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MMG LIMITED

五礦資源有限公司

(Incorporated in Hong Kong with limited liability)

(STOCK CODE: 1208)

UPDATE TO KINSEVERE MINERAL RESOURCES AND ORE RESERVES STATEMENT AS AT 30 JUNE 2021

This announcement is made by MMG Limited (Company or MMG and, together with its subsidiaries, the Group) pursuant to rule 13.09(2) of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (Listing Rules) and the Inside Information Provisions (as defined in the Listing Rules) under Part XIVA of the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong).

The Board of Directors of the Company (Board) is pleased to announce the approval of the Kinsevere Expansion Project and release an updated Mineral Resources and Ore Reserves Statement as at 30 June 2021 (Mineral Resources and Ore Reserves Statement).

The key changes to Kinsevere Mineral Resources and Ore Reserves Statement as at 30 June 2021 are:

- The Mineral Resources (contained metal) have not changed since the public report released on 28 October 2021.
- The Ore Reserves (contained metal) have increased for copper by 600%, compared to the Kinsevere Ore Reserves public report released on 28 October 2021.
- Cobalt Ore Reserves with 29kt of contained metal have been reported publicly for the first time.

The Kinsevere Expansion Project will include the construction of new facilities to allow the processing of transitional and sulphide copper and cobalt ores which will be integrated with the existing oxide copper processing plant. Cathode copper will continue to be produced by the expanded plant as the saleable product together with cobalt hydroxide for the first time.

All data reported here are on a 100% asset basis, with MMG's attributable interest shown against each asset within the Mineral Resources and Ore Reserves tables (pages 4 to 5).



MINERAL RESOURCES AND ORE RESERVES STATEMENT

A copy of the executive summary of the Mineral Resources and Ore Reserves Statement is annexed to this announcement.

The information referred to in this announcement has been extracted from the report titled Mineral Resources and Ore Reserves Statement as at 30 June 2021 published on 24 March 2022 and is available to view on <u>www.mmg.com</u>. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resources and Ore Reserves Statement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the Mineral Resources and Ore Reserves Statement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Mineral Resources and Ore Reserves Statement.

> By order of the Board MMG Limited Li Liangang Interim CEO and Executive Director

Hong Kong, 24 March 2022

As at the date of this announcement, the Board comprises seven directors, of which one is an executive director, namely Mr Li Liangang; three are non-executive directors, namely Mr Jiao Jian (Chairman), Mr Xu Jiqing and Mr Zhang Shuqiang; and three are independent non-executive directors, namely Dr Peter William Cassidy, Mr Leung Cheuk Yan and Mr Chan Ka Keung, Peter.



EXECUTIVE SUMMARY

The updated Mineral Resources and Ore Reserves for MMG's Kinsevere Mine have been estimated as at 30 June 2021 and are reported in accordance with the guidelines in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 JORC Code) and Chapter 18 of the Listing Rules. Mineral Resources and Ore Reserves tables are provided on pages 4 to 5, which include the 30 June 2021 and 30 June 2020 estimates for comparison. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources that have been converted to Ore Reserves. All supporting data are provided within the Technical Appendix, available on the MMG website.

Mineral Resources and Ore Reserves information in this statement have been compiled by Competent Persons (as defined by the 2012 JORC Code). Each Competent Person consents to the inclusion of the information in this report, that they have provided in the form and context in which it appears. Competent Persons are listed on page 5.

MMG has established processes and structures for the governance of Mineral Resources and Ore Reserves estimation and reporting. MMG has a Mineral Resources and Ore Reserves Committee that regularly convenes to assist the MMG Governance and Nomination Committee and the Board of Directors with respect to the reporting practices of the Company in relation to Mineral Resources and Ore Reserves, and the quality and integrity of these reports of the Group.

There are no changes to the Kinsevere Mineral Resources since the previous 30 June 2021 estimate reported on 28 October 2021.

Key changes to the Kinsevere Ore Reserves (contained metal) since the previous 30 June 2021 estimate and public report are due to the sulphide material being reported for the first time and the inclusion of the remaining insitu oxide and TMO¹ material together with sulphide and TMO stockpiled ores. These new Ore Reserves are the direct result of the successful completion of a Feasibility Study and MMG Board approval of the Kinsevere Expansion

The Kinsevere Expansion Project will include the construction of new facilities to allow the processing of transitional and sulphide copper and cobalt ores which will be integrated with the existing oxide copper processing plant. Cathode copper will continue to be produced by the expanded plant as the saleable product together with cobalt hydroxide for the first time.

¹ Transitiional and Mixed Ores

MMG | 2021 Mineral Resources & Ore Reserves Statement



MINERAL RESOURCES¹

All data reported here is on a 100% asset basis, with MMG's attributable interest shown against each asset within brackets.

	2021			2020		
Damasit	Tonnes	Cu	Co	Tonnes	Cu	Co
Deposit	(Mt)	(%)	(%)	(Mt)	(%)	(%)
Kinsevere (100%)						
Oxide Copper						
Measured	1.2	3.2	0.11	1.5	3.2	0.1
Indicated	5.5	2.7	0.09	6.1	2.8	0.09
Inferred	2.2	2.1	0.07	2.2	2.2	0.07
Total	8.9	2.7	0.09	9.8	2.7	0.09
Transition Mixed						
Copper Ore						
Measured	0.8	2	0.15	0.9	2.1	0.12
Indicated	2.2	2.1	0.12	2.3	2.1	0.08
Inferred	1.1	1.6	0.08	1.1	1.6	0.12
Total	4.1	1.9	0.12	4.3	2	0.25
Primary Copper						
Measured	1.5	2.6	0.25	1.5	2.6	0.25
Indicated	19 2.3 0.1	0.1	18.7 2.3	2.3	0.11	
Inferred	9.2	1.7	0.08	9	1.8	0.08
Total	29	2.1	0.1	29	2.1	0.1
Oxide-TMO Cobalt						
Measured	0.02	0.46	0.31	0.03	0.49	0.29
Indicated	0.16	0.35	0.33	0.18	0.33	0.32
Inferred	1	0.23	0.32	0.98	0.23	0.32
Total	1.2	0.25	0.32	1.2	0.3	0.32
Primary Cobalt						
Measured	0.01	0.54	0.24	0.02	0.55	0.2
Indicated	0.15	0.57	0.2	0.15	0.57	0.2
Inferred	0.17	0.33	0.25	0.16	0.34	0.25
Total	0.34	0.44	0.22	0.34	0.45	0.22
Stockpiles						
Measured						
Indicated	16	1.6		16	1.6	
Total	16	1.6		16	1.6	
Kinsevere Total	59	2		60	2	

¹ S.I. units used for metals of value; Cu=copper, Zn=zinc, Pb=lead, Ag=silver, Au=gold, Mo=molybdenum, Co=cobalt.



ORE RESERVES¹

All data reported here is on a 100% asset basis, with MMG's attributable interest shown against each asset within brackets.

