGL procedures for the measurement of dry bulk density on drill core samples were supplied. Routine measurements were made on selected intervals of core approximately 10 cm in length. Table 14-1 and Figure 14-5 shows a summary of the results.

Table 14-1. Average Density Measurements by Rock Type

Code	Count	Density	Description
Fpg	22	2.80	Pegmatite
Ha	4	3.04	Amphibolite (gabbro), sheared amphibolite, Metagabbro
Hcs	121	2.92	Calc silicate
Hm	24	2.95	Marble
Vq	47	2.86	Quartz vein
Y	277	2.95	Mineralised lode undifferentiated
Ycbgm	38	2.89	Mineralised lode - Marble hosted
Ycs	5	2.89	Mineralised lode - Calcsilicate/skarn ('Mrbl_Cs' Group if modelling carbonate)
Yma	35	3.10	Mineralised lode - Magnetite/ ironstone
Yqgm	66	2.97	Mineralised lode - Quartzite/psammite +/- Chlorite/Biotite and Garnet/Magnetite
Z	281	2.91	Schist - undifferentiated
Zacgm	434	2.89	Muscovite and/or Sericite schist with Garnet and/or Magnetite
Zanco	1551	2.91	Andalusite and/or Cordierite schist
Zcbgm	62	2.94	Chlorite and/or Biotite schist
Zchbi	21	2.88	Chlorite and/or Biotite schist with Garnet and/or Magnetite
Zcs	44	2.89	Calc silicate schist/skarn (incls. ga/ep)
Zmuse	1040	2.88	Muscovite Schist
Zqgm	53	2.96	Quarrtzite/psammite schist +/- chlorite/biotite and garnet/magnetite
Zqp	232	2.78	Quartzite and/or Psammite
Zqsmu	30	2.86	Quartz-sericite/muscovite schist

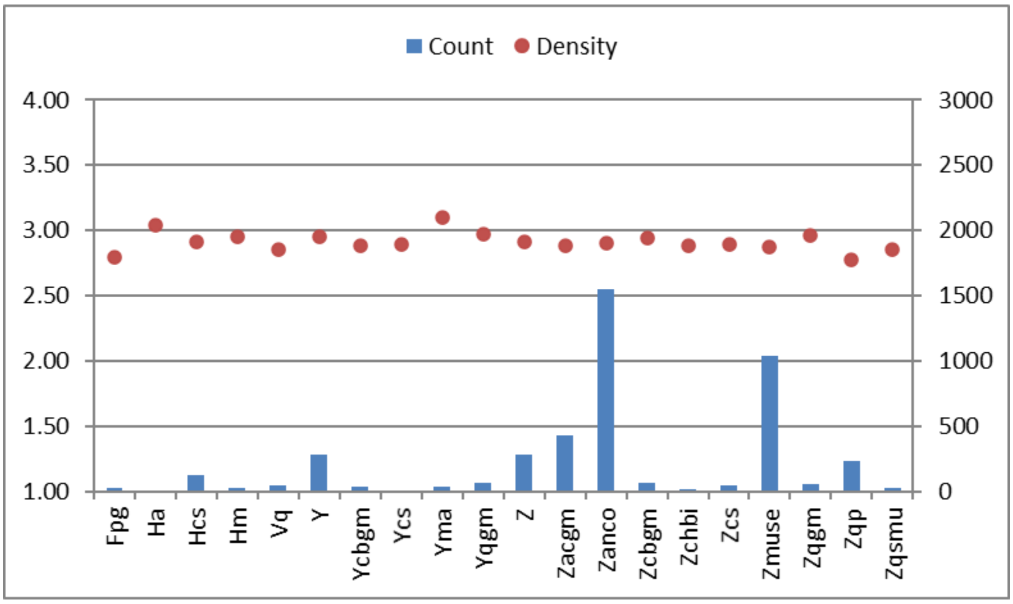

Figure 14-5. Mean Density by Rock Type

The average density of all material (7,413 records) is 3.0 t/m^3. Of these, 4,387 records could not be matched to logged oxidation states. Very few records (56) were logged as oxidised material and averaged 2.74 t/m^3. There were 103 records of transitional material which averaged 2.89 t/m^3. 4,009 records correlated with fresh logging codes and averaged 2.90 t/m^3.

14.2 DIMENSIONS

The Rockface deposit consists of structurally controlled shoots with a total strike of approximately 300 m. Within the structural corridor there are four high grade shoots which strike approximately 100 to 200 m and plunge to between 500 to 900 m below the surface (Figure 14-6). The shoots are open at depth and range in thickness from 1 to 10 m, the lower grade North FW can get up to 20 m in the horizontal.

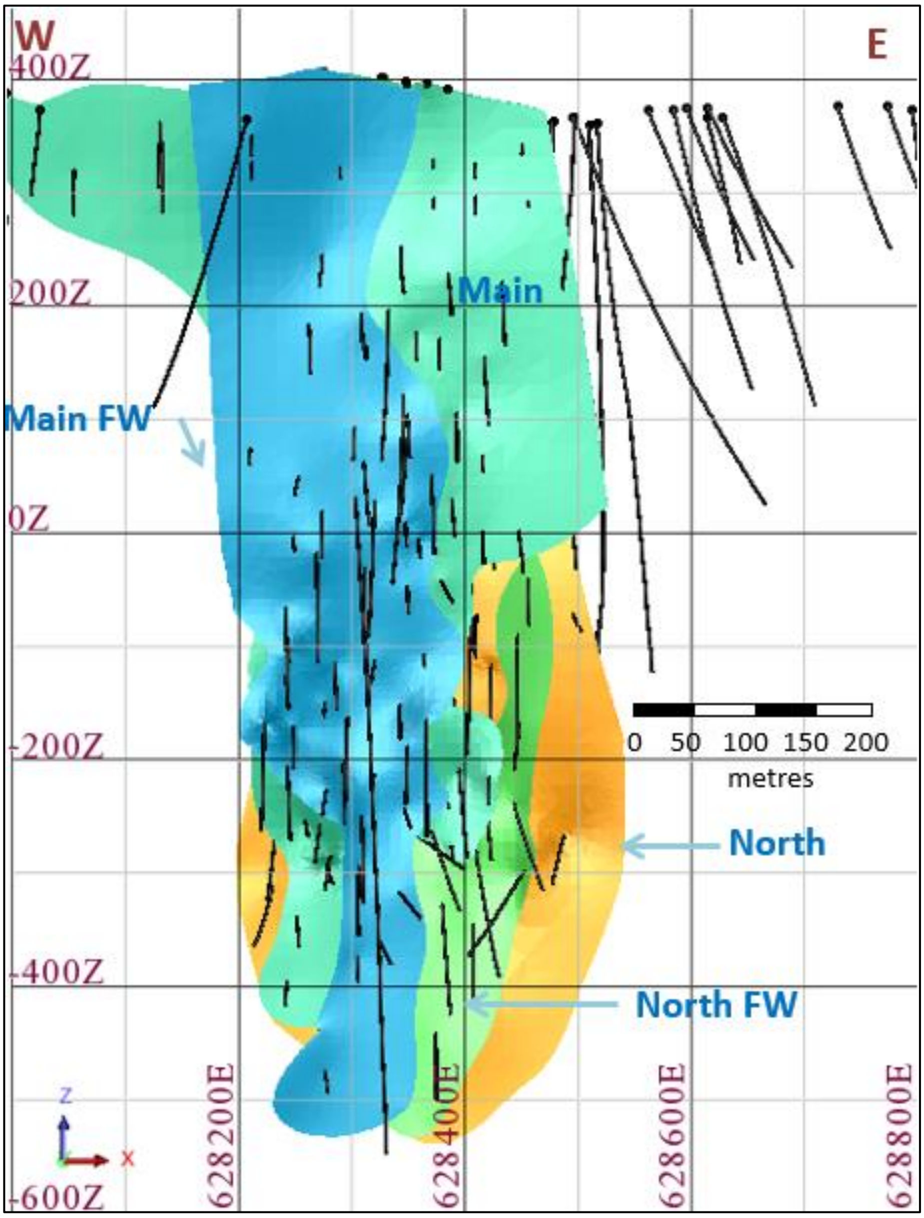

Figure 14-6. East-West Section View Showing Wireframe Domains

14.2.1 Drill Hole Spacing

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 approximately 50 m centres (50 x 50m grid). Targeted infill drilling has occurred either on infill sections or through the use of child holes, with significant areas of the deposit approaching 25 x 25 m centres.

14.2.2 Domains and Stationarity

A domain is a defined volume that delineates the spatial limits of a single grade population. Domains have a single orientation of grade continuity, are geologically homogeneous and have statistical and geostatistical parameters that are applicable throughout the volume (i.e. the principles of stationarity apply). Typical controls that can be used as the boundaries to domains include structural features, weathering, mineralisation halos and lithology.

Within Rockface, domains were created primarily based on structural shoots and grade. Domains were interpreted by MA using implicit modelling techniques (Table 14-2) to create 3D wireframes to represent each domain.

Table 14-2. Domain Names - Wireframe Legend

Domain/shoot	Wireframe Name	Object	Trisolation
Sulphide Domain	rf_rockface_lg11.dtm	11	1
Main_FW	rf_cu_main_fw12.dtm	12	1
Main	rf_cu_main13.dtm	13	1
North_FW	rf_cu_north_fw14.dtm	14	1
North	rf_cu_north15.dtm	15	1

14.2.3 Compositing

Selection of a composite length should be appropriate for the data, deposit and conceptual mining scenario (e.g. dominant assay interval length, open pit bench height, underground stoping method, lode thickness). Care was taken to avoid splitting samples when compositing. The most common sample length at Rockface is 1 m. The drill hole database was composited to 1 m intervals using Surpac's best fit algorithm, using a minimum permitted composite length of 0.75 m.

14.2.4 Summary Statistics

Summary statistics for each domain are shown below (Table 14-3 to Table 14-6). Copper, lead and zinc assay data is stored as parts per million (ppm) in the database, allowing 4 decimal places to be used when converted to percentages.

Table 14-3. Summary Statistics, Main Footwall

Statistics - Main FW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	232	232	232	227	230	226	227	227	223	227	156
Minimum	0.131	0.000	0.006	0.005	0.250	5.37	0.24	3	0	3	10
Maximum	15.45	13.28	4.41	3.68	86.4	63.4	31.1	5079	227	5781	3767
Mean	3.066	0.221	0.151	0.23	14.9	33.9	5.9	398	11	64	570
Std Deviation	3.222	1.249	0.451	0.37	14.6	14.3	6.3	706	18	389	590
CV	1.05	5.64	2.99	1.63	1.0	0.4	1.1	2	2	6	1
Skewness	1.71	7.53	6.62	4.83	1.7	-0.1	2.0	3.78	7.31	14.04	2.27
10.0 Percentile	0.461	0.002	0.018	0.01	2.0	13.8	0.9	16	1	3	74
25.0 Percentile	0.854	0.005	0.027	0.04	4.0	20.3	2.1	39	1	6	133
Median	1.835	0.014	0.051	0.11	10.1	35.2	3.5	120	3	13	416
75.0 Percentile	3.861	0.042	0.087	0.30	19.8	46.6	6.9	465	25	30	771
95.0 Percentile	10.00	0.219	0.470	0.80	46.2	55.5	21.9	1598	25	178	1767
97.5 Percentile	11.19	2.177	1.332	1.17	51.9	59.4	25.2	2501	25	359	2017
99.0 Percentile	15.16	7.418	3.111	1.88	70.7	62.7	29.3	4214	44	528	2864

