

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

28/02/2022

## 1 SUMMARY

The Rockface deposit is one of the deposits identified within KGL's Jervois Project. The Jervois Project is in the Northern Territory, 275 km ENE of Alice Springs (22.65°S and 136.27°E). The Project comprises one Exploration Licence and four Mining Claims which are 100% owned by KGL subsidiary Jinka Minerals Ltd. Rockface lies within ML30182.

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

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 1.0 % copper cut-off.

**Table 1. 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
<b>Total Resource</b>		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.

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

**Table 2. Rockface Resource by Resource Category and Weathering**

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

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

## 1.1 GEOLOGY AND GEOLOGY INTERPRETATION

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. 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 grades. Structural shoots, characterised by coarser grained sulphides and magnetite sulphide breccia, are enriched (> 1.0 %) in copper. The lower grade stratabound halo was defined as greater than 0.5% sulphur. Intervals encompassing high grade shoots and stratabound mineralisation were modelled using implicit modelling in the Leapfrog software with an anisotropic component conforming to the plunge of measured F2 fold hinges.

The Rockface deposit strikes 070° to 080° (Figure 1) and the estimation domains were created primarily based on structural shoot orientations (Figure 2) and grade. Cross sections of the interpreted implicit models for Main Lode and the associated hanging wall lodes are shown in Figure 3 and Figure 4.