Ore Reserves						
	2021			2020		
Deposit	Tonnes	Cu	Со	Tonnes	Cu	Co
Deposit	(Mt)	(%)	(%)	(Mt)	(%)	(%)
Kinsevere (100%)						
Oxide / TMO Copper						
Proved	1.0	3.4	0.15	0.8	3.5	
Probable	3.8	2.9	0.11	1.7	3.2	
Total	4.8	3.0	0.12	2.4	3.3	
Primary						
Proved	1.8	2.5	0.24			
Probable	18	2.4	0.11			
Total	19	2.4	0.12			
Stockpiles						
Proved						
Probable	16	1.6		9.3	2.1	
Total	16	1.6		9.3	2.1	
Kinsevere Total						
Proved	2.7	2.8		0.8	3.5	
Probable	37	2.1		11	2.3	
Kinsevere Total	40	2.1		12	2.4	

COMPETENT PERSONS

Table 1: Competent Persons for Mineral Resources, Ore Reserves and Corporate

Authority / Deposit	Accountability Competent Person		Professional Membership	Employer
MMG Mineral Resources and Ore Reserves Committee	Mineral Resources	Rex Berthelsen ²	HonFAusIMM(CP)	MMG
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Cornel Parshotam ²	MAusIMM	MMG
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources / Ore Reserves	Amy Lamb ²	MAusIMM	MMG
Kinsevere	Mineral Resources	Samson Malenga ³	Pr.Sci.Nat.	MMG
Kinsevere	Ore Reserves	Dean Basile	MAusIMM(CP)	Mining One Pty Ltd

¹ S.I. units used for metals of value; Cu=copper, Zn=zinc, Pb=lead, Ag=silver, Au=gold, Mo=molybdenum.

² Participants in the MMG Long-Term Incentive Plans which may include Mineral Resources and Ore Reserves growth as a performance condition

³ South African Council for Natural Scientific Professions, Professional Natural Scientist



30 June 2021

The information in this report that relates to Mineral Resources and Ore Reserves is based on information compiled by the listed Competent Persons, who are Members or Fellows of the Australasian Institute of Mining and Metallurgy (AusIMM), the Australian Institute of Geoscientists (AIG) or a Recognised Professional Organisation (RPO) and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Each of the Competent Persons has given consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

KEY ASSUMPTIONS

PRICES AND EXCHANGE RATES

The following price and foreign exchange assumptions, set according to the relevant MMG Standard as at February 2021, have been applied to all Mineral Resources and Ore Reserves estimates. Price assumptions for all metals have changed from the 2020 Mineral Resources and Ore Reserves statement.

	Ore Reserves	Mineral Resources
Cu (US\$/lb)	3.28	3.68
Zn (US\$/lb)	1.16	1.41
Pb (US\$/lb)	0.93	1.13
Au US\$/oz	1,512	1,773
Ag US\$/oz	18.90	22.17
Mo (US\$/lb)	10.08	12.12
Co (US\$/lb)	20.16	30.24
USD:CAD	1.30	
AUD:USD	0.75	As per Ore Reserves
USD:PEN	3.23	

Table 2: 2021 Price (real) and foreign exchange assumptions



CUT-OFF GRADES

Mineral Resources and Ore Reserves cut-off values are shown in Table 3 and Table 4, respectively.

	Table 5. Milleral Resources cut-off grades							
Site	Mineralisation	Likely Mining Method ¹	Cut-Off Value	Comments				
	Oxide copper & stockpiles	OP	0.6% CuAS ²					
	Transition mixed ore copper (TMO)	OP	0.7% Cu ³	<i>In-situ</i> copper Mineral Resources constrained within a US\$3.68/lb Cu and US\$30.24/lb Co pit shell.				
Kinsevere	Primary copper	OP	0.8% Cu ³					
	Oxide TMO cobalt	OP	0.2% Co ⁴	In-situ cobalt Mineral Resources constrained within a				
	Primary cobalt	OP	0.1% Co ⁴	US\$3.68/lb Cu and US\$30.24/lb Co pit shell, but exclusive of copper mineralisation.				

Table 3: Mineral Resources cut-off grades

Table 4 : Ore Reserves cut-off grades

Site	Mineralisation	Mining Method ¹	Cut-Off Value	Comments
	Stockpiles	NA	0.9% Cu	
Kinsevere	Oxide copper	OP	1.1% Cu	
	Transition mixed ore copper (TMO)	OP	1.1% Cu ³	<i>In-situ</i> copper Ore Reserves constrained within a US\$3.28/lb Cu and US\$20.16/lb Co pit design.
	Primary copper	OP	1.0% Cu ³	
	Oxide TMO cobalt	OP	0.2% Co ⁴	In-situ cobalt Ore Reserves constrained within a US\$3.28/lb Cu
	Primary cobalt	OP	0.1% Co ⁴	and US\$20.16/lb Co pit design, but exclusive of copper mineralisation.

PROCESSING RECOVERIES

Average processing recoveries are shown in Table 5. More detailed processing recovery relationships are provided in the Technical Appendix.

Table 5: Processing Recoveries

Site	Product	Recovery
Kinsevere	Copper cathode	81% Cu Recovery (96% CuAS⁵)
	Cobalt precipitate	66% Co Recovery

The Technical Appendix published on the MMG website contains additional Mineral Resources and Ore Reserves information (including the Table 1 disclosure).

- ³ Cu = Total Copper
- 4 Co = Total cobalt
- 5 CuAS = Acid Soluble Copper

¹ OP = Open Pit,

² CuAS = Acid soluble copper



Update to Kinsevere Mineral Resources and Ore Reserves Statement as at 30 June 2021 Technical Appendix

24 March 2022

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APPROVALS PAGE

Signature	Rex Berthelsen Name	Head of Geology Position	24/3/2022 Date
Signature	Cornel Parshotam Name	Head of Mining Position	24/3/2022 Date
Signature	Joshua Annear Name	General Manager Operations and Technical Excellence Position	24/3/2022 Date

The above signed endorse and approve this Mineral Resources and Ore Reserves Statement Technical Appendix.

1.1 Competent Persons

Area	Accountability Competent Person		Professional Membership	Employer	
MMG Mineral Resources and Ore Reserves Committee	Mineral Resources	Rex Berthelsen ¹	HonFAusIMM(CP)	MMG	
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Cornel Parshotam ¹	MAusIMM	MMG	
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources / Ore Reserves	Amy Lamb ¹	MAusIMM(CP)	MMG	
Kinsevere	Mineral Resources	Samson Malenga ²	Pr.Sci.Nat.	MMG	
Kinsevere	Ore Reserves	Dean Basile	MAusIMM(CP)	Mining One Pty Ltd	

Table 1 – Compenent Persons

The information in this report that relates to Mineral Resources and Ore Reserves is based on information compiled by the listed Competent Persons, who are Members or Fellows of the Australasian Institute of Mining and Metallurgy (AusIMM), the Australian Institute of Geoscientists (AIG) or a Recognised Professional Organisation (RPO) and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 JORC Code). Each of the Competent Persons has given consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

¹ Participants in the MMG Long-Term Incentive Plans which may include Mineral Resources and Ore Reserves growth as a performance condition

² South African Council for Natural Scientific Professions, Professional Natural Scientist

1.2 Introduction and setting

Kinsevere is located in the Katanga Province, in the southeast of the Democratic Republic of Congo (DRC). It is situated approximately 27 kilometres north of the provincial capital, Lubumbashi (Figure 1), at latitude S 11° 21' 30" and longitude E 27° 34' 00".



Figure 1 Kinsevere Mine location

Kinsevere is a conventional truck and excavator operation with atmospheric leaching of the oxide ore using a solvent extraction electro-winning (SX-EW) plant. The mine was started in 2006 using heavy media separation (HMS) and an electric arc furnace operation. The electric arc furnace was put on care and maintenance in 2008 with HMS then producing a direct shipping ore product grading 25% copper. The HMS was decommissioned in June 2011 when the Stage II SXEW plant was commissioned.

The Kinsevere Expansion Study (KEP) has evaluated the implementation of a sulphide processing and cobalt recovery circuit. This infrastructure provides significant incremental copper Reserves and now enables the economic extraction of Cobalt. The KEP processing flow sheet transforms Kinsevere into a technically robust operation, with significant additional production and life.