Table 14-4. Summary Statistics, Main

Statistics - Main	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	379	379	379	371	376	373	372	367	350	367	165
Minimum	0.001	0.000	0.004	0.005	0.250	4.08	0.00	3	0	3	10
Maximum	18.87	5.51	3.14	2.29	94.8	70.9	26.3	8636	102	4702	8717
Mean	2.804	0.068	0.091	0.16	14.6	39.6	4.4	405	8	92	850
Std Deviation	3.364	0.394	0.249	0.24	16.1	17.8	4.7	721	11	332	1217
CV	1.20	5.83	2.74	1.46	1.1	0.5	1.1	2	1	4	1
Skewness	2.37	10.81	8.73	4.20	2.1	-0.4	2.1	5.96	2.76	9.54	3.23
10.0 Percentile	0.340	0.002	0.018	0.01	2.0	12.8	0.8	14	1	3	112
25.0 Percentile	0.943	0.006	0.031	0.05	4.3	23.1	1.6	55	1	5	187
Median	1.62	0.013	0.044	0.08	9.0	44.5	2.7	188	3	12	389
75.0 Percentile	3.10	0.027	0.074	0.17	18.0	52.8	5.1	454	10	54	912
95.0 Percentile	11.60	0.123	0.206	0.53	52.8	65.0	16.0	1407	25	405	3582
97.5 Percentile	13.71	0.240	0.442	0.81	63.1	67.0	18.6	2124	26	728	4232
99.0 Percentile	16.05	1.462	1.243	1.21	76.9	69.0	21.5	3915	42	1243	5751

Table 14-5. Summary Statistics, North Footwall

Statistics - North FW	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No samples	44	44	44	42	44	44	44	44	40	44	27
Minimum	0.099	0.002	0.006	0.005	0.500	2.00	0.47	3	2	6	330
Maximum	4.05	0.07	0.36	0.80	12.34	34.0	28.4	693	25	199	2321
Mean	1.130	0.013	0.057	0.12	4.8	12.9	5.6	128	7	36	930
Std Deviation	0.910	0.012	0.077	0.14	3.1	8.1	6.3	161	5	39	381
CV	0.81	0.95	1.34	1.09	0.6	0.6	1.1	1	1	1	0
Skewness	1.51	2.82	2.46	3.07	0.7	1.4	2.1	1.98	2.33	2.73	1.85
10.0 Percentile	0.221	0.003	0.010	0.02	1.0	5.4	1.0	8	2	12	618
25.0 Percentile	0.445	0.005	0.016	0.05	2.2	8.1	1.7	22	3	17	685
Median	0.99	0.009	0.028	0.07	4.4	10.5	3.7	66	5	22	868
75.0 Percentile	1.54	0.016	0.055	0.16	6.7	14.5	5.6	160	7	34	1004
95.0 Percentile	3.44	0.034	0.256	0.33	11.5	32.6	22.4	539	20	143	1962
97.5 Percentile	3.99	0.053	0.330	0.58	12.1	33.9	25.4	671	25	174	1962
99.0 Percentile	4.05	0.070	0.360	0.80	12.3	34.0	28.4	693	25	199	2321

Table 14-6. Summary Statistics, North

Statistics - North	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
No. samples	180	180	175	180	180	180	180	180	168	175	99
Minimum	0.003	0.002	0.008	0.005	0.500	4.41	0.02	3	1	3	10
Maximum	57.21	5.69	14.07	3.37	1343.4	72.8	33.8	9150	695	376	2412
Mean	4.476	0.161	0.499	0.42	47.2	32.7	12.0	640	22	39	623
Std Deviation	6.147	0.560	1.158	0.49	122.1	16.4	8.0	1244	60	55	500
CV	1.37	3.47	2.32	1.17	2.6	0.5	0.7	2	3	1	1
Skewness	5.05	7.20	9.34	2.78	7.7	0.2	0.7	3.95	8.96	3.64	1.04
10.0 Percentile	0.724	0.007	0.026	0.05	5.5	11.3	2.3	30	3	7	85
25.0 Percentile	1.227	0.013	0.055	0.13	10.2	17.5	5.7	82	5	14	227
Median	3.03	0.034	0.197	0.28	23.2	32.2	10.0	234	8	22	505
75.0 Percentile	5.70	0.092	0.576	0.53	41.4	45.2	16.7	522	25	38	901
95.0 Percentile	12.01	0.523	1.754	1.28	88.0	58.3	26.7	3047	72	143	1694
97.5 Percentile	19.59	1.048	2.035	1.84	408.2	61.7	30.3	5056	110	216	1845
99.0 Percentile	31.87	3.030	2.520	2.54	511.2	67.6	32.1	6440	222	318	2129

14.2.5 Grade Capping

Capping is the process of reducing the grade of the outlier sample to a value that is representative of the surrounding grade distribution. Reducing the value of an outlier sample grade minimises the overestimation of adjacent blocks in the vicinity of an outlier grade value.

Outlier values were defined per estimation domain using statistical parameters to ensure that the mean was not significantly affected by capping. Assessment of outliers was based on histograms, log probability plots and metal loss, additional considerations were the standard deviations, Tukey fences (interquartile ranges) and Sichel's mean.

Uncapped and capped summary statistics for each estimation domain for copper, silver and gold are presented in Table 14-7 to Table 14-9.

Table 14-7. Grade Capping Summary Statistics for Copper by Estimation Domain

Copper	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main FW	232	3.1	15.4	1.05	3	3.1	**14.7**	1.0	1.3%	-0.2%
Main	379	2.8	18.9	1.20	4	2.8	**16.0**	1.2	1.1%	-0.4%
North FW	44	1.1	4.1	0.82	2	1.1	**3.9**	0.8	4.5%	-0.5%
North	180	4.5	57.2	1.38	3	4.2	**22.2**	1.0	1.7%	-6.7%

Table 14-8. Grade Capping Summary Statistics for Silver by Estimation Domain

Silver	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main FW	230	14.9	86.4	0.98	4	14.6	**54.9**	0.9	1.7%	-1.9%
Main	370	14.7	94.8	1.10	2	14.7	**83.8**	1.1	0.5%	-0.2%
North FW	44	4.8	12.3	0.65	1	4.8	**12.2**	0.7	2.3%	-0.1%
North	180	47.2	1343.4	2.59	3	41.7	**455.2**	1.9	1.7%	-11.8%

Table 14-9. Grade Capping Summary Statistics for Gold by Estimation Domain

Gold	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main FW	227	0.2	3.7	1.64	4	0.2	**1.5**	1.3	1.8%	-5.8%
Main	371	0.2	2.3	1.48	4	0.2	**1.2**	1.3	1.1%	-2.6%
North FW	42	0.1	0.8	1.10	1	0.1	**0.4**	0.9	2.4%	-6.9%
North	180	0.4	3.4	1.17	4	0.4	**2.0**	1.1	2.2%	-3.5%

Lead and zinc assays are generally very low with a small proportion of high grade values inconsistent with the majority of the data (Table 14-10 and Table 14-11 respectively).

Table 14-10. Grade Capping Summary Statistics for Lead by Estimation Domain

Lead	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Main FW	232	0.22	13.28	5.66	6	0.06	**1.19**	3.03	2.6%	-71.5%
Main	373	0.07	5.51	5.80	10	0.03	**0.28**	1.74	2.7%	-56.7%
North FW	44	0.01	0.07	0.96	1	0.01	**0.04**	0.77	2.3%	-5.5%
North	180	0.16	5.69	3.48	3	0.14	**2.40**	2.70	1.7%	-15.7%

Table 14-11. Grade Capping Summary Statistics for Zinc by Estimation Domain

Zinc	Uncapped Composite Data				Capped Composite Data				Grade	
Domain	Count	Mean	Maximum	CV	# Capped	Mean	**Cap**	CV	% Cap	% Δ
Main FW	232	0.15	4.41	3.00	4	0.13	**1.72**	2.23	1.7%	-15.9%
Main	373	0.09	3.14	2.74	4	0.08	**1.04**	1.70	1.1%	-14.6%
North FW	44	0.06	0.36	1.36	1	0.06	**0.32**	1.32	2.3%	-1.5%
North	175	0.50	14.07	2.33	3	0.43	**2.14**	1.25	1.7%	-14.5%

Low grade material outside the copper domains and inside the sulphide domain were assessed for outliers, and grade caps were applied to the low grade copper, lead, zinc, gold and silber values.

Table 14-12. Grade Capping Summary Statistics for the Low Grade Stratabound Material

Stratabound	Uncapped Composite Data				Capped Composite Data				Grade	
Element	Count	Mean	Maximum	CV	# Capped	Mean	**Cap**	CV	% Cap	% Δ
Cu	1993	0.21	4.39	1.43	20	0.20	**1.00**	1.12	1.0%	-4.9%
Pb	1992	0.03	6.48	8.75	10	0.02	**0.69**	3.40	0.5%	-40.9%
Zn	1995	0.08	6.34	3.38	10	0.07	**1.04**	1.90	0.5%	-11.9%
Au	1888	0.02	1.15	2.17	10	0.02	**0.27**	1.69	0.5%	-4.8%
Ag	1995	1.83	104.00	2.38	20	1.63	**13.96**	1.35	1.0%	-11.1%

In addition to the main commodities assessed, ancillary or and potential penalty elements within the defined sulphide domain were assessed for stationarity and the requirement for grade capping. Grade caps were not applied to sulphur and iron. Grade caps were applied to bismuth, uranium, tungsten, and fluorine as summarised in Table 14-13.

Table 14-13. Grade Capping Summary Statistics Within the Sulphur Domain

	Uncapped Composite Data				Capped Composite Data				Grade	
element	Count	Mean	Maximum	CV	# Capped	Mean	**Cap**	CV	% Cap	% Δ
Fe	2118	23	72	0.74						
S	2119	3	36	1.49						
Bi	2004	191	8636	2.74	31	171	**2146**	2.1	1.5%	-10.8%
U	1944	12	927	3.29	10	10	**119**	1.3	0.5%	-13.3%
W	2102	46	5781	3.43	22	41	**555**	2.0	1.0%	-9.3%
Fe	1056	987	8572	0.90	11	975	**4176**	0.8	1.0%	-1.3%

14.3 VARIOGRAPHY

The most important bivariate statistic used in geostatistics is the semivariogram. The experimental semivariogram is estimated as half the average of squared differences between data separated exactly by a distance vector 'h'. Semivariogram models used in grade estimation should incorporate the main spatial characteristics of the underlying grade distribution at the scale at which mining is likely to occur.

Variogram analysis was undertaken in Snowden's Supervisor for copper, silver, gold, lead and zinc within each shoot (domain).

Normal Score Transformed 3D experimental variograms could generally be created. Where variogram maps proved difficult to interpret the line of lode (strike) and dip was set as direction one and two respectively, with the third direction generally selected as steeply plunging, mimicking the general trend of the shoots.

3D experimental variogram modelling used a nugget (C_0) and two spherical models (C_1, C_2), although occasionally one spherical model was sufficient. The modelled variogram geometry is consistent with the interpreted mineralisation wireframes, incorporating a plunge component where identified and modelled accordingly.

Experimental variograms for copper could be generated for Main, Main FW and North lodes, (Table 14-14). As no experimental copper variogram could be modelled for the North Footwall lode, the North Shoot copper variogram was substituted in.

Ag, Au, Pb and Zn variograms were generated for the Main and North lodes (Table 14-15 to Table 14-18). Limited data in Main FW and North FW lodes prevented functional experimental variograms being modelled. The footwall (FW) domains borrowed the variograms from the respective main domains.