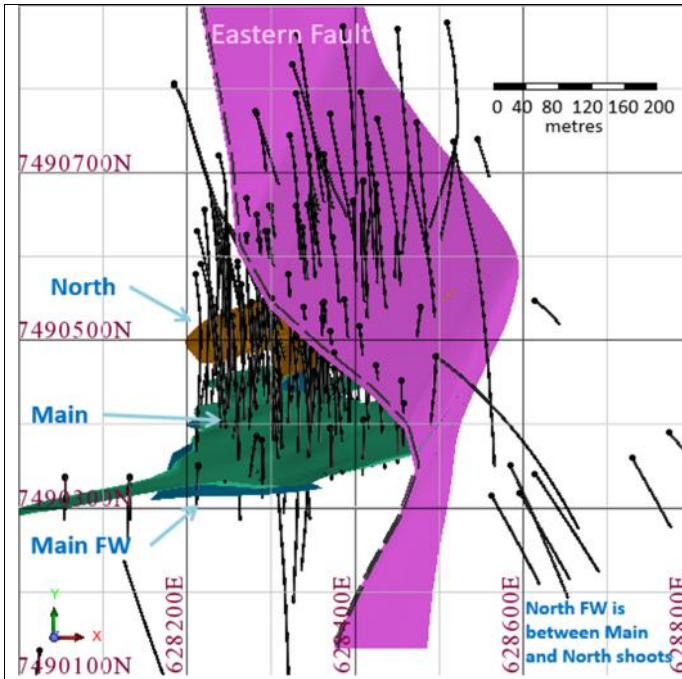


Figure 1. Plan View of Rockface Showing the East Bounding Fault

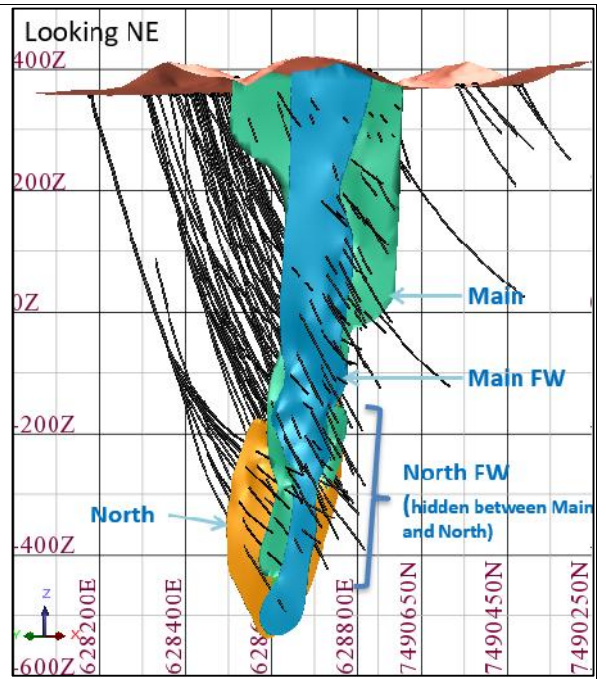


Figure 2. Oblique View Showing Interpreted Domains

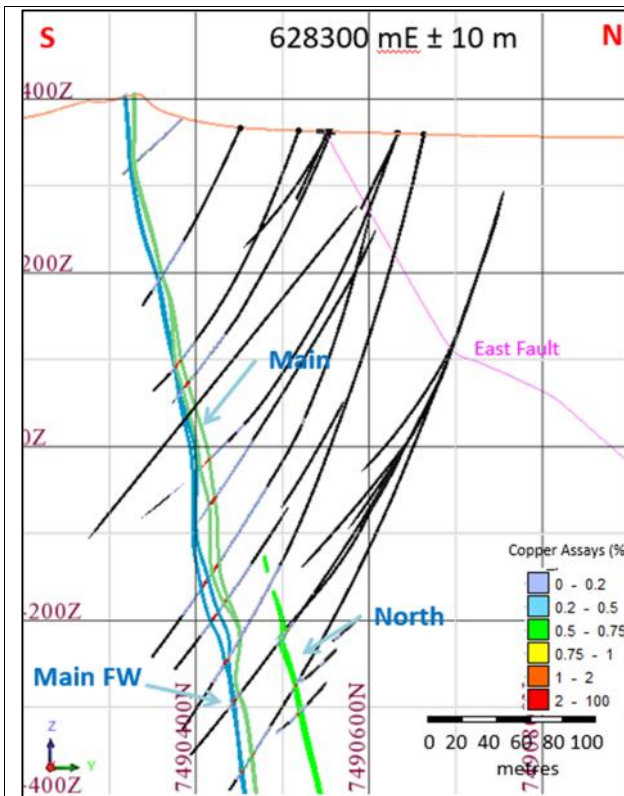


Figure 3. Rockface Lodes (N-S section 628,300 m E ± 10 m)

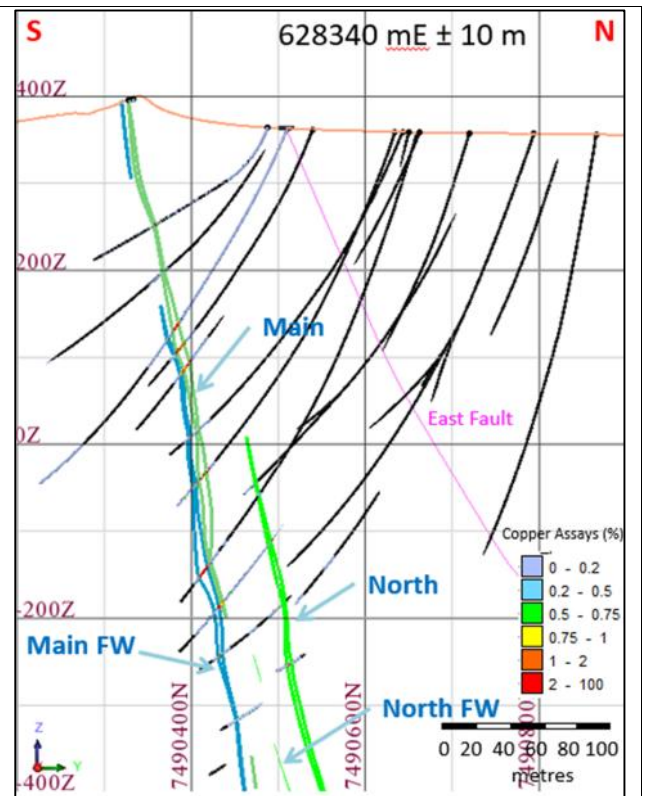


Figure 4. Rockface Lodes (N-S section 628,340 m E ± 10 m)

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## 1.2 DRILLING TECHNIQUES

Resource definition drilling over the life of the project has been undertaken on 50 m spaced cross sections perpendicular to strike, with hole spacing averaging 50 m (50 m x 50 m grid). Drilling on intermediate sections, and by the use of child holes, has reduced the drill spacing over significant portions of the deposit to less than 50 x 50 m spacing. Of the 153 holes (62 km of drilling) on the deposit, 6 holes (shallow historical) have been rejected, deemed unreliable either in survey or due to missing data. The total number of validated holes at Rockface is 147 holes for 61.4 km of drilling.