1.1 Mineral Resources - Kinsevere

1.1.1 Results

The 2021 Kinsevere Mineral Resources are summarised in Table 2. The Kinsevere oxide Mineral Resource is inclusive of the Ore Reserve.

The reporting cut-off grade applied to the model is 0.6% acid soluble copper (CuAS%) for the oxide Mineral Resource, 0.7% total copper (Cu%) for the transitional mixed (TMO) Mineral Resource and 0.8% total copper (Cu%) for the primary sulphide Mineral Resource. The TMO material is defined as having a Ratio (CuAS%/Cu%) greater than or equal to 0.2 and less than 0.5. The Kinsevere Cobalt Mineral Resource is additional to the Kinsevere Copper Mineral Resource that contains very low-grade copper which is below the copper cut-off grade.

Table 2 2021 Kinsevere Mineral Resource tonnage and grade (as at 30 June 2021)

Kinsevere Mineral Resource

					Contained Metal		
	Tonnes	Copper	Copper	Cobalt (%	Copper	Copper AS	Cobalt
Oxide Copper ²	(Mt)	(% Cu)	(AS % Cu)	Co)	(kt)	kt	kt
Measured	1.2	3.2	2.6	0.11	39	31	1.3
Indicated	5.5	2.7	2.2	0.09	150	120	5.0
Inferred	2.2	2.1	1.7	0.07	47	39	1.6
Total	8.9	2.7	2.2	0.09	230	190	7.9
Transition Mixed Ore (TMO)	Copper ³						
Measured	0.8	2.0	0.71	0.15	15	5	1.2
Indicated	2.2	2.1	0.69	0.12	46	15	2.7
Inferred	1.1	1.6	0.53	0.08	17	6	0.9
Total	4.1	1.9	0.65	0.12	79	27	4.8
Primary Copper ⁴							
Measured	1.5	2.6	0.24	0.25	38	4	3.7
Indicated	19	2.3	0.17	0.10	430	31	20
Inferred	9.2	1.7	0.13	0.08	160	12	7.1
Total	29	2.1	0.16	0.10	630	47	30
Stockpiles							
Indicated	16	1.6	0.97		240	150	
Total	16	1.6	0.97		240	150	
Kinsevere Copper Total	58	2.0	0.72	0.07	1,200	420	43
Oxide-TMO Cobalt⁵							
Measured	0.02			0.31			0.07
Indicated	0.16			0.33			0.53
Inferred	0.99			0.32			3.2
Total	1.20			0.32			3.8
Primary Cobalt ⁶							
Measured	0.01			0.24			0.03
Indicated	0.15			0.20			0.30
Inferred	0.17			0.25			0.43
Total	0.34			0.22			0.75
Kinsevere Cobalt Total	15			0 30			4 5

¹ AS stands for Acid Soluble

² 0.6% Acid soluble Cu cut-off grade

³ 0.7% Total Cu cut-off grade

⁴ 0.8% Total Cu cut-off grade

⁵0.4% Co cut-off grade

⁶0.2% Co cut-off grade

All Mineral Resources except stockpiles are contained within a US\$3.68/lb Cu and \$30.24/lb Co pit shell

Contained metal does not imply recoverable metal.

Figures are rounded according to JORC Code guidelines and may show apparent addition errors.

1.1.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 3 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Kinsevere Mineral Resource complies with the 2012 JORC Code requirements specified by "Table-1 Section 1-3" of the Code. The Mineral Resource model used to compile the 2021 Mineral Resource was generated in 2020.

Section 1 Sampling Techniques and Data		
Criteria	Commentary	
Sampling techniques	• The Mineral Resource uses a combination of reverse circulation (RC) drilling and diamond drilling (DD). The RC drilling is predominately collected for grade control and the DD is used for exploration and resource delineation work.	
	• DD core is sampled mostly as 1m intervals while samples in un-mineralised zones are sampled over 4m lengths. Sampling is predominantly performed by cutting half core, with half retained on site for future reference. For PQ drilling undertaken 2015-2020, quarter core was submitted for sampling.	
	• Grade control drilling (RC) is composited into 2m samples collected after riffle splitting.	
	• Each sample is crushed and pulverised to produce a pulp (>85% passing 75µm) prior to analysis at the site SGS laboratory.	
	• Measures taken to ensure sample representativity include orientation of the drill holes as close as practical to perpendicular to the known mineralised structure. In addition, field duplicates have been taken and analysed.	
	• The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Kinsevere mineralisation (sediment hosted base metal) by the Competent Person.	
Drilling techniques	• RC drilling was used to obtain 2m composited RC chip samples. 417,510m or 81% of the sample data used in the Mineral Resource were from RC samples (5.5-inch hammer), of that 357,309m (69%) was from Grade Control drilling.	
	• PQ and HQ sized DD core were used to obtain nominal 1m sample lengths. 2015-2020 DD core was not routinely oriented. 97,183m or 21% of the sample data used in the Mineral Resource were from DD samples.	
	• 53,464m of RC Grade Control drilling was completed since 2019 estimation and utilised in the 2020 estimate.	
	• No exploration DD drilling occurred post the 2019 Mineral Resource estimation. The latest drilling were the 5 holes which were drilled in early 2020 to delineate the extent and test the continuity of the Resource at the Central Sulphide Extension (CSE) target between Central and Mashi pits.	
	• In the view of the Competent Person sampling is of a reasonable quality to estimate the Mineral Resource.	

Section 1 Sampling Techniques and Data					
Criteria	Commentary				
Drill sample recovery	• DD core recovery recorded was typically above 90%, with only minor losses in competent ground (recovery average 97.3% for all drilling, and over 98.7% within ore zones). As expected, the recovery fell in unconsolidated ground such as weathered material close to surface and in vuggy zones of dolomitic rocks (average recovery approximately 85%, in this area). The vuggy zones are generally controlled by major structures. Triple tube core barrels were used to maximize core recovery. DD core recovery and run depth are verified and checked by a geological technician at the drill site. This data is recorded and imported in the Geobank database.				
	• RC drilling has been observed for sample recovery with adequate sample volume being returned. However, no quantitative measurements of recovery have been recorded.				
	• There is no observed relationship between core loss and mineralisation or grade - no preferential bias has occurred due to any core loss.				
Logging	• RC chips are logged by geologists directly into an Excel logging template, geological information captured includes lithology, stratigraphy, weathering, oxidation, colour, texture, grain size, mineralogy and alteration. This data is then imported into the database.				
	• DD core samples both geological and geotechnical information is logged. (Lithology, stratigraphy, mineralisation, weathering, alteration, geotechnical parameters: strength, RQD, structure measurement, roughness and infill material)				
	• All RC chip and DD core samples (100%) have been geologically logged to a level that can support appropriate Mineral Resource estimation.				
	• Logging captures both qualitative descriptions such as geological details (e.g. rock type, stratigraphy) with some quantitative data (e.g. ore mineral percentages). Core photography is not known to have occurred prior to MMG ownership (2012). Since MMG took control of the site all DD core is photographed.				
	• The total length and percentage of the relevant intersections logged is 100%.				
Sub-sampling techniques and sample	• DD core was split in half (NQ) or quartered (PQ) using a diamond saw. Sample lengths were cut as close to 1m as possible while also respecting geological contacts. Samples were generally 2kg to 3kg in weight.				
preparation	• RC samples are collected from a cyclone by a trained driller's assistant. If the sample was dry the sample was passed through a riffle splitter and collected into a pre- numbered calico bag. Residual material was sampled and sieved for collection into chip trays for logging and the remainder returned to the larger poly-weave bag. The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet. If the sample was wet, then the sample was dried in the laboratory oven before being split according to the procedure above (for dry samples).				
	• Samples from individual drill holes were sent in the same dispatch to the preparation laboratory.				
	• Representivity of samples was checked by sizing analysis and duplication at the crush stage.				
	• Field duplicates were inserted at a rate of approximately 8% to ensure that the sampling was representative of the in-situ material collected. Field duplicates in				