Table 14-14. Semi-variogram Parameters for Rockface Copper Estimation

Copper	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Domain	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Main FW	124.6	75.9	44.6	0.17	0.32	50	0.51	120	1.33	2.00	1.33	2.00
Main	124.6	75.9	44.6	0.11	0.48	35	0.41	150	1.46	1.75	1.67	2.50
North & Nth FW	119.6	75.9	44.6	0.23	0.31	48	0.46	120	1.60	2.40	1.33	2.00

Table 14-15. Variogram Parameters for Rockface Silver Estimation

Silver	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Domain	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Main & Main FW	105.5	67.7	62.7	0.08	0.38	84	0.55	160	2.00	4.00	2.00	2.67
North & North FW	160	80	0	0.11	0.38	56	0.51	220	1.04	1.65	2.24	3.24

Table 14-16. Variogram Parameters for Rockface Gold Estimation

Gold	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Domain	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Main & Main FW	124.6	75.9	44.6	0.19	0.63	88	0.18	150	4.00	4.00	2.00	3.00
North & North FW	160	80	0	0.14	0.76	61	0.1	125	1.53	2.03	1.56	2.08

Table 14-17. Variogram Parameters for Rockface Lead Estimation

Lead	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Domain	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Main & Main FW	124.6	75.9	44.6	0.21	0.73	110	0.06	150	1.22	1.83	1.25	1.67
North & North FW	205.4	75.9	-44.6	0.22	0.75	50	0.03	120	1.25	1.67	1.33	2.00

Table 14-18. Variogram Parameters for Rockface Zinc Estimation

Zinc	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Domain	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Main & Main FW	124.6	75.9	44.6	0.42	0.58	155	0	0	2.67	5.34	1.00	1.00
North & North FW	160	80	0	0.15	0.56	78	0.29	140	1.30	2.60	1.33	2.59

Experimental variograms for copper, lead, zinc, gold and silver were generated for the low grade stratabound mineralisation, material outside copper domains but inside sulphur domains (Table 14-19).

Table 14-19. Variogram Parameters for Rockface – Based on Stratabound Data

Stratabound	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Cu	124.6	75.9	44.6	0.25	0.5	42	0.25	275	1.05	2.10	2.33	4.58
Pb	124.6	75.9	44.6	0.33	0.59	35	0.08	205	1.75	1.75	1.64	2.73
Zn	124.6	75.9	44.6	0.3	0.59	60	0.11	175	1.50	3.00	1.75	2.92
Au	124.6	75.9	44.6	0.35	0.6	64	0.05	200	1.33	2.67	1.82	3.64
Ag	124.6	75.9	44.6	0.32	0.46	24	0.23	170	1.20	1.20	1.89	2.83

The sulphide domain was used to understand the elemental spatial characteristics of the ancillary elements. Variograms for iron, sulphur, bismuth, uranium, tungsten and flourine are shown in Table 14-20.

Table 14-20. Variogram Parameters for Ancillary Rockface Elements Within Sulphide Domain

	Rotation			Variogram					Anisotropy 1		Anisotropy 2	
Element	brg	plg	dip	Co	C1	A1	C2	A2	Major/ S-Major	Major/ minor	Major/ S-Major	Major/ minor
Fe	105.5	67.7	62.7	0.05	0.37	76	0.57	345	1.69	3.30	2.16	4.60
S	170	70	0	0.28	0.53	52	0.19	220	1.08	1.63	2.20	2.75
Bi	143.3	78.8	26.3	0.18	0.58	56	0.24	220	1.56	2.33	1.83	2.44
U	80	70	90	0.14	0.72	60	0.14	110	1.50	2.00	1.47	2.00
W	78.3	39.3	77	0.42	0.5	30	0.08	150	1.50	2.00	1.50	2.50
F	104.56	75.9	44.6	0.07	0.48	52	0.45	150	1.37	2.08	2.73	3.75

Variography for density utilised unconstrained density data. Limited data was available within the oxide and transition portions of the deposit. Variogram parameters for density are presented in Table 14-21.

Table 14-21. Variogram Parameters for Density Estimation

	Rotation			Variography					Anisotropy 1		Anisotropy 2	
Domain	bearing	plunge	dip	Co	C1	A1	C2	C2	Major/ S-Major	Major/ minor	Major/ S- Major	Major/ minor
Density	81.1	28	67.2	0.29	0.39	68	0.31	145	1.05	1.70	1.45	2.64

Anisotropic ellipses based on directional variogram ranges and the modelled bearing, plunge and dip were graphically plotted in Surpac and displayed against the extracted assay composites to ensure modelled parameters were reasonably orientated.

14.4 GRADE ESTIMATION

Grade estimation was undertaken using Geovia's Surpac™ software package (v7.2). Ordinary Kriging ("OK") was used for the grade estimation for copper, silver and gold (and all other elements estimated that are not reported as economically significant).

Copper is the primary element of interest, with silver, gold, lead and zinc estimated using dynamic search ellipses within the copper domains (hard boundaries). Sulphur, iron, bismuth, uranium, tungsten and fluorine are estimated into the broader sulphide domain which encompasses the copper domains. The weathering profiles were used in the designation of density but not in the estimation of the metals. There are too few samples above the top of fresh to warrant constraining the estimate by weathering. Dynamic search ellipses were used inside the copper domains, while fixed searches orientated to the regional lithology and larger estimation blocks were used in the host material (barren blocks).

14.4.1 Block Model

The Rockface block model uses regular shaped blocks measuring 15 m x 2 m x 15 m (XYZ). The choice of the block size was patterned with the trend and continuity of the mineralisation, taking into account the dominant drill pattern in conjunction with the size and orientation of the deposit. To accurately represent the volume of the mineralised domains inside each block, volume sub-blocking to 0.5 m x 3.75 m x 3.75 m was used (Table 14-22). Blocks above original topography were excluded from model estimation. Estimation resolution was set at the user block size for blocks within defined domains. For blocks outside defined domains (barren waste), estimates used a block resolution of 30 m x 4 m x 30 m (XYZ).

Table 14-22. Block Model Extents

Type	X	Y	Z
Minimum Coordinates	627,900	7,490,186	-700
Maximum Coordinates	628,860	7,490,698	500
User Block Size	15	2	15
Min. Block Size	3.75	0.5	3.75
Rotation	0	0	0

Interpreted mineralised domains were coded to the block model. Sufficient variables were added to allow grade estimation, resource classification and reporting. Blocks above the original topography are screened out. Final block model attributes are defined in Table 14-23.

Table 14-23. Block Model Attributes Assigned to the 3D Model

Attribute Name	Type	Decimals	Background	Description
ag_id	Float	1	0	silver inverse distance estimate capped
ag_nn	Float	1	0	silver nearest neighbour estimate capped
ag_ok	Float	1	0	silver ordinary krige estimate capped
ag_okr	Float	2	0	silver ordinary krige estimate un-capped
au_ok	Float	2	0	gold ordinary krige estimate capped
bi_nn	Float	0	0	bismuth nearest neighbour estimate capped
bi_ok	Float	0	0	bismuth ordinary krige estimate capped
cu_id	Float	4	0	copper inverse distance estimate capped
cu_nn	Float	4	0	copper nearest neighbour estimate capped
cu_ok	Float	4	0	copper ordinary krige estimate capped
cu_okr	Float	4	0	copper ordinary krige estimate un-capped
density	Float	2	2.8	Density
f_ok	Float	0	0	fluorine ordinary krige estimate capped
fe_ok	Float	2	0	iron ordinary krige estimate capped
lode	Character	-	WS	Mineralisation Domain
lode_id	Integer	-	-99	lode number
pb_ok	Float	4	0	lead ordinary krige estimate capped
rescat	Integer	-	6	Resource classification (1 measured 2 indicated 3 inferred 4 unclassified 5 mined out 6 rock)
rock	Integer	-	1	Air=0 Rock=1
s_ok	Float	2	0	sulphur ordinary krige estimate capped
u_ok	Float	1	0	uranium ordinary krige estimate capped
w_ok	Float	0	0	tungsten ordinary krige estimate capped
wth	Character	-	FR	FR = Fresh, PO = Partially oxidised, OX = oxidised
z_ads	Float	2	0	average distance to samples
z_brg	Float	2	0	bearing of search ellipse
z_cbs	Float	2	0	Conditional bias slope
z_dh	Integer	-	0	number of informing drill holes
z_dhid	Character	-	0	hole_id
z_dip	Float	2	0	dip of search ellipse
z_dns	Float	2	0	distance to nearest sample

Attribute Name	Type	Decimals	Background	Description
z_ke	Float	2	0	krige efficiency
z_kv	Float	2	0	krige variance
z_ns	Integer	-	0	number of informing samples
z_ps	Integer	-	0	1 First Pass; 2 Second Pass Estimate
zn_ok	Float	4	0	zinc ordinary krige estimate capped

14.4.2 Informing Samples and Search Parameters

Due to the reasonably spaced drill patterns, search radii were found to be optimal near 60 m for the major axis of the search ellipse. Anisotropic ratios of 1.33 and 2.25 were applied to the semi-major and minor axis of the search ellipse.

Dynamic searches were utilised to reflect the local orientation of the lodes. Local undulations in the lodes were determined from the mid-point of mineralised drill hole intercepts. The intercepts were wire-framed and sliced in 10 m sections. Wireframe slices were smoothed, adding points every 10 m along the slice providing a 10 m grid reflecting the orientation of the lodes. The grid was wire-framed and the dip and strike of each triangle defined a unique local search orientation for each block.

The minimum and maximum samples utilised were 6 and 16 for the first pass and reduced to 4 and 14 for the second pass. Third pass informing samples were further reduced to a minimum of 3 and maximum of 8. Search distances were factored by the estimation pass, ie 60 m pass 1, 120 m pass 2 and 180 m pass 3. Table 14-24 shows the ratios of volume tonnes and metal informed by each pass.

Table 14-24. Percentage of Model Estimated with Each Pass

Pass	Volume	Tonnes	Metal
1	64%	66%	80%
2	32%	30%	19%
3	4%	4%	2%

14.4.3 Discretisation

The krige estimate used a 5 x 1 x 5 discretisation (XYZ), giving discretisation nodes spaced relatively evenly within the block. The distance between nodes approximates 2 to 3 times the sample composite length.

14.5 DENSITY ESTIMATION

The default density of the block model is 2.90 t/m^3. All oxide material is assigned 2.60 t/m^3, the transitional material is assigned 2.80 t/m^3 and fresh mineralisation is assigned a conservative density of 3.00 t/m^3.

Density values were further refined with a 2-pass estimation strategy (Ordinary Krige). Pass one used measured density readings to estimate the block density, and the second pass used density values determined from a linear regression of iron assays (Figure 14-7.)

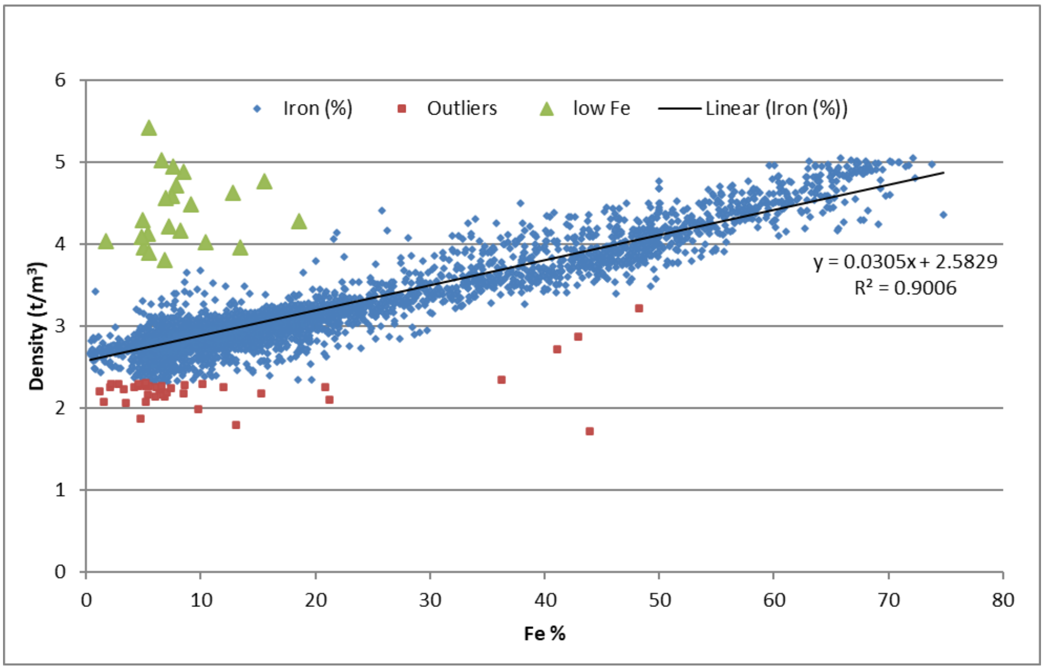

Figure 14-7. Density as a Function of Iron Content

Less than 0.2% of the mineralisation is oxidised and has an average bulk density of 2.60 t/m^3. Partially oxidised mineralisation (less than 2% of the resource) has an estimated density of 2.80 t/m^3. Blocks classified as containing high sulphur to copper ratios have an estimated density of 3.24 t/m^3, and fresh mineralisation has an estimated density of 3.46 t/m^3. The entire Mineral Resource has an average bulk density of 3.44 t/m^3.