KGL drilling since 2011 mostly 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 HQ3 (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 3 summarises drilling statistics by drill hole type. RC\_DD drill holes utilised RC pre-collars with diamond coring through zones of mineralisation, while DDW denotes diamond drilling wedges, or child holes drilled from a pre-existing hole path by directional drilling methods (note: daughter holes include parent hole metres).

**Table 3. Summary of Drilling by Drill Hole Type**

Hole type	Code	Number of holes	Total metres
Diamond drill	DD	36	10,345
Diamond child wedge	DDW	34	24,876
Reverse circulation	RC	36	4,936
Reverse circulation with diamond tail	RC_DD	41	21,240
Total		147	61,396

## 1.3 SAMPLING AND SUB-SAMPLING TECHNIQUES

Sampling was continuous through mineralisation/alteration zones and extended into adjacent barren material, up to 10 m for diamond core and 50 m for RC. The 2020-2021 sampling program comprised quarter sawn diamond core. Earlier sampling included quarter core and riffle split RC samples.

## 1.4 SAMPLE ANALYSIS

Since mid-2015 KGL has submitted all samples to Intertek laboratories in Alice Springs. Sample preparation was completed by Intertek in Alice Springs before transferral to their Townsville laboratory for analysis. Samples between 2011 to 2015 were sent to ALS Global in Townsville. Both 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 with a longer digest time. Gold samples were assayed by Aqua Regia with an ICP MS finish, while samples over 1 ppm Au were re-assayed by Fire Assay with an AAS finish. KGL QAQC protocols are designed to establish measurement systems and procedures to provide adequate confidence that quality control is adhered to, and results are suitable for inclusion in Resource Estimations.

## 1.5 ESTIMATION METHODOLOGY

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

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Copper is the primary economic element, with silver, gold, lead and zinc being estimated using the copper domains as hard boundaries and utilising dynamic search ellipses. Deleterious elements bismuth, tungsten, uranium and fluorine are estimated within the sulphur domain (a soft boundary across the copper domains). Iron and sulphur are estimated inside the sulphur domain using dynamic search ellipses. Iron and Sulphur are also estimated into the country rock to aid waste rock classification.

The block model utilises parent blocks measuring 15 m x 2 m x 15 m with sub-blocking to 3.75 m x 0.5 m x 3.75 m (XYZ) to better define the volumes. Blocks above topography are excluded from the estimation. Estimation resolution was set at the parent block size. 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. 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. Grade capping was applied to all elements except iron and sulphur. Experimental variograms were generated where possible. For domains and elements where experimental variograms could not be created, variogram models were borrowed from similar domains or elements (with weak to moderate correlations to the element under investigation).

8,357 density readings averaging 3.03 t/m<sup>3</sup> (Variance 0.19 and CV 0.14) have been collected from core samples at Rockface. The default density of the block model is 2.90 t/m<sup>3</sup>. All oxide material is assigned 2.60 t/m<sup>3</sup>, the transitional material is assigned 2.80 t/m<sup>3</sup> and fresh mineralisation is assigned a conservative density of 3.00 t/m<sup>3</sup>.

Density values were further refined with a 2-pass estimation strategy (Ordinary Kriging). 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. The estimated Mineral Resource has an average bulk density of 3.44 t/m<sup>3</sup>.

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

## 1.6 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 4 at increasing copper cut-offs, highlighting the deportment of associated elements. Figure 5 shows the resource as grade tonnage curves by resource category.

**Table 4. 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
<b>1.00</b>	<b>3.53</b>	<b>3.07</b>	<b>20.9</b>	<b>0.22</b>	<b>0.07</b>	<b>0.20</b>	<b>31.8</b>	<b>4.36</b>	<b>280</b>	<b>12</b>	<b>48</b>	<b>831</b>
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