Section 1 Sampling Techniques and Data						
Criteria	Commentary					
	current RC programs have shown acceptable levels of repeatability across all elements analysed.					
	• These practices are industry standard and are appropriate for the grain size of the material being sampled.					
	 RC Grade Control samples are prepared on-site by the geology department, who provide pulp samples to the SGS analytical facility also on site at Kinsevere. The samples were oven dried at approximately 80°C, crushed to 85% passing -2mm using a jaw crusher and milled to 85% passing 75µm using one of three single sample LM2 vibratory pulverising mills. 					
	• Since 2015, Exploration and near-mine DD drilling core and RC chips are processed at the onsite Exploration core yard. Sample preparation was conducted at this facility through an ALS managed Containerised Preparation Laboratory (CPL). Pulp samples where then sent to ALS Johannesburg for analysis.					
	• The sample size for both RC and DD is considered appropriate for the grain size of the material being sampled.					
Quality of assay data and	• RC ore control samples are assayed at the onsite SGS Laboratory, ALS laboratory and SSM at Lubumbashi.					
laboratory tests	• Following preparation, 50g pulp samples are routinely analysed for total and acid soluble copper, cobalt and manganese.					
	• A 3-acid digest with AAS finish was used to analyse for total values.					
	• A sulphuric acid digest with AAS finish was used to analyse for acid soluble copper.					
	All DD core samples prior to 2011 were assayed at:					
	ALS Chemex Laboratory, Johannesburg					
	McPhar Laboratory, Philippines					
	ACTLabs Laboratory, Perth					
	• Samples were analysed for total copper and acid soluble copper with some having a full suite of elements analysed with a four-acid digest and ICP-OES analysis.					
	• From 2011 to 2015, prepared samples were submitted to the ISO 17025 accredited SGS Laboratory in Johannesburg with the following assay scheme:					
	 ICP-OES method with a 4-acid digest analysing 32 elements including copper from 0.5ppm to 1%. 					
	• ICP-OES method using alkali fusion is applied to over-range copper results.					
	ICP-AES with a 4-acid digest was used for calcium and sulphur analysis					
	XRF was used for uranium analysis.					
	• Acid soluble copper using a sulphuric acid digest and AAS finish.					
	• Since 2015 DD drilling, prepared samples were submitted to the ALS Laboratory in Johannesburg with the following assay scheme:					
	• ICP-OES (ME-ICP61) method with a 4-acid digest analysing 33 elements plus OG triggers when Cu greater than 1% (OG62)					

Section 1 Sampling Techniques and Data				
Criteria	Commentary			
	LECO analysed Total Carbon (C-IR07), Organic Carbon (C-IR17), Total Sulphur (S-IR08) and Sulphide Sulphur (S-IR07)			
	• Acid soluble copper using a Sequential Leach (Cu-PKGPH06) finish.			
	• No geophysical tools, spectrometers or handheld XRF instruments have been used in the analysis of samples external to the ALS laboratory for the estimation of Mineral Resources.			
	• QAQC employs the insertion of Certified Reference Material (CRM) every 25 samples; blanks, field duplicates, coarse duplicates and pulp duplicates are taken/ inserted within every batch of 50 samples; and umpire laboratory checks are submitted for every batch of 20 samples to check accuracy, precision and repeatability of the assay result. Acceptable levels of accuracy and precision have been established. If control samples do not meet an acceptable level the entire batch is re-analysed.			
	• The analysis methods described above are appropriate for the style and type of mineralisation.			
Verification of sampling and	• Significant intersections are verified by alternate company personnel following receipt of assay results and during the geological modelling process.			
assaying	• Twinned pre-collars are present in the database. These were used to confirm and check geological intervals and/or assay intervals. Twin drill holes are not used in the Mineral Resource.			
	• Data is collected in Excel spread sheets and imported into industry standard databases that have built in validation systems and QAQC reporting systems. Raw data is imported in the database as received by the laboratory.			
	• Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation.			
	• There are adjustments to the CuAS assay data whenever greater than the Total Cu assay data.			
Location of data points	• Prior to 2011 all drill hole collars were located using a hand-held GPS. Accuracy of GPS is +/- 5m for x and y coordinates and has poor accuracy of the z (elevation) coordinates. Elevations of these holes were later adjusted by using a LIDAR survey method.			
	• RC and DD holes collared post-2011 are surveyed by qualified surveyors. Down hole surveys have been carried out using Eastman single-shot cameras or Reflex EZ tools. Surveys are taken at variable intervals and stored in the database.			
	• Coordinates are in Kinsevere Mine Grid, which is related to WGS84 by the following translation: -8000000 m in northing and -22.3 m in elevation.			
	• A LIDAR survey was used to generate a topographic surface. This surface was also used to better define the elevation of drill hole collars. The LIDAR survey considered to be of high quality and accuracy for topographic control.			
Data spacing and distribution	• Majority of the Grade control RC drill pattern spacing is 5m x 15m, however in 2018 Grade control RC drill pattern spacing was 10m x 10m and it has been revised back			

Section 1 Sampling Techniques and Data					
Criteria	Commentary				
	to spacing 5m x 15m since 2019 which is enough to adequately define lithology and mineralisation domain contacts and transition zones.				
	• The overall DD pattern spacing is between 25m and 75m, which is sufficient to establish the required degree of geological and grade continuity that is appropriate for the Mineral Resource. Between 2015 and 2019, diamond drilling aimed to infill target areas to 40m x 40m spacing and down to 20m x 20m in places.				
	• DD samples are not composited prior to being sent to the laboratory however the nominal sample length is generally 1m. RC samples are 2m intervals but compositing up to 4m has occurred in the past.				
Orientation of data in relation to geological structure	• The mineralisation strikes between north and north-west at Mashi / Central pits, and to, the east southeast at Kinsevere Hill. All drill holes are oriented such that drill holes have a high angle of intersection with the dominant strike and dip of bedding and structures, with the local scale of mineralisation also considered. All drill holes are either oriented east or west with dips of 60° to sub-vertical.				
	• The combination of both east and west orientations likely minimises sampling bias, which, if present, is not considered material.				
Sample security	Measures to provide sample security include:				
	 Adequately trained and supervised sampling personnel. Sea containers used for the storage of samples are kept locked with keys held by the security department. Assay laboratory checks of sample dispatch numbers against submission documents. 				
Audit and reviews	• An external independent audit has been performed on the grade control sampling techniques in July 2019, by OBK Consultants. Recommendations for improvements were provided, no material issues were identified.				
	• Internal visits by MMG Group Office geologists to the SGS, ALS and SSM Lubumbashi laboratories are audited on an annual basis. From the most recent audit by the MMG Senior Geochemist (February 2020) there were no material risks identified.				
	• The 2020 Kinsevere Mineral Resource model review was completed by an internal MMG Group Office geologist in May 2020. The Mineral Resource estimation was also reviewed by the Competent Person; and was found to be a reasonable global model with no material errors found.				