14.6 VALIDATION

The block model was validated by visual and statistical comparison of drill hole and block grades and through grade-tonnage analysis. Initial comparisons occurred visually on screen, using extracted composite samples and block models. Further validation used swath plots to compare block estimates with informing sample statistics along parallel sections through the deposits.

14.6.1 Alternate Estimation Methods

Alternative estimation methods Nearest Neighbour and ID^2 were utilised to ensure the Krige estimate was not reporting a global bias (Figure 14-8). The alternate estimates provided expected correlations. Nearest Neighbour shows less tonnes and higher grade (less contained metal) as it does not employ averaging techniques to assign the block grade, with distal blocks being informed by a single closest sample rather than several weighted samples. The ID^2 estimate is closer to kriging as it does use averaging weighted by distance but cannot assign anisotropy, nor can it de-cluster the input data or account for nugget effect. Using the kriging algorithm provides a reliable estimate due to the ability of kriging to de-cluster data and weight the samples based on a variogram (which incorporates the nugget effect and anisotropy).

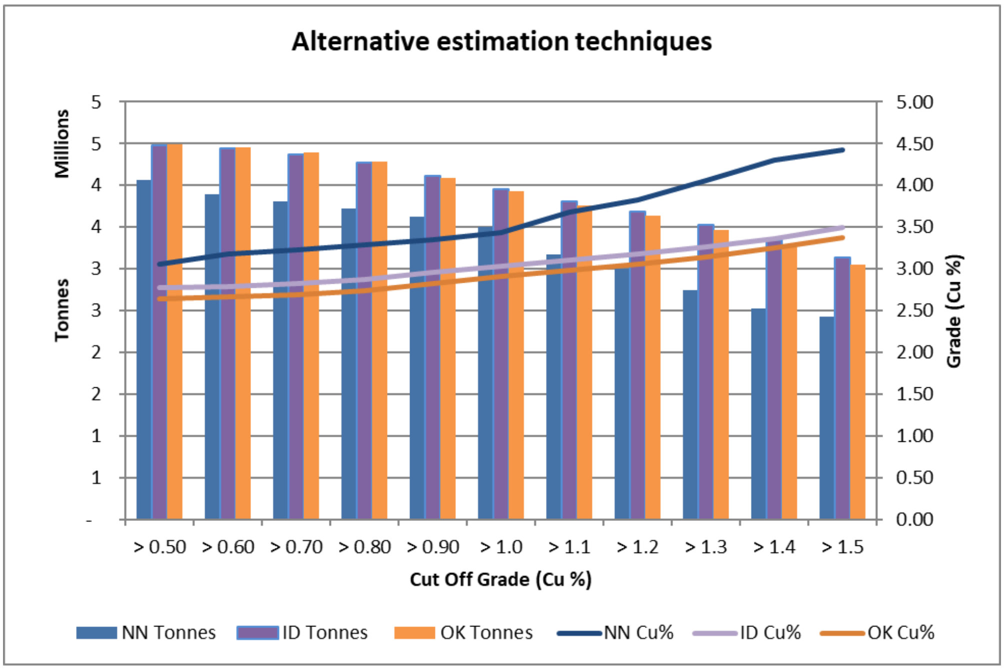

Figure 14-8. Alternative Estimation Results at Nominated Cut-Offs (Capped Grades)

14.6.2 Global bias check

A comparison of global mean values within the grade domains shows a reasonably close relationship between composites and block model values (Figure 14-9). The Main and Main FW appear to under call the grade, however a comparison with the NN estimate (declustered grades) shows a much better correlation (Figure 14-10). The global estimate for silver performs well, the Main and Main FW have very similar silver grades and North lode has significantly higher silver grades (Figure 14-11). The gold mineralisation represented in the deposit is relatively minor, but still significant (Figure 14-12), with the North lode also having the highest tenor of gold mineralisation.

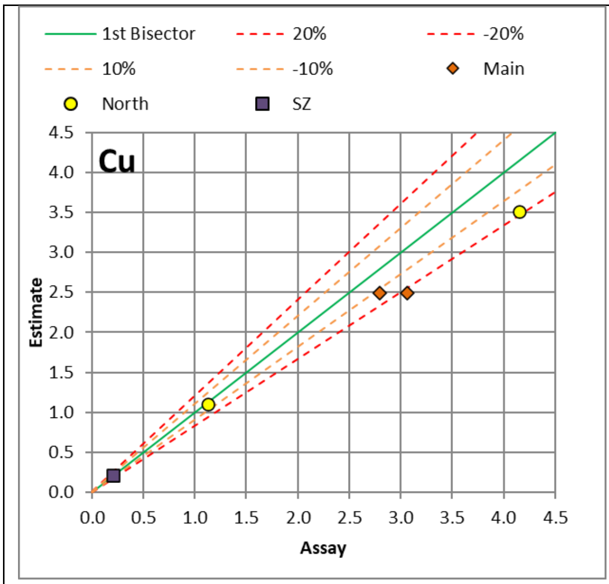

Figure 14-9. Global Copper Validation by Domains Comparing OK and Average Sample Data

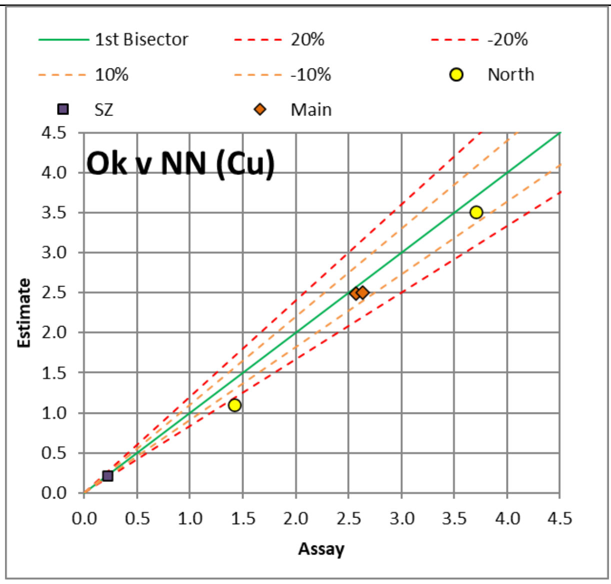

Figure 14-10. Global Copper by Domain comparing OK and NN

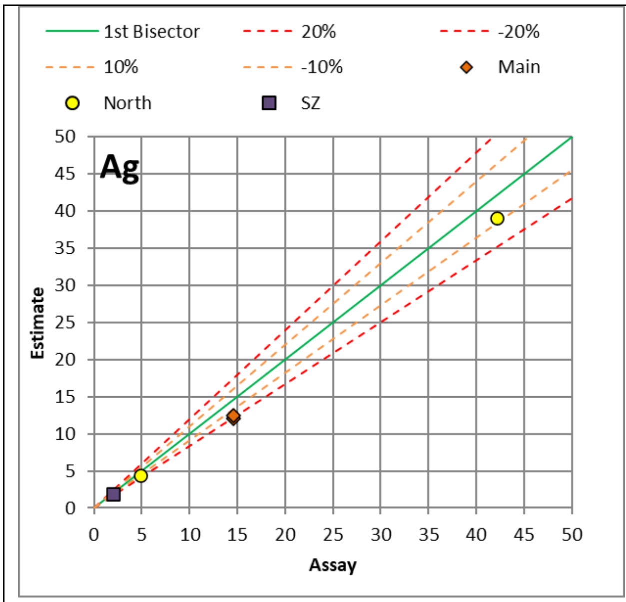

Figure 14-11. Global Silver Validation by Domains Comparing OK and Average Sample Data

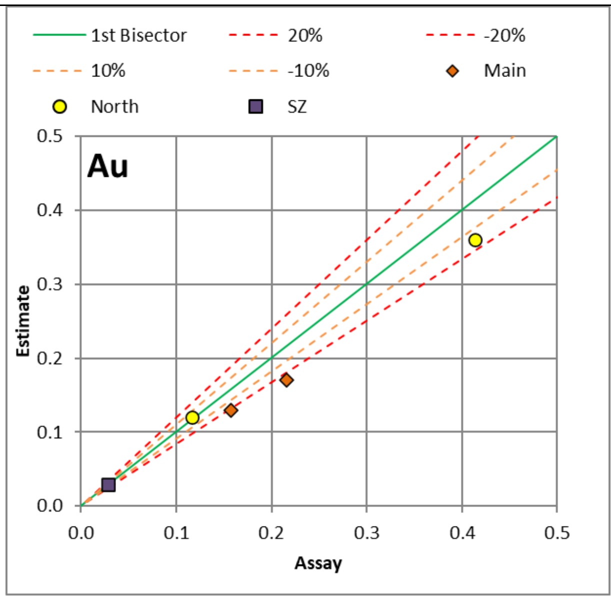

Figure 14-12. Global Gold by Domain Comparing OK and Average Sample Data

14.6.3 Local bias Check

Rockface strikes over 300 m east-west and steeply dips to the north. 25 m north-south swaths show a good relationship between the average assay grade and the estimated copper grade (Figure 14-13). Due to the relatively short strike length compared to the depth extent of the Rockface deposit, additional swath plots were generated on horizontal 30 m wide swaths. The local bias is assessed down dip by comparing the OK estimate with informing composite means for copper and silver. Estimates show the expected smoothing effect of kriging and no significant bias between OK estimates and informing samples (Figure 14-14 to Figure 14-19). The deeper portions of Main lode show several swaths have very few high grade informing samples (-120 mRL) for both copper (Figure 14-14) and silver (Figure 14-15), with neighbouring slices having more data and lower average grades influencing the estimated grades within the block model. The North FW lode remains sparsely drilled, (Figure 14-20 and Figure 14-21) and several swaths have no raw data.