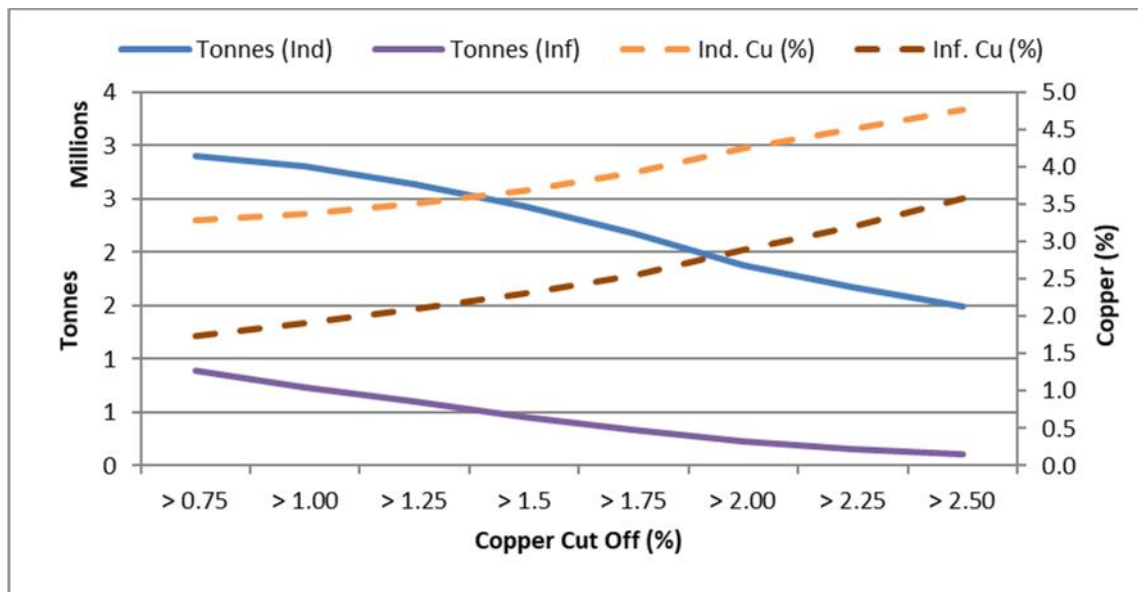


Figure 5. Classified Resources - Grade Tonnage Curves

### 1.7 CRITERIA USED FOR CLASSIFICATION

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

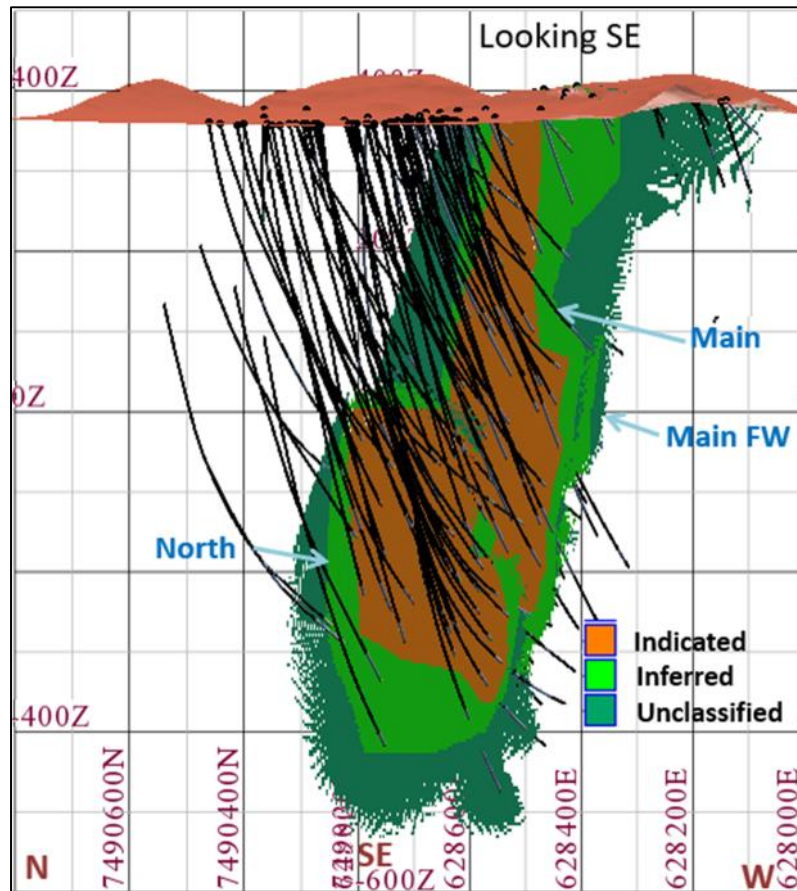


Figure 6. Classified Resources -Rockface Deposit

### 1.8 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 (Table 5).

Table 5. Recovery Assumptions

Material	Recovery Algorithm	Example
Oxide and Transition -	$Cu\ Rec = (\% Cu - (0.48 - (0.04 \times \% Cu)) / \% Cu$	For a Cu Head Grade of 1.9%, the Copper Recovery will be 78.7%
	$Ag\ Rec = 0.88 * LN(\% Cu\ Rec * 100) - 2.98$	For a Cu Recovery of 78.7%, the Silver Recovery will be 86.2%
Fresh Ore	$Cu\ Rec = (\% Cu - 0.075) \times 0.975 / \% Cu$	For a Cu Head Grade of 1.9%, the Copper Recovery will be 93.7%
	$Ag\ Rec = 2.07 \times \% Cu\ Rec - 1.255$	For a Cu Recovery of 93.7%, the Silver Recovery will be 68.5%

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.

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Date: 28<sup>th</sup> February 2022

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## SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>J Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>J Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>J Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>J In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>J At Rockface, 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).</li> <li>J RC samples are routinely scanned by KGL Resources with a Niton XRF. Samples assaying greater than 0.1% Cu, Pb or Zn are submitted for chemical analysis at a commercial laboratory.</li> <li>J Documentation of the historical drilling (pre-2011) for Rockface is variable.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>J Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>J The KGL and previous Jinka Minerals RC drilling was conducted using a reverse circulation rig with a 5.25-inch face-sampling bit. Diamond drilling was either in NQ2 or HQ3 drill diameters. Metallurgical diamond drilling (JMET holes) were PQ core.</li> <li>J There is no documentation for the historic drilling techniques, drill type is recorded as UNK.</li> <li>J Diamond drilling was generally cored from surface with some of the deeper holes at Rockface utilising RC pre-collars.</li> <li>J Oriented core has been measured for the recent 2020-2021 KGL drill program.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>J Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>J Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>J Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to</li> </ul>	<ul style="list-style-type: none"> <li>J The KGL RC samples were not weighed on a regular basis. KGL report no sample recovery issues were encountered during the drilling program.</li> <li>J Jinka Minerals and KGL split the rare overweight samples (&gt;3kg) for assay. Since overweight samples were rarely reported no sample bias was established between sample recovery and grade.</li> <li>J Drilling muds are used to improve drilling recovery, and in broken ground tripple tube barrels are employed. Core recovery for recent drilling is &gt;95% with</li> </ul>

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Criteria	) JORC Code explanation	) Commentary
	) <i>preferential loss/gain of fine/coarse material.</i>	) 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.
<b>Logging</b>	) <i>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.</i> ) <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> ) <i>The total length and percentage of the relevant intersections logged.</i>	) 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.
<b>Sub-sampling techniques and sample preparation</b>	) <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> ) <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> ) <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> ) <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> ) <i>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.</i> ) <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	) 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.