	Section 2 Estimation and Reporting of Mineral Resources
Criteria	Commentary
Mineral tenement and	• The Kinsevere Mining Licence (PE 528) is located approximately 27 km north of Lubumbashi, the provincial capital of the Katanga Province, in the southeast of the

	Sect	tion 2 Estimati	on and Re	porting	of Mineral Reso	ources		
Criteria	Commentary							
land tenure status	 Democratic Republic of the Congo (DRC). The PE 528 permit covers the three major deposits of Tshifufiamashi, Tshifufia and Kinsevere Hill/Kilongo MMG has a Contrat d'Amodiation (Lease Agreement) with Gécamines to mine and process ore from the Kinsevere Project until 2024. A renewal application process for a 15-year extension shall be submitted to DRC regulatory at least 1 year and no more than 5 years before the expiry date. A Contrat d'Amodiation is provided for under the DRC Mining Code, enacted by law No 007/2002 of July 11, 2002. 					ree major mine and ocess for ir and no		
						acted by		
	 A constraints 201 Main 	onversion of tl 8. Tenement a rch 2019, with	ne adjacer amalgama PE7274 ind	t_PR7274 tion (of corporate	4 to an exploita PE528 and PE7 ed into PE528.	ition perr 7274) was	nit was com s completed	pleted in in early
Fundamentia n	• The	re are no know	vn impedir	nents to	operating in the	e area.		
done by other		Summary o	f Previous	Exploratio	on Work by Gec	amines an	d EXACO	1
parties		Denosit	Pitting		Trenching	D	rilling	-
		Deposit	No (m depth)	No. (metres)	Significant Grades	No. holes (metres)	Significant Grades	
		Tshifufiamashi	11	16 (1,304 m)	5.8% Cu 0.2% Co over 50 m	37 (846 m)	10.5% Cu 0.72% Co over 22.2 m	-
		Tshifufia Central	-	17 (1,106 m)	7.6% Cu 0.3% Co over 15 m	19 (950 m)	6.3% Cu 0.6% Co over 23 m	
		Tshifufia South	-	39 (278 m)	7.2% Cu 0.3% Co over 40 m	11 (497 m)		
		Kinsevere Hill	7 (44 m max.)	11 (625 m)	6.6% Cu 0.2% Co over 20 m	10 (1,021 m)	3.99% Cu 0.22% Co over 14.6 m	
	In 20 in Ki	In 2004 Anvil Mining carried out intensive exploration drilling to define the deposits in Kinsevere.						
	• In 20 beyo	012 MMG cont and the Anvil M	inued exp 1ining Min	loration a eral Reso	aimed at identit ource.	fying add	itional mine	ralisation
In 2013/2014 MMG Exploration conducted works around the Mine Lease km radius of the known deposit to explore additional high-grade oxide n				line Lease w de oxide ma	ithin a 50 Iterial.			
 In 2015 MMG conducted a Scoping Study on the potential sulphide ore at Kinsevere located beneath the current oxide C this study, 5 DD holes were drilled in early 2015. In Augus commenced as part of a follow up on Pre-Feasibility Study to the copper sulphide Mineral Resource. This drilling was comple and included in the 2017 Resource Estimate. 			otential to oxide Or n August Study to ir s complet	p process th e Reserves. / 2015, DD d ncrease conf red at the en	e copper As part of rilling re- ïdence in d of 2016			
Drilling commenced in May 2017 to in drilling was used to update the previous				inform the Suus 2018 Minera	ulphide F I Resourc	easibility St e model.	udy. This	
	Drilli Mash conti	ng commence ni and Centra inued in 2018 i	d in Jan 2 I Pit. This n the sout	018 to te was co h of Kinse	est the link of g ompleted in Se evere Hill (south	geologica eptember 1 of Kinse	l continuity 2018. Drill vere copper	between ing then deposit).

	Section 2 Estimation and Reporting of Mineral Resources
Criteria	Commentary
	This drilling tested the copper grade mineralisation at depth. These two drilling programs were used to update the 2020 Mineral Resource model.
	• In early 2020, exploration diamond drilling was conducted to delineate and test the continuity of the deeper sulphide mineralization between Central and Mashi pits. A total of 5 holes were drilled targeting the deeper Central Sulphide Extension below the current final pit Mineral Resource reporting limit. The results of this drilling programme were not used to update the 2020 block model.
Geology	• The Kinsevere deposit is a sediment hosted copper deposit with low-grade cobalt association.
	• The deposit is comprised of the R1, R2 and R3 subgroups of the Neoproterozoic Roan Group. Copper mineralisation is generally confined to the Mines (R2) subgroup, however, minor copper-oxide and copper-sulphide development occurs along the R1-R2 contact and the R2-R3 contact.
	• The deposit is located along a major structural element termed the Kinsevere lineament. Halokenetic and tectonic processes have resulted in the emplacement of discrete lower Roan (R2) stratigraphic blocks onto younger, upper Roan (R3 and above) stratigraphy.
	• The Kinsevere deposit is comprised of three distinct mineralisation domains: Central, Mashi and Kinsevere Hill. Central and Mashi form a contiguous sequence of mineralised Mine Series correlates that host copper-cobalt oxides and sulphides. Kinsevere Hill represents a structurally isolated occurrence of Mine Series host rocks containing copper-cobalt oxides with minor copper sulphides.
	 Copper oxide mineralisation is defined as material that has CuAS:CuT ratio between 0.5 to 1. The principal copper oxide mineral is malachite with subordinate chrysocolla, copper clays (Goethite and Mn-WAD), pseudomalachite and rare azurite. Tenorite, native copper and other minor copper oxide phases (Cu-intergrows) are also present in minor quantities (~<5% of total Cu oxide mineralogy). The largest proportion of copper oxide mineralisation is hosted in weathered/oxidised carbonates (CMN) as fracture fill, void fill, mineral replacement and coatings. There is a strong preference for copper oxides to develop in CMN lithologies, especially within strongly weathered, brecciated and karstic zones.
	• Transitional and Mixed Ores (TMO) are copper ores that have an CuAS:CuT ratio between 0.2 and 0.5. Transitional ore zones are classified as zones that contain dominantly transitional copper species such as chalcocite, covellite, cuprite and native copper and are likely to have formed during progressive supergene weathering. Mixed ore zones are defined as containing both sulphide and oxide copper phases present together - particularly malachite, chalcocite and chalcopyrite
	• Sulphide mineralisation at Kinsevere is defined by all material that has an CuAS:CuT ratio < 0.2. Sulphide mineralisation at Kinsevere has several different modes of development and styles. The three major types are: 1. Replacement of early diagenetic pyrite and evaporites by chalcopyrite and carrolite. 2. Replacement of carbonate minerals by copper and cobalt sulphides. 3. Sulphide bearing veins and vein replacement.