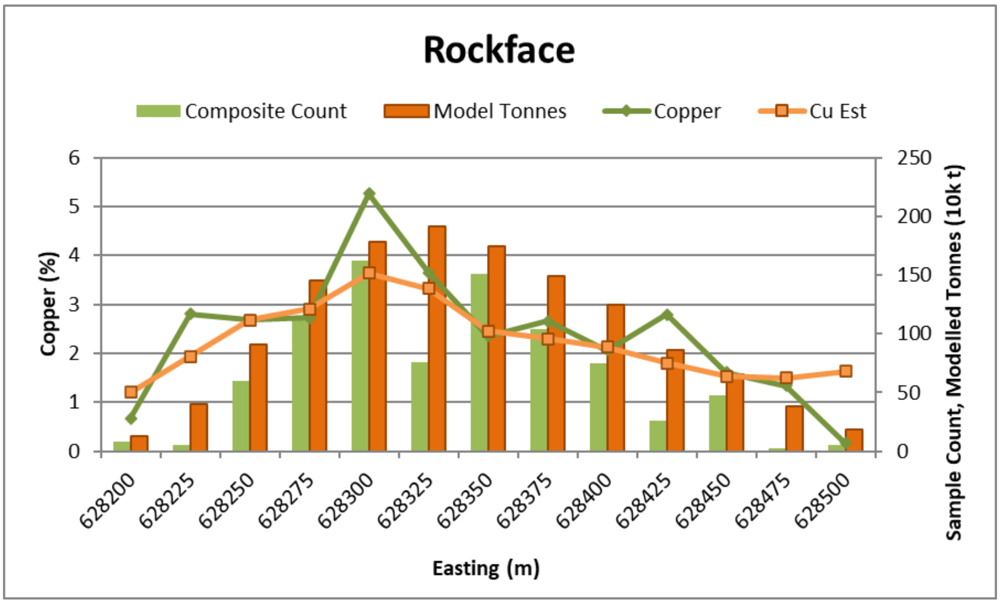

Figure 14-13. Swath Plot - Eastings, Copper

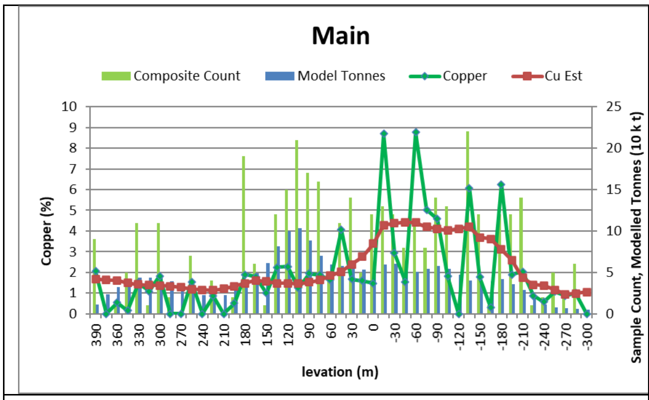

Figure 14-14. Z Swath Plot Main - Copper

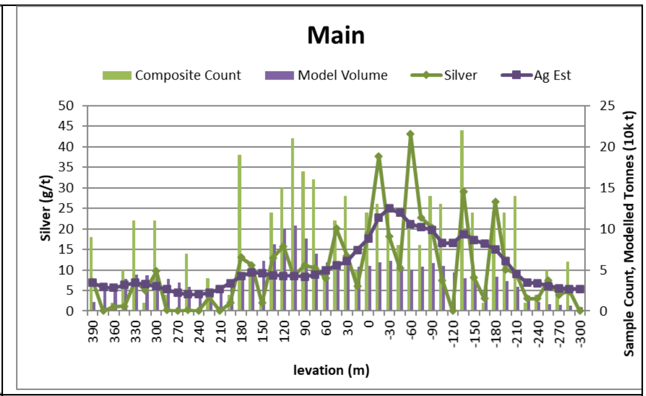

Figure 14-15. Z Swath Plot Main - Silver

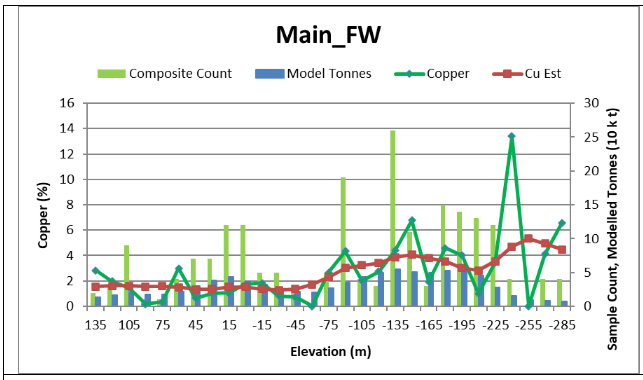

Figure 14-16. Z Swath Plot main FW- Copper

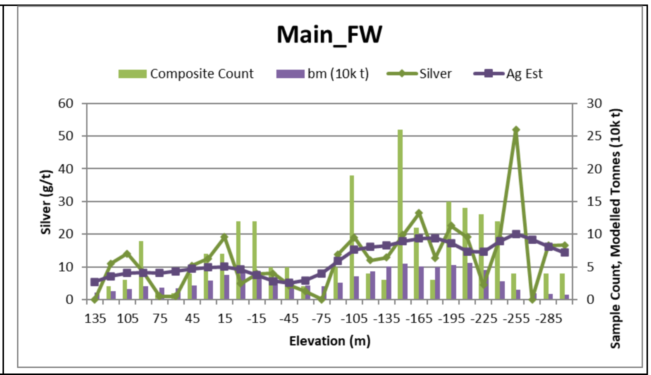

Figure 14-17. Z Swath Plot main FW- Silver

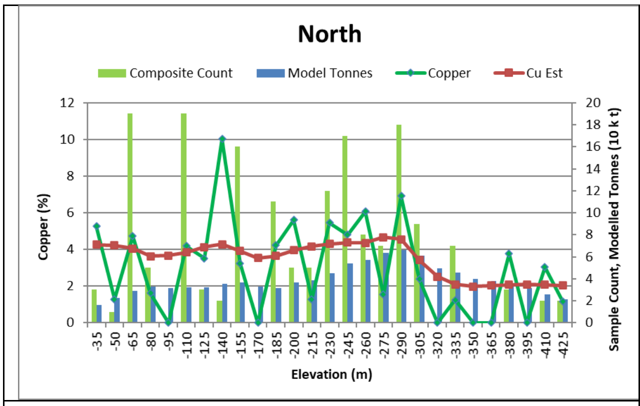

Figure 14-18. Z Swath North - Copper

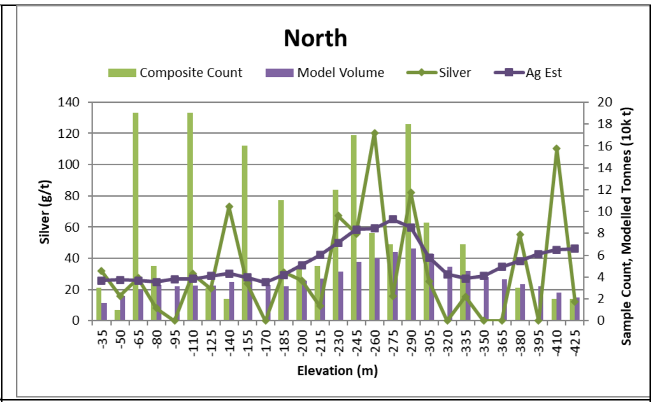

Figure 14-19. Z Swath North - Silver

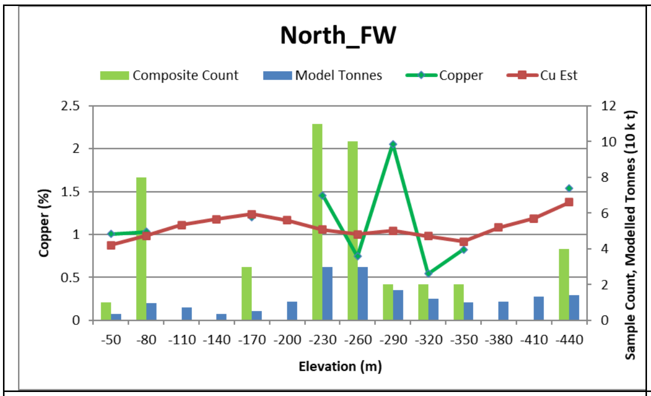

Figure 14-20. Z Swath Plot North FW - Copper

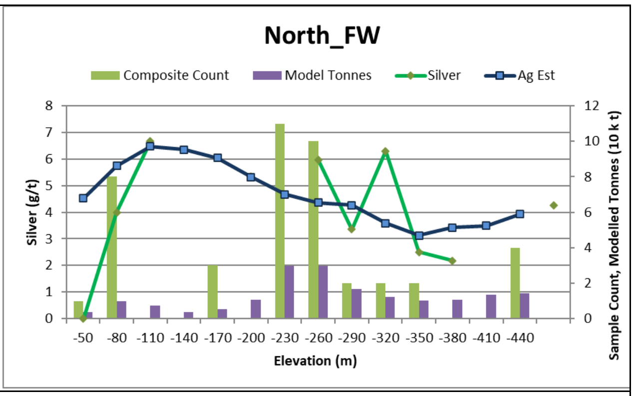

Figure 14-21. Z Swath Plot North FW - Silver

14.6.4 Comparison with previous estimates

The Mineral Resource tonnage is up 7% to 3.53 Mt and the copper grade remains above 3.0%, resulting in a 4% increase in contained copper metal to 108.3 kt. The Resource is now 87% Indicated, up from 83% in 2020.

Both resource estimates are reported as Underground potential estimates above a 1% copper cut, however the 2020 resource (Table 14-25) estimate had no RL restriction at depth. The current resource (Table 14-26) has an RL restriction of -425 m RL, although KJCD481D8 and KJCD230 confirm the deposit is still open to depth. It is expected potential upper level stopes will either daylight or pull up below the oxide interface, and the upper reaches of the interpretation are included in the resource estimate.

Table 14-25. June 2020, Rockface Resource Estimate (Taylor 2020)

Cut-off > 1% Cu	Category	Material (Mt)	Cu %	Ag g/t	Au g/t	Cu kt	Ag Moz	Au koz
UGP	indicated	2.45	3.54	19.8	0.25	86.8	1.6	19.6
	Inferred	0.84	2.07	15.6	0.18	17.5	0.4	4.8
Total		3.29	3.16	18.7	0.23	104.2	2.0	24.4

Table 14-26. March 2022, Rockface Resource Estimate

2022	Category	Material (Mt)	Cu %	Ag g/t	Au g/t	Cu kt	Ag Moz	Au koz
UGP > 1%	indicated	2.80	3.37	21.4	0.23	9,430.9	1.93	21.1
	inferred	0.73	1.91	19.0	0.18	1,397.2	0.45	4.2
Total		3.53	3.07	20.9	0.22	108.3	2.38	25.3

14.7 CUT-OFF GRADES

Rockface mineralisation has a short strike length and extends to over 800 m below the surface. The cut-off of 1.0% Cu is considered suitable for resources potentially amenable to underground mining.

Classified resources (combined Indicated and Inferred) previously shown in Table 1 are presented in Table 14-27 at increasing copper cut-offs, highlighting the deportment of associated elements. Figure 14-22shows the resource as grade tonnage curves by resource category.

Table 14-27. Deportment of Associated Elements with Copper Mineralisation

Cut-off	Tonnes (M t)	Cu (%)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Fe (%)	S (%)	Bi (ppm)	U (ppm)	W (ppm)	F (ppm)
0.75	3.78	2.92	19.8	0.21	0.07	0.19	31.0	4.22	268	11	48	840
1.00	**3.53**	**3.07**	**20.9**	**0.22**	**0.07**	**0.20**	**31.8**	**4.36**	**280**	**12**	**48**	**831**
1.25	3.24	3.24	22.1	0.24	0.07	0.20	32.4	4.53	293	12	49	811
1.50	2.89	3.46	23.3	0.25	0.08	0.21	32.9	4.71	309	12	48	795

*Mineral Resource is reported as above 1% Cu

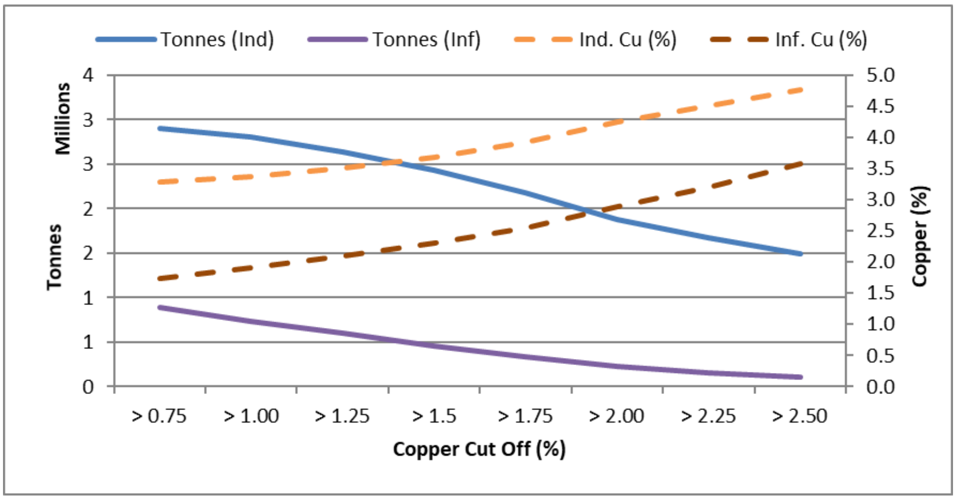

Figure 14-22. Classified Resources - Grade Tonnage Curves

14.7.1 Reasonable Prospects for eventual Economic Extraction

Assumptions for reasonable prospects for eventual economic extraction applied to this deposit include but may not be limited to Table 14-28 (prices are AUD). Recovery curves for copper, silver, and gold are being determined by KGL, and previous test work has shown the three elements have reasonable recoveries. A Summary of metallurgical test work undertaken by KGL is provided in Section 11.