<b>Quality of assay data and laboratory tests</b>	) <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> ) <i>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.</i> ) <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of</i>	) 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. ) There are no details of the historic drill sample assaying or any QAQC. ) All assay methods were deemed appropriate at the time of undertaking.

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Criteria	JORC Code explanation	Commentary
	<p>accuracy (i.e. lack of bias) and precision have been established.</p>	
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>J The verification of significant intersections by either independent or alternative company personnel.</li> <li>J The use of twinned holes.</li> <li>J Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>J Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>J Data is validated on entry into the MS Access database, using database check queries within Maxwell's DataShed.</li> <li>J Further validation is conducted when data is imported into Micromine and Leapfrog Geo software.</li> <li>J No twin holes have been drilled at Rockface, although twinned holes exist at other prospects within the Jervois Project.</li> <li>J For the resource estimation, below detection values were converted to half the lower detection limit.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>J Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>J Specification of the grid system used.</li> <li>J Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>J Surface collar surveys for the KGL drilling were picked up using a Trimble DGPS, with accuracy to 1 cm or better.</li> <li>J Downhole surveys were taken during drilling with a Ranger or Reflex survey tool at 30 m intervals.</li> <li>J All drilling by Jinka Minerals and KGL is referenced on the GDA 94, MGA Zone 53. All downhole magnetic surveys were converted to MGA azimuth.</li> <li>J There are concerns about the accuracy of some of the historic drill hole collars at Rockface, but there are virtually no preserved historic collars for checking. Spurious holes (6) were excluded. Historic holes with complete assay data and logging, and confirmed by newer drilling, were used in the resource estimate.</li> <li>J There is no documentation for the downhole survey method for the historic drilling.</li> <li>J Topography was mapped using Trimble DGPS and merged with the LIDAR.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>J Data spacing for reporting of Exploration Results.</li> <li>J Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>J Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>J 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.</li> <li>J The drill spacing for all areas is appropriate for resource estimation and the relevant classifications applied.</li> <li>J A small amount of sample compositing has been applied to some of the near surface historic drilling.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>J Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>J If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this</li> </ul>	<ul style="list-style-type: none"> <li>J Holes were drilled perpendicular to the strike of the mineralisation; the default angle is -60°, but holes vary from -20° to -90° (navi holes).</li> <li>J Drilling orientations are considered appropriate, and no obvious sampling bias was detected.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<i>should be assessed and reported if material.</i>	
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Samples were stored in sealed polyweave bags on site and transported to the laboratory at regular intervals by KGL staff or a transport contractor.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	The sampling techniques are regularly reviewed internally and by external consultants.

## SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<p><i>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.</i></p> <p><i>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.</i></p>	<p>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.</p> <p>Excised from the Exploration Licences are four Mining claims (ML 30180, ML 30182, ML 30829 &amp; ML 32277) owned by Jinka Minerals. Rockface lies within ML30182.</p> <p>The tenements are all in good standing.</p> <p>An Indigenous Land Use Agreement (ILUA) was registered in 2017.</p> <p>Royalties will be payable as per the NT Minerals Royalty Act (1982) on production of saleable mineral commodities.</p>
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Previous exploration has primarily been conducted by Reward Minerals, MIM and Plenty River.</p> <p>This report references a Mineral Resource Estimate and this item is not applicable.</p>
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>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.</p> <p>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.</p> <p>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 main Cu-minerals.</p>

Criteria	) JORC Code explanation	) Commentary
<b>Drill hole Information</b>	<p>) 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:</p> <p>) easting and northing of the drill hole collar</p> <p>) elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</p> <p>) dip and azimuth of the hole</p> <p>) down hole length and interception depth</p> <p>) hole length.</p> <p>) 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.</p>	<p>) This report references a Mineral Resource Estimate and this item is not applicable.</p> <p>) 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.</p>
<b>Data aggregation methods</b>	<p>) 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.</p> <p>) 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.</p> <p>) The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>) This report references a Mineral Resource Estimate and this item is not applicable.</p> <p>) No metal equivalents are used.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>) These relationships are particularly important in the reporting of Exploration Results.</p> <p>) If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>) 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’).</p>	<p>) This report references a Mineral Resource Estimate and this item is not applicable.</p>
<b>Diagrams</b>	<p>) 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.</p>	<p>) Refer Figures 1, 2 and 3 in the report.</p>



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<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>) Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>) 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.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>) Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>) Outcrop mapping of exploration targets using Real-time DGPS.</li> <li>) IP, Magnetics, Gravity, Downhole EM are all used for targeting.</li> <li>) Metallurgical studies are well advanced, including recovery of the payable metals including Cu, Ag and Au.</li> <li>) Deleterious elements such as Pb, Zn, Bi and F are modelled.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>) The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>) Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>) The current report relates to an updated Mineral Resource as a result of ongoing confirmatory drilling.</li> </ul>

### SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>) Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>) Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>) MA has undertaken limited independent first principal checks of the database.</li> <li>) Historical technical reports accept the integrity of the database.</li> <li>) The geological database is managed and updated by KGL staff.</li> <li>) Basic database validation checks were run, including checks for missing intervals, overlapping intervals and hole depth mis-matches. MA identified two drill collars as spurious, KGL staff corrected the errors.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>) Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>) If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>) The CP (Mr I.Taylor) visited site from the 1<sup>st</sup> to 3<sup>rd</sup> November 2020 to review the geology, drill core and field practices as part of the 2020 DFS and Mineral Resource Estimate Update.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>) Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>) Nature of the data used and of any assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>) 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</li> </ul>