Section 2 Estimation and Reporting of Mineral Resources							
Criteria	Commentary						
	Schematic Kinsevere Stratigraphic Column Domain code and name Marker name + Code Description Malend Cc. [Cov/Crr Katangan Correlates						
	DIPETA Silstones and carbonates bit						
	SDOL SDOL Cream white to grey domines with dark silicified. Kambove Interbedded Silicified domine Green Silistone Cream white to grey domines with dark silicified. Dolomite and green silicified dolomite Silicified Dolomite Silicified Dolomite Dolomite Silicified Dolomite Silicified Dolomite Silicified Dolomite Silicified Dolomite Dolomite Silicified Dolomite Silicified Dolomite Silicified Dolomite Silicified Dolomite Cream Silicified Dolomite Cream Silicified Dolomite Silicified Dolomite Silicified Dolomite Cream Silicified Dolomite Silicif						
	LMU Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite with no apparent defined orientation. Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coarsely re-crystalised and magnesite altered carbonate (after dolomite). Crinkly laminated, often coa						
	IDSH Interbedded inmineted oblomite and shale. Interbedded inmineted oblomite and shale. Interbedded information in the intensely magnetise latered. Especially in Central pit. Lower CMM Interbedded information in the intensely magnetise latered. Especially in Central pit. Interbedded bolomite and Shale UNZ - Upper Nodular Zone defines the lower contact of this unit. Interbedded information in the intensel intensel information in the intense i						
	ICSL Calcareous Siltstone Interbedded calcareous siltstone and shele. Siltstone Siltstone drom the company sint of company sin						
	LSH Middle Nodular MMZ Shale dominated package: carbonaceous and variably magnesite altered. R2.2 (SD) Lower Shale Mid2 = Standle, sheared carbonast pseudomorphs after evaporites. (SD) Grey Banded Shale GBS = Rhythmic, evenly spaced bands of alternating shale and RSF Lower Nodular UNL UN. Back shale with round circular, to ellipsoid shaped concretions DStrat						
	Structurally innuerced Lower contact with RSL office treat network with a bundant veining and mineralisation RAT Purple-red, forcean massive siltstone and/or green, socialitic massive siltstone RAT Siltstone Siltstone Structural contact BAX Tregular breach and contain; HBX Tregular breach and contain;						
	Heterogeneous Interp: Decolement and Dipeta. Interpreta as a deformed decolement surface that was Brecci, acronates and siliciciastics Age of this unit is younger than RSL Interpreted as a deformed decolement surface that was Dipeta.						
	Figure 2: Kinsevere Mine Series Stratigraphy						
Drill hole information	• Within the database used, there are 1,615 Exploration drill holes (467 DD, 32 RC with DD tail and 1,116 RC) and 10,980 grade control drill holes (all RC).						
	• No individual drill hole is material to the Mineral Resource estimate and hence this geological database is not supplied.						
Data aggregation	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.						
methods	No metal equivalents were used in the Mineral Resource estimation.						
Relationship between	• Mineralisation true widths are captured by interpreted mineralisation 3D wireframes.						
mineralisation width and	• Most drilling was at 50° to 60° angles in order to maximise true width intersections.						
intercepts lengths	• Geometry of mineralisation is interpreted as sub-vertical to vertical and as such current drilling allows true width of mineralisation to be determined.						



Section 2 Estimation and Reporting of Mineral Resources			
Criteria	Commentary		
Other substantive exploration data	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.		
Further work	• The exploration focus will be within the Mine Lease and within a 50 km radius of the known deposit to explore for additional high-grade oxide material.		
	• RC and DD drilling as part of near mine extension is ongoing.		

	Section 3 Estimating and Reporting of Mineral Resources		
Criteria	Commentary		
Database integrity	 The following measures are in place to ensure database integrity: Drillhole data (RC and DD) is stored in two SQL databases with front end access provided by Geobank software. The grade control logging and assay data (RC) is managed by the onsite Geology team with support from the Operations and Technical Excellence database team in Melbourne. The exploration/resource logging data (RC and DD) is managed by the onsite Resource team with assay loading and support provided by the Operations and Technical Excellence database team in Melbourne. Data is entered directly into Geobank or Geobank Mobile using the database validation rules. These check for data consistency, missing intervals, overlaps, invalid codes and invalid values, thus maintaining data integrity. The databases offer secure storage and consistent data which is exposed to validation processes, standard logging and data recording lookup codes. 		
	 The measures described above ensure that transcription or data entry errors are minimised. Data validation procedures include: Internal database validation systems and checks. Visual checks of exported drill holes in section and plan view, checking for accuracy of collar location against topography, and downhole trace de-surveying. External checks in Vulcan software prior to the data used for Mineral Resources. Checks on statistics, such as negative and unrealistic assay values. Any data errors were communicated to the Database team to be fixed in Geobank. Data used in the Mineral Resource has passed a number of validation checks both visual and software related prior to use in the Mineral Resource.		
Site visits	• The Competent Person is based at the Kinsevere Mine site and he is in charge of the mining geology, Resource modelling and near mine exploration. Discussions on the continuous understanding of the orebody with other geologists (mine and exploration), mine planning engineers and metallurgists occur on a daily basis.		

	Section 3 Estimating and Reporting of Mineral Resources
Criteria	Commentary
Geological interpretation	 The geological sequences at Kinsevere can be considered correlatives of the Katangan Mines Subgroup units, albeit with unique features (thick shale sequence) and notable absences (no RSC or RSF). These subtle differences have resulted in inconsistent mapping and logging at the deposit-scale. In response to this, a Kinsevere-specific classification was generated with the aim of; assisting geological understanding, facilitating consistent logging and mapping between geologists and improving geological and resource modelling. The local stratigraphy has been termed the Kinsevere Mine Series (KMS).
	• Detailed 3D geological modelling was completed at Kinsevere between 2018-2020 using the new Kinsevere Mine Series framework. Recent PFS and FS related diamond drilling, mapping/structural observations, photogrammetry and litho-geochemistry were integrated into the model. The model was last updated in Q1 2020. The resulting model is considered robust and reliable for mineralisation modelling and grade/estimation domaining.
	• Weathering domains were determined by correlating CuAS:CuT ratio data with observed copper mineral types. An Indicator Kriging approach was used to construct weathering domains (within the mineralised zone) based on specific CuAS:CuT ratio cut-offs.
	• Most of the estimated gangue variables were domained to help constrain each estimation. The following variables were domained using numeric indicator interpolation methods in Leapfrog Geo: Mg (6%), Ca (9%), Al (2.5%), Org_C (0.5% and 1.5%) and S (1.5%).
	• Cobalt was domained using a numeric indicator interpolant approach. A 0.07% Co cut-off grade was used to guide the interpolation.
	• Copper was domained using a numeric indicator interpolant approach combined with manual manipulation to align with geological and mineralisation trends and boundaries. Copper volumes were generated within the oxide and primary zones respectively and then unified to form one master copper shell. A 0.4% Cu cut-off grade was used to guide the interpolation in the oxide zone. A 0.3% Cu cut-off grade was used to guide the interpolation in the primary zone.
	• The magnitude of the acid soluble copper/total copper (CuAS /Cu) ratio has been used as an important criterion for the determination of the oxide, TMO and primary sulphide zones. The following ratios have been used to delineate the respective zones:
	 Oxide > 0.5 Transition and mixed (TMO) between 0.3 and 0.5 Primary < 0.3 The resulting weathering, lithology, fault, mineralisation domains were combined to code the drill hole data and the block model used for grade estimation.
	• Structural features (faults/fractures) provide an important control on the mineralisation and grade continuity. This 2020 geology model was used to inform the 2020 block model which has been used to report the 2021 Mineral Resource estimate.