Table 14-28. Adopted Costs for Reasonable Prospects of Economic Extraction

Parameter	unit	Average
Mill Throughput per annum (Mtpa)	Mt	1.6
General and Administration Cost	$/t ore	5.25
Copper price	$/t	12,080
Silver price	$/oz	25.32
Average Underground Mining cost	$/total tonne mined	43.4
Haulage	$/t ore	0.65
Sulphide ore processing cost	$/t ore	22.31
Ore loss	%	5
Dilution	%	5

14.8 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

Indicated and Inferred Resources. Data quality does not preclude Measured, but grade continuity is not sufficiently defined to assign Measured Resources; this can change with further drilling.

Indicated Resources are the portions of the deposit with a drill spacing of 50 m x 50 m, that have significant infill drilling, and can demonstrate a reasonable level of confidence in the geological continuity of the mineralisation. Inferred Resources are the portions of the deposit either covered by a drill spacing greater than 50 m, or with a smaller number of intercepts still able to demonstrate 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.

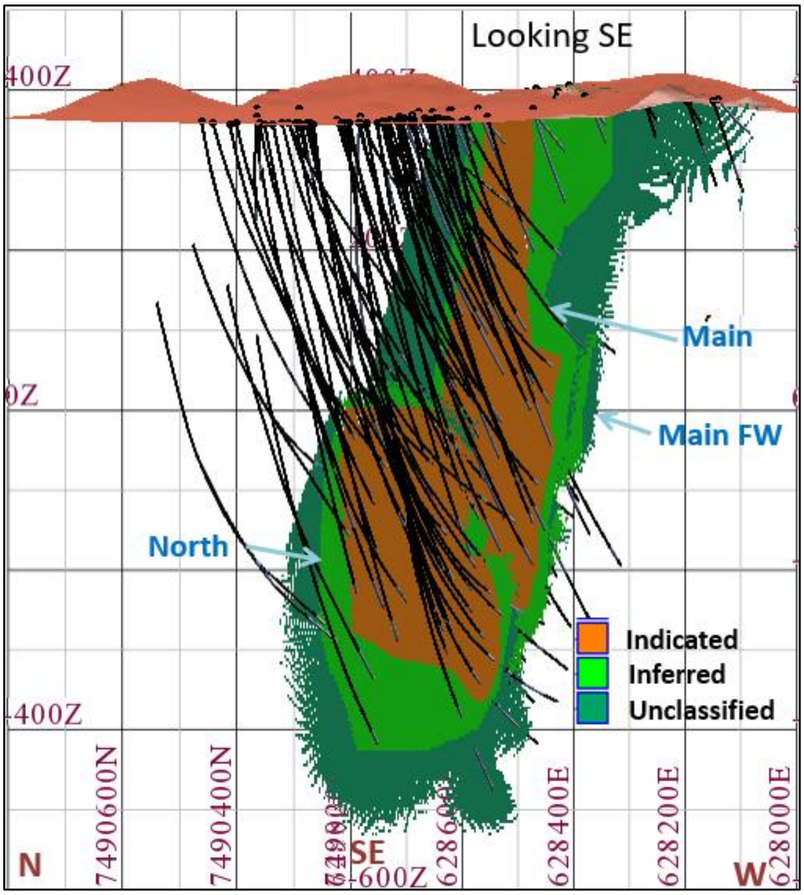

Figure 14-23. Classified Resources - Rockface Deposit

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

The Rockface Deposit is a steeply dipping syn-depositional copper deposit that has undergone a degree of structural remobilisation and enrichment. Mineralisation 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.

Sulphur has been estimated throughout the block model, and iron and sulphur have been estimated both within the sulphur domain and outside the sulphur domain (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, with preliminary results indicating most of the waste material recoverable by mining will have low potential to become acidic.

14.10 ROCKFACE RESOURCE SUMMARY

Based on the reported study, the Mineral Resource estimate of the Rockface Deposit has portions classified as Indicated and Inferred Mineral Resources 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, bulk density determinations, accuracy of drill collar locations, quality of the assay data, and other estimation statistics.

The resource is reported above a depth of 800 m below the surface (or above -425 m RL) at a 1.0 % copper cut-off.

Table 14-29. Rockface Mineral Resource Estimate 2022

Resource		Mineralised Mass (Mt)	Grade			Metal		
Area*	Category		Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Underground Potential > 1% Cu	Indicated	2.80	3.37	21.4	0.23	94.3	1.93	21.1
	Inferred	0.73	1.92	19.0	0.18	14.0	0.45	4.2
Total Resource		3.53	3.07	20.9	0.22	108.3	2.38	25.3

* 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 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 is present. Table 14-30 shows the deposits reported by weathering profiles, including the High Sulphur resource (S/Cu > 4.5).

Table 14-30. Rockface Resource by Weathering Profile at 1.0% Cu Cut-Off

Resource		Mass	Grade											Metal				
Category	Weathering	(t)	Cu %	Pb %	Zn %	Ag g/t	Au g/t	Fe %	S %	Bi ppm	U ppm	W ppm	F ppm	Cu (kt)	Pb (kt)	Zn (kt)	Ag (koz)	Au (koz)
Indicated	Oxide	1,000	2.36	0.04	0.03	4.6	0.10	16.3	0.34	250	8	18	747	0.02	0.00	0.00	0.15	0.0
	Transitional	28,000	2.36	0.03	0.04	6.7	0.11	21.2	1.72	248	7	20	781	0.66	0.01	0.01	6.02	0.1
	High Sulphur	88,000	1.96	0.08	0.32	18.2	0.20	29.3	12.33	210	10	32	904	1.73	0.07	0.28	51.57	0.6
	Fresh	2,685,000	3.42	0.06	0.18	21.7	0.24	34.4	4.29	300	11	53	777	91.90	1.74	4.73	1873	20.4
Inferred	Oxide	2,800	1.63	0.03	0.06	8.9	0.08	13.8	0.67	121	9	22	793	0.05	0.00	0.00	1	0.0
	Transitional	17,000	1.73	0.03	0.05	7.7	0.07	15.2	1.11	152	9	24	773	0.29	0.00	0.01	4	0.0
	High Sulphur	64,000	1.72	0.27	0.57	31.0	0.22	24.9	11.04	251	11	26	835	1.10	0.17	0.37	64	0.5
	Fresh	646,000	1.94	0.09	0.24	18.2	0.18	22.8	3.12	216	15	39	1051	12.53	0.58	1.58	377	3.7
Sub Totals	Oxide	3,800	1.82	0.03	0.05	7.8	0.08	14.5	0.58	155	9	21	781	0.07	0.00	0.00	1	0.0
	Transitional	45,000	2.12	0.03	0.04	7.1	0.10	18.9	1.49	212	8	21	778	0.95	0.01	0.02	10	0.1
	High Sulphur	152,000	1.86	0.16	0.43	23.6	0.21	27.4	11.78	228	11	30	875	2.83	0.25	0.65	115	1.0
	Fresh	3,331,000	3.14	0.07	0.19	21.0	0.23	32.1	4.06	284	12	50	830	104.43	2.32	6.31	2251	24.1
Total		3,531,800	3.07	0.07	0.20	20.9	0.22	31.8	4.36	280	12	49	831	108.28	2.58	6.98	2377	25.3

The preceding statements of Mineral Resources conforms to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 Edition.
Due to rounding to appropriate significant figures, minor discrepancies may occur.

Rockface reported by lode is shown in Table 14-31.

Table 14-31: Rockface Resource by Lode (>1.0 g/t)

Rockface Resource		Material	Grade (%)			Metal		
Category	Area	Mt	Cu (%)	Ag (g/t)	Au (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Indicated	Main	1.36	3.13	15.7	0.16	42.7	0.687	7.15
	Main_FW	0.72	3.08	15.1	0.22	22.1	0.348	5.14
	North	0.65	4.38	41.9	0.40	28.7	0.881	8.50
	North_FW	0.07	1.31	5.9	0.13	0.9	0.013	0.28
Indicated Subtotal		**2.80**	**3.37**	**21.4**	**0.23**	**94.3**	**1.9**	**21.1**
Inferred	Main	0.26	1.64	7.4	0.09	4.2	0.061	0.70
	Main_FW	0.12	1.58	7.5	0.07	1.9	0.030	0.26
	North	0.34	2.27	32.7	0.30	7.7	0.354	3.22
	North_FW	0.01	1.20	3.7	0.11	0.1	0.001	0.04
Inferred Subtotal		**0.73**	**1.92**	**19.1**	**0.18**	**14.0**	**0.4**	**4.2**
Total		**3.53**	**3.07**	**20.9**	**0.22**	**108.3**	**2.4**	**25.3**

15 MINERAL RESOURCE STATEMENT - JERVOIS PROJECT

Based on the study herein reported, delineated mineralization of the Reward Bellbird and Rockface copper deposits are classified as Indicated and Inferred resources according to the definitions of the JORC Code (2012) as presented in Table 15-1, Table 15-2 and Table 15-3.

Table 15-1. 2020 Reward Resource Estimate

Reward Resource		Mineralised	Grade			Metal		
Area	Category	Tonnes	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	3.84	1.80	39.4	0.31	69.05	4.86	38.2
	Inferred	0.65	0.92	9.2	0.07	5.95	0.19	1.5
Sub Total (< 200 mRL)		4.48	1.67	35.0	0.28	75.01	5.04	39.7
Underground Potential > 1% Cu	Indicated	4.78	2.12	42.6	0.45	101.61	6.55	69.2
	Inferred	4.32	1.56	19.6	0.20	67.29	2.72	27.8
Sub Total (> 200 mRL)		9.10	1.86	31.7	0.33	168.90	9.28	96.6
Subtotal	Indicated	8.62	1.98	41.2	0.39	170.68	11.41	107.4
	Inferred	4.96	1.48	18.2	0.18	73.23	2.91	29.2
Total		13.58	1.80	32.8	0.31	243.91	14.32	136.7

Table 15-2. 2020 Bellbird Resource Estimate

Bellbird Resource		Mineralised	Grade			Metal		
Area	Category	Tonnes	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential >0.5 % Cu	Indicated	2.03	2.20	13.1	0.16	44.55	0.85	10.5
	Inferred	1.44	1.36	9.3	0.15	19.50	0.43	6.9
Sub Total (< 200 mRL)		3.47	1.85	11.5	0.16	64.05	1.28	17.4
Underground Potential > 1% Cu	Indicated	0.38	2.62	17.7	0.14	9.90	0.22	1.7
	Inferred	1.92	2.06	12.0	0.10	39.49	0.74	6.0
Sub Total (> 200 mRL)		2.29	2.15	12.9	0.10	49.38	0.95	7.6
Subtotals	Indicated	2.41	2.26	13.8	0.16	54.44	1.07	12.2
	Inferred	3.35	1.76	10.8	0.12	58.98	1.17	12.9
Total		5.76	1.97	12.1	0.14	113.43	2.24	25.0

Table 15-3. 2020 Rockface Resource Estimate

Rockface Resource		Mineralised	Grade			Metal		
Area	Category	Tonnes	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Underground Potential > 1.0 g/t	Indicated	2.80	3.37	21.4	0.23	94.31	1.93	21.1
	Inferred	0.73	1.92	19.0	0.18	13.97	0.45	4.2
Total		3.53	3.07	20.9	0.22	108.28	2.38	25.3

Jervois Project contains a reported combined Mineral Resource above a depth of 200 m RL and a 0.5% copper cut off and below 200 mRL at a 1% copper cut off of 22.87 Mt at 2.04% Cu, 25.7 g/t Ag and 0.25 g/t Au for 465.6 kt of Cu, 18.93 Moz Ag and 187.1 koz of Au.