	<ul style="list-style-type: none"> <li>) <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>) <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>) <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<p>remobilisation and enrichment.</p> <ul style="list-style-type: none"> <li>) Geological logging, structural mapping and drill hole assays have been used in the establishment of a resource estimate. Validation has been carried out by KGL and MA Competent Persons.</li> <li>) No alternative interpretations have been presented. Alternative estimation methods applied to density estimation had little effect on overall tonnes. Alternate estimation methods (ID<sup>2</sup> and NN) were run and performed as expected.</li> <li>) Geological and grade continuity within defined domains appears well understood. Lithology and weathering were considered during the mineralisation domain interpretations</li> <li>) 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.</li> </ul>
<p>Dimensions</p>	<ul style="list-style-type: none"> <li>) <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>) 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.</li> </ul>
<p>Estimation and modelling techniques</p>	<ul style="list-style-type: none"> <li>) <i>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.</i></li> <li>) <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.</i></li> <li>) <i>The assumptions made regarding recovery of by-products.</i></li> <li>) <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li>) <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>) <i>Any assumptions behind modelling of selective mining units.</i></li> </ul>	<ul style="list-style-type: none"> <li>) 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.</li> <li>) Estimation was undertaken in Surpac 2022 (v7.5).</li> <li>) 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 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.</li> <li>) 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).</li> <li>) 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.</li> <li>) 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.</li> </ul>

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	<ul style="list-style-type: none"> <li>) <i>Any assumptions about correlation between variables.</i></li> <li>) <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>) <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>) <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>) 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.</li> <li>) 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.</li> <li>) 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.</li> <li>) 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 (&gt; 0.5 % Cu) is estimated in pass 1.</li> <li>) 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.</li> <li>) 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.</li> <li>) 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.</li> <li>) 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.</li> <li>) There is a moderate (&gt; 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</li> </ul>
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		<p>has a low correlation (~0.24) with S. There is no correlation between F, U and W and the other elements.</p> <p>) The geological model (grade domains and fault interpretations) were used to control grade estimation.</p> <p>) 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.</p> <p>) 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.</p>
Moisture	) <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	) Tonnages are based on dry tonnes.
Cut-off parameters	) <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	) 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	) <i>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.</i>	<p>) 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).</p> <p>) Mineralisation is considered to have underground potential above a 1 % Cu cut-off.</p> <p>) No other mining assumptions have been used in the estimation of the Mineral Resource.</p>
Metallurgical factors or assumptions	) <i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as</i>	<p>) No metallurgical factors have been applied to the in situ grade estimates.</p> <p>) Metallurgical Recoveries for copper and silver are</p>

	<p><i>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.</i></p>	<p>determined as functions of copper grade in oxide/transitional and sulphide ore.</p>
Environmental factors or assumptions	<p>) <i>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.</i></p>	<p>) 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.</p> <p>) Sulphur has been estimated throughout the block model. Fe and S have been estimated both within and outside (waste rock) the sulphur domain.</p> <p>) 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.</p>
Bulk density	<p>) <i>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.</i></p> <p>) <i>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.</i></p> <p>) <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></p>	<p>) 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.</p> <p>) 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.</p> <p>) Rockface – the average modelled density of mineralised oxide material is 2.60 t/m<sup>3</sup>, transitional material is 2.80 t/m<sup>3</sup>, the high sulphide material averages 3.24 t/m<sup>3</sup> and mineralised fresh material averages 3.46 t/m<sup>3</sup>. The total Resource averages 3.44 t/m<sup>3</sup></p>
Classification	<p>) <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></p> <p>) <i>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).</i></p>	<p>) Blocks have been classified as Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters.</p> <p>) The above criteria were used to determine areas of implied and assumed geological and grade continuity. Classification was assessed on a per domain basis and resource categories were stamped onto the individual domains.</p> <p>) Unclassified mineralisation has not been included in 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</p>



	<p>) Whether the result appropriately reflects the Competent Person's view of the deposit.</p>	<p>drill intercepts.          ) The classification reflects the Competent Person's view of the Rockface deposit.</p>
Audits or reviews	<p>) The results of any audits or reviews of Mineral Resource Estimates.</p>	<p>) There has been a limited independent audit of the data performed by MA; there has been no independent review of the Mineral Resource.</p>
Discussion of relative accuracy/confidence	<p>) 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.</p> <p>) 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.</p> <p>) These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	<p>) 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 assessment of the deposit.</p> <p>) The Mineral Resource Estimate appropriately reflects the Competent Person's view of the deposit.</p> <p>) 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.</p> <p>) 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.</p> <p>) 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.</p> <p>) No mining has occurred on the Main Rockface structure.</p>

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