Section 3 Estimating and Reporting of Mineral Resources						
Criteria	Commentary					
	mineralisation dips sub-vertically. Mineralisation extends to 400 m at depth, and can be up to 300m in width.	it				
	• The mineralisation outcropped at Kinsevere Hill and Mashi deposits.					
Estimation and modelling	• Estimation applied mostly kriging interpolation within domains as outlined further in this section and is considered appropriate for this style of mineralisation.	in				
techniques	Mineral Resource modelling was conducted using Vulcan software.					
	• Variograms updated for major elements including Cu, CuAS, Ratio, Ca, and Mg were based on the combination of weathering, lithology and fault domains. Variogram modelling in the 2020 Mineral Resource models wwere reviewed and updated based on new drilling and geological domains.	re m :d				
	• The key estimation assumptions and parameters are as follows:					
	 The key estimation assumptions and parameters are as follows: Cu, CuAS, CuAS/Cu (RATIO), Co, Ca, Fe, Mg, Mn and S were estimated using Ordinary Kriging (OK). Uranium (U) was estimated by using an Inverse Distance to the power of 2 method (ID²). Local Varying Anisotropy (LVA) grade modelling was applied to capture the local varying grade distribution and geological continuity. Indicator Kriging (IK) was used to determine oxide, mixed and primary sulphid domains based on the CuAS/Cu ratio. Leapfrog software was used to construct high grade domains for Cu, Ca, Mg, Al, organic Carbon and Co. Extreme grade values were managed by grade capping, which was performed post compositing. Values greater than the selected cut value were set to the top cut (cap) value and used in the estimation. Wireframes and surfaces of the topography, mineralised domains, lithology and fault domains, together with IK weathering domain are used to tag the dri holes and are used for statistical analysis and grade estimation. Grade estimation was completed using a hard boundary for Cu, CuAS/Cu (Ratio), Co, Ca, Fe, S, Mg, Mn and S. A composite length of 2m was used applied. Any residual intervals less than ha 	g ie le ct id ill Cu				
	the composite interval were appended to the previous sample interval.	, II				
	 o assumptions have been made about the correlation between variables. A variables are comparably informed and independently estimated. o Search parameters for Cu, CuAS, RATIO. Co. Ca. Fe. Mg estimate were derived 	ed 1				
	from mineralisation and waste domain variography and on Quantitative Kriging Neighbourhood Analysis (QKNA). U search parameters were based on a generi search of 400m x 400m x 400m, U grades higher than 250 ppm were distanc limited to 20m.	ic ce				
	 Three pass estimations were used to estimate the block model with the first and second estimation passes search radius uses 100% of the variogram range and the third pass estimation search radius uses 200% of the variogram range. Ove 80% of the blocks are informed in the first pass. The second and third pass wa set by reducing to the minimum sample estimated to the blocks 	d d er as				
	 Minimum of 2 to 4 and a maximum of 8 to 10 samples (depending on elemen and/or domain) for each estimate. 	nt				
	• The search neighbourhood was also limited to a maximum of 3 samples per dri	ill				
	 Discretisation was set to 4m x 8m x 2m (X, Y, Z). 					

	Section 3 Estimating and Reporting of Mineral Resources						
Criteria	Commentary						
	 Kriging variance (KV), kriging efficiency (KE) and kriging regression slope (RS) of the Cu estimate were calculated during the estimation. The 2019 and 2020 in-situ Mineral Resource models have been compared and show no major material difference, with metal content within 5%. Differences due to the revision of the Cu and Ratio cut-off grade (COG) for Transition (TMO) and Primary Cu and the subsequent re-interpretation in Transition and Primary Cu areas. 						
 The Comparison between the Mineral Resource and the mill feed complicated by the operational strategy of treating high-grade ore and lower-grade ore for later treatment. In late 2017 a stockpile adjustmen based on detailed survey pick-ups. Generally, there was a volume reduction. 							
	• Kinsevere does not produce any by-products hence no assumptions regarding the recovery of by-products are made in the estimate or cut-off and reporting.						
	• Parent block size of the Kinsevere block model is 10m x 20m x 5m with sub-blocking down to 2.5m. Estimation was into the parent block. The size of the blocks is appropriate to the spacing of drill holes.						
	• No further assumptions have been made regarding modelling of selective mining units.						
	• The block model and estimate has been validated in the following ways:						
	 Visual checks in section and plan view against the drill holes. Grade trend plots comparing the model against the drill holes. Summary statistics comparing the model to the sample. Global Change of support between the model to the sample support. 						
Moisture	Tonnes in the model have been estimated on a dry basis.						

	Section 3 Estimating and Reporting of Mineral Resources					
Criteria	Commentary					
Cut-off parameters	• The Oxide Mineral Resource has been reported above an acid soluble copper cut-off grade of 0.6% and an acid soluble to total copper ratio (Ratio) greater than or equal to 0.5. This is unchanged from the 2020 Mineral Resource.					
	• The transitional and mixed ore (TMO) Mineral Resource has been reported above a total copper cut-off grade of 0.7% and a Ratio (CuAS/Cu) between 0.2 and 0.5. This is unchanged from the 2020 Mineral Resource.					
	• The sulphide Mineral Resource 2021 has been reported above a total copper cut-off grade of 0.7% and a Ratio less than 0.2. This is unchanged from the 2020 Mineral Resource.					
	• The reported Mineral Resources have also been constrained within a US\$3.68/lb Whittle pit shell. Both the Sulphide/Primary and TMO cut offs have not changed in 2021 compared to 2020. The reported cut-off grade and the pit-shell price assumptions are in line with MMG's policy for reporting of Mineral Resources based					
	1225 L 1200 L June 2021 100 L 1150 L 1125 L 1100 L 1100 L 100 L					
	1050 L 3.68Cu_30.24 Co_prishell BLOCK: CU BLOCK: CU 1025 L					
	950 L 925 L 900 L					
	N744100 Cross-section of Copper Mineral Resource model contained within the US\$3.68/lb pit shell					
Mining factors or assumptions	• Mining of the Kinsevere deposits is undertaken by the open pit method, which is expected to continue throughout the life of mine.					
	 Mining selection has been considered in the calculation of cut-off grade parameters and in the constraint of mineral resources within the US\$3.68/lb Cu pit shell. 					
	No mining factors have been applied to the Mineral Resource.					
Metallurgical factors or assumptions	 The metallurgical process applied at the current Kinsevere Operation includes H2S04 acid leaching followed by solvent extraction and electro-winning (SXEW) to produce copper cathode. This process enables processing of oxide ores only. 					
	• TMO and sulphide ores will be processed on the condition the Kinsevere Expansion Project (KEP) is approved. As such, the criteria impacting the global resource cut-off grades and reportable pit shell inputs are based on the proposed KEP flowsheet and					

Section 3 Estimating and Reporting of Mineral Resources							
Criteria	Commentary						
	 infrastructure upgrades. The upgraded flowsheet will consist of the following changes: Oxide pre-flotation circuit and leach tank modifications 2.2Mtpa Oxide leach upgrades to convert to reductive leach conditions 						
	• Sulphide Concentrator 2.2Mtpa capacity						
	Roaster circuit including off-gas cleaning,	Roaster circuit including off-gas cleaning, acid plant and concentrate storage					
	Cobalt Recovery circuit to produce high g	obalt Recovery circuit to produce high grade Cobalt hydroxide					
	SX plant modifications						
	• Estimated plant recoveries are as follows:						
	Recovery Description Unit	Comment					
	Sulphide Circuit Flot Copper Recovery % Calc >1 (Ratio<0.4 / 0.2 - plan / target) <1	0% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TcU 0% ASCu/Tcu: the recovery = 94 -57 * ASCu/Tcu					
	Sulphide Circuit Flot Cobalt Recovery % Calc >1	0% ASCu/Tcu; the recovery = 94 57 * ASCu/TcU - 2%					
	Oxide Circuit Flotation Copper Recovery % Calc 72	.0% ASCU/TCU; the recovery = 94 -57 * ASCU/TCU - 2% % * (CuT - ASCu)					
	(Ratio<0.4 / 0.2 - plan / target) Oxide Circuit Flotation Cobalt Recovery % 30%						
	(Ratio<0.4/0.2 - plan / target) Leach Copper Recovery % 98 Les	ss Soluble Losses					
	(Oxide Feed) Leach Cobalt Recovery % 35 (70	0% Cobalt / Oxide only - i.e. 12 months prior to					
	(Less Soluble Losses) co Roaster Recovery - Cu Conversion % 95	mmissioning of the Sulphide plant)					
	Roaster Recovery - Co Conversion % 92.5						
	 The main deleterious components of the ore are carbonaceous (black) shales which increase solution losses in the washing circuit and dolomite which increases acid consumption in the leaching process. Consideration of metallurgy and strike price has been included in the cut-off grade calculation flow sheet material type and in the construction of the US\$3.68/lb pit shell. 						
	No metallurgical factors have been applie	d to the Mineral Resource.					
Environmental factors or	• Environmental factors are considered in the Kinsevere life of asset work, which is updated annually and includes provisions for mine closure.						
assumptions	• PAF and NAF criteria is controlled by the acid neutralising capabilities of the dolomit CMN unit and the potential acid forming potential of the shale rich SD which is know to contain pyrite where a sulphur cut off is utilised.						
Bulk density	 In-situ dry bulk density values are deter measurements, 4 in-pit bulk sample measu specific lithologies. 	mined from 6,676 diamond core density arements and 12 in-pit measurements from					
	Bulk sample and in-pit measurements acco	ount for void spaces.					
	Bulk density was calculated using the wet a	and dry method:					
	• Bulk Density = Dry Sample Weight/(Dry Sa	mple Weight – Wet Sample Weight)					