Table 15-4. 2022 Jervois Project Reported Mineral Resource

Resource			Material	Grade			Metal		
	Area	Category	Mt	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential > 0.5 % Cu	Reward	Indicated	3.84	1.80	39.4	0.31	69.06	4.86	38.2
		Inferred	0.65	0.92	9.2	0.07	5.95	0.19	1.5
	Bellbird	Indicated	2.03	2.20	13.1	0.16	44.55	0.85	10.5
		Inferred	1.44	1.36	9.3	0.15	19.50	0.43	6.9
	Sub Total		**7.95**	**1.75**	**24.8**	**0.22**	**139.06**	**6.33**	**57.1**
Underground Potential > 1 % Cu	Reward	Indicated	4.78	2.12	42.6	0.45	101.61	6.55	69.2
		Inferred	4.32	1.56	19.6	0.20	67.29	2.72	27.8
	Bellbird	Indicated	0.38	2.62	17.7	0.14	9.90	0.22	1.7
		Inferred	1.92	2.06	12.0	0.10	39.49	0.74	6.0
	Rockface	Indicated	2.80	3.37	21.4	0.23	94.31	1.93	21.1
		Inferred	0.73	1.92	19.0	0.18	13.97	0.45	4.2
	Sub Total		**14.93**	**2.19**	**26.3**	**0.27**	**326.57**	**12.60**	**130.0**
Total			**22.87**	**2.04**	**25.7**	**0.25**	**465.62**	**18.93**	**187.1**

*does not include Reward South deposit

* Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes

16 REFERENCES

BOM. (2022, March 10). Retrieved March 16, 2022, from Bureau of Meterology: http://www.bom.gov.au/climate/averages/tables/cw_015590.shtml

Morgan, Z. (2022). *Jervois Project, Draft V5, Report on Quality Control for Quality Assurance of Analytical Results for Drill Samples.* Alice Springs: Unpublished KGL Report.

Schmid, S., Schaubs, P., & Otto, A. (2018). *Characterisation of Mineralisation at Rockface and Reward North, Jervois Cu-Pb-Zn deposit, NT, Australia.* CSIRO EP 185553, pp. 88.

Taylor, I. (2020). *Mineral Resource Estimate, Reward, Rockface and Bellbird Deposits, Jervois Project, Northern Territory, Austalia.* MIning Associates, ASX:KGL Announcement 15 September 2020.

Tear, S. (2019). *Resource Estimation for the Jervois Copper Project, NT.* H&S Consultants (ASX:KGL Announcement 22 August 2019.

Weisheit, A., Reno, B. L., & Beyer, E. E. (2019). *Jervois Range Special, Northern Territory. 1:100 000 geological map series explanatory notes, 6152 and part 6252.* Darwin: Northern Territory Geological Survey.

17 APPENDIX 1. JORC TABLE 1

SECTION 1 SAMPLING TECHNIQUES AND DATA – JERVOIS PROJECT

Criteria	*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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *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.*	• At the Jervois Project, 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, with adjustments made were necessary to take into account geological variations. RC sample intervals are predominantly 1 m, with some 2 m and 4 m compositing (historical holes only). • 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. • Documentation of the historical drilling (pre-2011) for Jervois Project is variable.
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).*	• 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. • There is no documentation for the historic drilling techniques, drill type is recorded as UNK. • Diamond drilling was generally cored from surface with some of the deeper holes at Rockface utilising RC pre-collars. • Oriented core has been measured for the recent 2020-2021 KGL drill program.
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.* *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 KGL RC samples were not weighed on a regular basis. KGL report no sample recovery issues were encountered during the drilling program. • Jinka Minerals and KGL split the rare overweight samples (>3kg) for assay. Since overweight samples were rarely reported no sample bias was established between sample recovery and grade. • Drilling muds are used to improve drilling recovery, and in broken ground tripple tube barrels are employed. Core recovery for recent drilling is >95% with

Criteria	*JORC Code explanation*	Commentary
		the mineral zones having virtually 100% recovery. • 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.
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 KGL RC and diamond core samples are geologically logged. Logging in conjunction with multi-element assays is appropriate for Mineral Resource estimation. • Core samples are orientated and logged for geotechnical information suitable for mining studies. • All logging has been converted to quantitative and qualitative codes in the KGL Access database. • All relevant intersections are logged. • Paper logs existed for the historical drilling. There is very little historical core available for inspection.
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.*	• The following describes the recent KGL sampling and assaying process: • 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; • RC sample splits (~3 kg) are pulverised to 85% passing 75 microns; • Diamond core was quartered with a diamond saw and generally sampled at 1 m intervals, with sample lengths adjusted at geological contacts; • Diamond core samples are crushed to 70% passing 2 mm and then pulverised to 85% passing 75 microns; • Two quarter core field duplicates were taken for every 20 m of sampling by Jinka Minerals and KGL Resources; • All sampling methods and sample sizes are deemed appropriate for Mineral Resource estimation; • Details for the historical sampling are not available.
Quality of assay data and laboratory tests	*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.*	• The KGL drilling has QAQC data that includes standards, duplicates and laboratory checks. Within mineralisation, standards are added at a ratio of 1:10 and duplicates and blanks 1:20. • Base metal samples are assayed using a four-acid digest with an ICP AES finish. 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. • Fluorine is determined with carbonate infusion • 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	*The verification of significant intersections by either independent or alternative company personnel.*	• Data is validated on entry into the MS Access database, using database check queries within Maxwell's DataShed.

Criteria	JORC Code explanation	Commentary
	The use of twinned holes. *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	• Further validation is conducted when data is imported into Micromine and Leapfrog Geo software. • Hole twinning was occasionally conducted at Reward and Bellbird with mixed results. This may be due to inaccuracies with historic hole locations rather than mineral continuity issues • No twin holes have been drilled at Rockface. • For the resource estimation, below detection values were converted to half the lower detection limit.
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 collar surveys for the KGL drilling were picked up using a Trimble DGPS, with accuracy to 1 cm or better. • Historical holes commonly only have a collar and indentical end of hole survey record. Recent (post 2011) downhole surveys were taken during drilling with a eastman style tool at 30 m intervals. Recent (post 2018) drilling uses a Ranger or Reflex survey tool at intervals of between 5 and 15 m downhole. • 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. • There are concerns about the accuracy of some of the historic drill hole collars at the Jervois Project, but there are virtually no preserved historic collars for checking. Several spurious holes from each deposit were excluded. Historic holes with complete assay data and logging, and confirmed by newer drilling, were used in the resource estimate. • There is no documentation for the downhole survey method for the historic drilling. • Topography was mapped using Trimble DGPS and merged with the LIDAR.
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.*	• Drilling at Reward and Bellbird was on 25 m spaced sections in the upper part of the mineralisation extending to 50 m centres with depth and ultimately reaching 100 m spacing on the periphery of mineralisation. Several sections are drilled with tight (~10-15m) spaced shallow drillholes • Drilling at Rockface was on 50 m spaced sections (50 m x 50 m grid), with significant areas infilled to 25 m centres by drilling on intermediate sections or with child holes. • The drill spacing for all areas is appropriate for resource estimation and the relevant classifications applied. • A small amount of sample compositing has been applied to some of the near surface historic drilling.
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.*	• Reward and Rockface Holes were drilled perpendicular to the strike of the mineralization; the default angle is -60 degrees, but holes vary from -45 to -80. • Rockface Holes were drilled perpendicular to the

Criteria	*JORC Code explanation*	Commentary
	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.	strike of the mineralisation; the default angle is -60°, but holes vary from -20° to -90° (navi holes). • A small amount of sample compositing has been undertaken on some of the near surface historic drilling, this data was excluded from the Resource estimate. • Drilling orientations are considered appropriate, and no obvious sampling bias was detected.
Sample security	*The measures taken to ensure sample security.*	• Samples were stored in sealed polyweave bags on site and transported to the laboratory at regular intervals by KGL staff or a transport contractor.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• The sampling techniques are regularly reviewed internally and by external consultants.

SECTION 2 REPORTING OF EXPLORATION RESULTS – JERVOIS PROJECT

Criteria	*JORC Code explanation*	Commentary
Mineral tenement and land tenure status	*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.* *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.*	• The Jervois Project is within EL25429 and EL28082, 100% owned by Jinka Minerals and operated by Jervois Operations Pty Ltd, both wholly owned subsidiaries of KGL Resources Limited. • Excised from the Exploration Licences are four Mining claims (ML 30180, ML 30182, ML 30829 & ML 32277) owned by Jinka Minerals. Rockface lies within ML30182. • The tenements are all in good standing. • An Indigenous Land Use Agreement (ILUA) was registered in 2017. • Royalties will be payable as per the NT Minerals Royalty Act (1982) on production of saleable mineral commodities.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration has primarily been conducted by Reward Minerals, MIM and Plenty River. • This report references a Mineral Resource Estimate and this item is not applicable.
Geology	*Deposit type, geological setting and style of mineralisation.*	• EL25429 and EL28082 lie on the Huckitta 1: 250 000 map sheet (SF 53-11). The tenement is located 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 and chalcocite are the

Criteria	*JORC Code explanation*	Commentary
		main Cu-minerals.
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:* *easting and northing of the drill hole collar* *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *dip and azimuth of the hole* *down hole length and interception depth* *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• This report references a Mineral Resource Estimate and this item is not applicable. • All drill holes are stored in the drill hole database, detailing drill hole collar location including elevation or RL (Reduced Level – elevation above sea level in metres), dip and azimuth of the hole at consistent points down hole, and hole length.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• This report references a Mineral Resource Estimate and this item is not applicable. • No metal equivalents are used.
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 drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• This report references a Mineral Resource Estimate and this item is not applicable.
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.*	• Appropiate scaled maps and sections are provided in the body of 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.*	• This report references a Mineral Resource Estimate and this item is not directly applicable. The Mineral Resource considers all drilling within the Rockface deposit area.

Criteria	*JORC Code explanation*	Commentary
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.*	• Outcrop mapping of exploration targets using Real-time DGPS. • IP, Magnetics, Gravity, Downhole EM are all used for targeting. • Metallurgical studies are well advanced, including recovery of the payable metals including Cu, Ag and Au. • Deleterious elements such as Pb, Zn, Bi, U and F are modelled. Pb and Zn may have future economic value, at present KGL do not intend to recover Pb and Zn as economicly benifical metals.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• The current report relates to an updated Mineral Resource as a result of ongoing confirmatory drilling.

SECTION 3 ESTIMATION AND REPORTING OF REWARD 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	*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.*	• MA has undertaken limited independent first principal checks of the database. • Historical ITRs accept the integrity of the database. • The geological database is managed and updated by KGL Staff. • Basic database validation checks were run, including checks for missing intervals, overlapping intervals and hole depth mis-matches.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	• The CP(Mr I.Taylor) visited site from the 1st to 3rd November 2020 to review the geology, drill core and field practices as part of the 2020 DFS and Mineral Resource Estimate Update.
Geological interpretatio n	*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.*	• The geological model is well understood at a deposit scale. Reward is interpreted as an original syn-depositional copper rich polymetallic massive sulphide deposit that has undergone deformation, metamorphism and some degree of structural remobilisation. • 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. • No alternative interpretations have been presented. Alternative estimation methods applied to density estimation had little effect on overall tonnes and grade. • Geological and grade continuity within defined domains appears welll understood. Lithology and

		weathering were considered during the mineralsation domain interprettations • Infill drilling by KGL since the 2020 resource update have increased the confidence in grade and geology interpretations which is the basis for the mineral resource estimation.
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 Reward deposits strike over 1.5 km. Within the structural corridor lie five high grade shoots each approximately 200m in length, and plunge steeply south up to 800 m below the surface. Two lodes lie to the east in the footwall of the reward 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 2021 (v7.4.2). • 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 0.2% 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), as well as analysis of the most appropriate composite length to be used for the estimation. • 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 has been undertaken.Where variograms could not be generated for a particular element, variograms were considered from adjacent domains. • 3D experimental variogram modelling using a nugget (C0) and two spherical models (C1, C2), occasionally one spherical model was sufficient. Nuggets ragned from reasonable low to high, between 0.20 and 0.73, and variogram ranges varied between 60 and 150 m for Cu. The high nugget was for the new domain main HW. Nuggets for additional elements ranged from 0.2 to 0.7 and variogram ranges varied between 50 and 180 m.. • Anisotropic ellipses based on the resulting bearing, plunge, dip, and defined ranges and anisotropic ratios were graphically plotted in Surpac and displayed against the extracted 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 20. The second pass utilised a minimum of 6 and maximum of 16 samples, the search distance was doubled to 140 m. Both passes restricted the maximum number of samples per hole to 4. The third pass dropped the minimum to 2 and maximum to 10 samples and the restriction of samples per hole was lifted. Third pass maximum distance was 210 m. 56% 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 will 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 25 m by 25 m in the better drilled 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 1.25 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 to good corelation between Pb and Ag and weak corelation between Bi and Ag. There is a moderate (> 0.5) corelation between Cu, Pb, Zn, Ag Au and S. Fe is associated with magnetite and shows a weak corelation (!0.3) with S and Cu 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 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.*	• 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 $AU 12,082/t ($US 4.00/lb), and assumed Silver price of $AU 24/t. The 2020 Recovery algorithms for copper and silver were supplied by KGL. Assumed payables are 95.5% Cu, 90% Ag > 30g/t and 90% Au > 1.0 g/t in concentrate.
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.*	• 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. • 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.
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.*	• No metallurgical factors have been applied to the in situ grade estimates. • Metallurgical Recoveries for copper and silver are determined as functions of copper grade in oxide/transitional and sulphide ore.
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. Where these aspects have not been considered this should be reported*	• 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. • Sulphur has been estimated through-out the block model. Fe and S have been esitmated within the S domain and outside the sulphur domain (waste rock). • It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities

	with an explanation of the environmental assumptions made.	will be used for the process plant tailings.
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.* *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 materials.*	• Onsite measurements (13,846 density readings are matched to an assay value) by water immersion method are only conducted on competent transitional and fresh core. Limited oxide samples have been taken. • 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. • Reward - the average modelled density of mineralised oxide material is 2.60 t/m^3, transitional material is 3.02 t/m^3, the high sulphide material averages 3.07 t/m^3 and mineralised fresh material averages 3.09 t/m^3
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *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).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• Blocks have then been classified as Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters. • The above criteria were used to detemine areas of implied and assumed geological and grade continuity.Only small areas have confirmed geological and grade continuity, thus no measured is yet defined. Classification was assessed on a per domain basis and resoruce categories were stamped onto the individual domains. • Unclassified mineralisation has not been included in this Mineral Resource. Unclassified material is either contained in isolated block above cut off within the strata-bound domain and in deep proportions of the deposit with sparse dill intercepts. • The classification reflects the competent person's view of the Reward deposit.
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 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*	• 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 the economic extraction of the deposit. • The mineral resource estimate appropriately reflects the competent person's view of the deposit. • No geostatistical confidence limits have been estimated. 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.

	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.*	• Limited Mining records exist (40 kt of oxide extracted from Green Parrot – south of the resource). Some historic mining has occurred on the Marshall – Reward structure, records are insufficient to reconcile. •

SECTION 3 ESTIMATION AND REPORTING OF BELLBIRD 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	*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.*	• MA has undertaken limited independent first principal checks of the database. • Historical technical reports accept the integrity of the database. • The geological database is managed and updated by KGL Staff. • 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.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	• The CP (Mr I.Taylor) visited site from the 1st to 3rd November 2020 to review the geology, drill core and field practices as part of the 2020 DFS and Mineral Resource Estimate Update.
Geological interpretatio n	*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.*	• 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. • 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. • No alternative interpretations have been presented. Alternative estimation methods applied to density estimation had little effect on overall tonnes. Alternate estimation methods (ID^2 and NN) were run and performed as expected. • Geological and grade continuity within defined domains appears well understood. Lithology and weathering were considered during the mineralsation domain interpretations • Infill drilling by KGL since the 2020 resource update have increased the confidence in grade and geology interpretations which are the basis for the mineral resource estimation.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and*	• 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

	depth below surface to the upper and lower limits of the Mineral Resource.	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 (C0) and two spherical models (C1, C2), occasionally one spherical model was sufficient. Nuggets ranged from reasonably low to high, between 0.18 and 0.50, and variogram ranges varied between 91 and 260 m for Cu. • 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 6, and a maximum number of informing samples of 16. The second pass utilised a minimum of 4 and maximum of 14 samples, the search distance was doubled to 140 m. Both passes restricted the maximum number of samples per hole to 4. The third pass dropped the minimum to 3 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 will 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 S, and Bi. Pb and Zn have a good correlation (0.7). 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 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.*	• 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$12,082/t (US$4.00/lb), and assumed Silver price of A$24/t. The 2020 Recovery algorithms for copper and silver were

		supplied by KGL. Assumed payables are 95.5% Cu, 90% Ag > 30 g/t and 90% Au > 1.0 g/t in concentrate. Penalties for Bi and F in the concentrate may apply.
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.*	• 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. • 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.
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.*	• No metallurgical factors have been applied to the in situ grade estimates. • Metallurgical Recoveries for copper and silver are determined as functions of copper grade in oxide/transitional and sulphide ore.
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. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• 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. • 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). • 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.
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.* *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.*	• Onsite measurements by water immersion method are only conducted on competent transitional and fresh core. Limited oxide samples have been taken. 2,976 density readings are matched to an assay value. • 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. • Bellbird - the average modelled density of mineralised oxide material is 2.60 t/m^3, transitional material is

	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	2.90 t/m^3, the high sulphide material averages 2.93 t/m^3 and mineralised fresh material averages 2.89 t/m^3
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *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).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• Blocks have then been classified as Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters. • The above criteria were used to detemine 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. • 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. • The classification reflects the competent person's view of the Bellbird deposit.
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 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.*	• 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 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. •

SECTION 3 ESTIMATION AND REPORTING OF ROCKFACE 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	*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.*	• MA has undertaken limited independent first principal checks of the database. • Historical technical reports accept the integrity of the database. • The geological database is managed and updated by KGL staff. • Basic database validation checks were run, including checks for missing intervals, overlapping intervals and hole depth mis-matches. MA identified two drill collars as spurious, KGL staff corrected the errors.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	• The CP (Mr I.Taylor) visited site from the 1st to 3rd November 2020 to review the geology, drill core and field practices as part of the 2020 DFS and Mineral Resource Estimate Update.
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.*	• The geological model is well understood at a deposit scale. Rockface 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. • 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. • No alternative interpretations have been presented. Alternative estimation methods applied to density estimation had little effect on overall tonnes. Alternate estimation methods (ID^2 and NN) were run and performed as expected. • Geological and grade continuity within defined domains appears well understood. Lithology and weathering were considered during the mineralisation domain interpretations • Infill drilling by KGL since the 2020 resource update have increased the confidence in grade and geology interpretations which are the basis for the Mineral Resource estimation.
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 Rockface deposits strike over 1.3 km. Within the structural corridor lie three defined lodes ranging from approximately 200 m to 500 m in length, and plunging 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 Rockface 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.*	• Ordinary Kriging has been used as the interpolation technique to estimate the Mineral Resource. This method is considered appropriate given the nature of the mineralisation. All elements were estimated using ordinary kriging. • Estimation was undertaken in Surpac 2022 (v7.5). • Drill hole intercepts 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 inconsistencies, split

	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.*	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 the sample lengths are at 1 m. Samples were composited to 1 m, honouring geological boundaries. • Grade continuity analysis was undertaken within Cu domains to define the mineralisation. 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 (C0) and two spherical models (C1, C2), although occasionally one spherical model was sufficient. Nuggets ranged from reasonably low to high, between 0.11 and 0.23, and variogram ranges varied between 120 m and 150 m for Cu. • 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 60 m, a minimum number of informing samples of 6, and a maximum number of informing samples of 16. The second pass utilised a minimum of 4 and maximum of 14 samples, while the search distance was doubled to 120 m. Both passes restricted the maximum number of samples per hole to 4. The third pass dropped the minimum to 3 and maximum to 8 samples, and the restriction of samples per hole was lifted. Third pass maximum distance was 180 m. 80% of estimated metal (> 0.5 % Cu) is estimated in pass 1. • The company is not intending to recover Pb or 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 will attract a penalty, and rejection limits in the concentrate may apply. A blending strategy will be developed to manage the penalty elements. S is estimated throughout the block model to facilitate characterisation of potential acid mine drainage material. • No specific assumptions have been made regarding

		selective mining units. However the sub-blocks are of a suitable selective mining unit size for an underground mining operation. • A 3D model with a parent block size of 15 m by 2 m by 15 m (XYZ) was used. The drill hole spacing ranges from 25 m to 50 m throughout the deposit. In order for effective boundary definition, a sub-block size of 3.75 m by 0.5 m by 3.75 m (XYZ) has been used; the sub-blocks are estimated at the parent block scale. • There is a moderate (> 0.5) correlation between Cu, Au, Ag and S. Pb and Zn also have a moderate correlation (0.56). Fe is associated with magnetite and pyrite and has a low correlation (~0.24) with S. There is no correlation between F, U and W and the other elements. • The geological model (grade domains and fault 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 and 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.*	• The resource is reported above a 1.0 % Cu lower cut-off, reflecting an underground mining scenario. The resource extends to 800 m below the surface. Assumed Copper price is A$12,082/t (US$4.00/lb), and assumed Silver price is A$24/t. The 2020 Recovery algorithms for copper and silver were supplied by KGL. Assumed payables are 95.5% Cu, 90% Ag > 30 g/t and 90% Au > 1.0 g/t in concentrate. Penalties for Bi and F in the concentrate may apply.
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*	• The deposit is a series of 3 main lodes of short strike, and steeply dipping syn-depositional copper shoots extending to 800 m below the surface (-425mRL). • Mineralisation 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.

	rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
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.*	• No metallurgical factors have been applied to the in situ grade estimates. • Metallurgical Recoveries for copper and silver are determined as functions of copper grade in oxide/transitional and sulphide ore.
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. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• 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. • Sulphur has been estimated throughout the block model. Fe and S have been estimated both within and outside (waste rock) the sulphur domain. • It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities will be used for the processed plant tailings.
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.* *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 materials.*	• Onsite measurements by water immersion method are only conducted on competent transitional and fresh core. Limited oxide samples have been taken. 6,823 density readings are matched to an assay value. • 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. • Rockface – the average modelled density of mineralised oxide material is 2.60 t/m^3, transitional material is 2.80 t/m^3, the high sulphide material averages 3.24 t/m^3 and mineralised fresh material averages 3.46 t/m^3. The total Resource averages 3.44 t/m^3
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *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).*	• Blocks have been classified as Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters. • The above criteria were used to detemine 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. • Unclassified mineralisation has not been included in

	Whether the result appropriately reflects the Competent Person's view of the deposit.	this Mineral Resource. Unclassified material is contained in isolated blocks above cut-off, too thin, or in deep regions of the deposit associated with isolated drill intercepts. • The classification reflects the Competent Person's view of the Rockface deposit.
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 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.*	• 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 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. • No mining has occurred on the Main Rockface structure. •