		Section 3 Estin	nating and I	Reporting of Minera	al Resources		
Criteria	Commentary						
	•	Average in-situ b weathering doma	ulk density v ain.	values were assigned	d to the block	s within each	lithology-
		Oxidisation State	Minz Code (Block Model)	Lithology Code	rocktype code (Block Model)	Assigned Bulk Density (t/m3)	
		Air	_	_	_	0.00	
			1		rock_weath	1.90	
			Marthand D		rock_soil	1.65	
			vveathered Ro	оск	cavity	0.00	
					air	0.00	
		Oxide	ALL	ALL	ALL	2.00	
			waste	Breccia		2.30	
			waste	Laminated Dolomite		2.30	
			waste	Upper CMN		2.30	
			waste	Dipeta		2.30	
			ore	KH RAT Siltstone		2.20	
			ore	Breccia		2.10	
			ore	Lower Shale		2.10	
			ore	Intercalated Shale SD		2.10	
			ore	Interbedded Dolomite Shale		2.20	
			ore	Laminated Dolomite		2.30	
			ore	Upper CMN		2.20	
			ALL	ALL	ALL	2.50	
			waste	KH RAT Siltstone		2.40	
			waste	Breccia		2.40	
			ore	KH RAT Siltstone		2.65	
			ore	Breccia		2.55	
		Primary (Fresh)	ore	Lower Shale		2.55	
			ore	Intercalated Shale SD		2.55	
			ore	Interbedded Dolomite Shale		2.65	
			ore	Laminated Dolomite		2.65	
			ore	Upper CMN		2.65	
		2020 Mineral	Resource de	ensity assignments p	er lithology a	nd weathering	g domains
Classification	•	Wireframes used confidence in as	tor Mineral ssayed grac	Resource classifica le, geological cont	tion are base inuity and K	ed on a comb riging outpu	ination of t (Kriging
		variance, efficience	cy and slope	e of regression, and o	arilling spacir	ng).	
	•	In general, Meas regression of the slope regression 80m and the slop	sured is det kriging esti of kriging es e regression	fined drilling spacir mation greater than stimation at 0.65 to n less than 0.65	ng less 20m 0.8. Indicated 0.8. Inferred	x 20m with d is 40m x 40r has ranges up	the slope n with the to 80m x
	•	The Mineral Res confidence and u	ource class ncertainty c	ification reflects the	e Competent eral Resource	t Persons vie	w on the



Section 3 Estimating and Reporting of Mineral Resources						
Criteria	Commentary					
Discussion of relative	• The estimation within lithology and fault domains and the use of local varying anisotropy (LVA) is valid to accommodate changes in local dip through the deposit.					
accuracy / confidence	• The post June 2019 grade control RC drilling has resulted in some local changes especially in the transition and primary sulphide zone where the geological interpretation is now more continuous compared to the 2019 model interpretation.					
	• A linear regression between Total Cu and CuAS assays has been used to predict missing CuAS grades in intervals where only Total Cu had been analysed. This was done to improve the local robustness of the CuAS grade estimation.					
	• Estimates in the deeper primary copper mineralisation will not be as locally accurate, due to wider spaced drilling however the geological and grade interpretations are robust due to a high understanding of geological controls. The level of uncertainty is captured by the Indicated / Inferred Mineral Resource category.					
	• Close spaced Resource infill drilling in Kinsevere Hill South is required to gain an understanding of the complexity of grade distribution and the local mineralisation controls.					
	 Due to complexity of the weathering profile it was decided to use an Indicator Kriging approach based on the "ratio" of acid soluble copper to total copper. The weathering was defined into three cut-off ratio grades, oxide is defined at above 0.8, primary is defined below 0.2, and TMO is define between 0.2 – 0.8. A wide spread of "ratio" grades distribution in the TMO could potentially over smooth the estimate, more work is needed to control this effect. 					
	• The method of assigning bulk density values is similar to the 2019 Mineral Resource and is not considered to have any material impact on the reported tonnages. However, direct estimation of dry bulk density values needs to be evaluated where enough bulk density data is available.					
	• Limited number of samples within some of the lithology and fault subdomains have resulted in a poor estimation. Further analysis on the potential combination between lithology and fault domains could improve the estimation.					

1.1.3 Statement of Compliance with JORC Code Reporting Criteria and Consent to Release

This Mineral Resource statement has been compiled in accordance with the guidelines defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2012 JORC Code").

1.1.3.1 Competent Person Statement

I, Samson Malenga, confirm that I am the Competent Person for the Kinsevere Mineral Resource section of this Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years' experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Fellow of The Geological Society of South Africa Reg No. 965948 and I am a Registered Professional Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP) – Reg No 400181/06.
- I have reviewed the relevant Kinsevere Mineral Resource section of this Report to which this Consent Statement applies.

I am a full-time employee of MMG Limited at the time of the estimation.

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Kinsevere Mineral Resource section of this Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to the Kinsevere Mineral Resources.

1.1.3.2 Competent Person Consent

Pursuant to the requirements Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

With respect to the sections of this report for which I am responsible – the Kinsevere Mineral Resources - I consent to the release of the 2021 Mineral Resources and Ore Reserves Statement as at 30 June 2021 Executive Summary and Technical Appendix Report and this Consent Statement by the directors of MMG Limited:

Date:

This signature was scanned for the exclusive use in this document – the *MMG Mineral Resource and Ore Reserve Statement as at 30 June 2021* – with the author's approval. Any other use is not authorised.

Samson Malenga, BSc. Hons (Geol.),MBL, Pr.Sci.Nat, FGSSA (No. 965948

This signature was scanned for the exclusive use in this document – the *MMG Mineral Resource and Ore Reserve Statement as at 30 June 2021* – with the author's approval. Any other use is not authorised.

Signature of Witness:

Witness Name and Residence: (e.g. town/suburb)

Lubumbashi, DRC

Serge Djemo

08/10/2021

1.2 Ore Reserves - Kinsevere

1.2.1 Results

The 2021 updated Kinsevere Ore Reserves are based on the 2020 Mineral Resources model.

The 2021 updated Kinsevere Ore Reserves are summarised in Table 4.

Table 4 2021 updated Kinsevere Ore Reserves tonnage and grade (as at 30 June 2021)

Kinsevere Ore Reserves						
				Contain	ed Metal	
		Copper	Cobalt	Copper	Cobalt	
Central	Tonnes (Mt)	(% Cu)	(% Co)	('000 t)	('000 t)	
Oxide / TMO						
Proved	0.8	3.6	0.17	28	1.3	
Probable	3.0	2.9	0.14	86	4.0	
Primary						
Proved	1.5	2.7	0.28	40	4.1	
Probable	17	2.4	0.11	418	19	
Central Pit Total	23	2.5	0.13	573	28	
Mashi Pit						
Oxide / TMO						
Proved	0.2	2.3	0.08	4	0.1	
Probable	0.1	2.1	0.04	2	0.0	
Primary						
Proved	0.3	1.6	0.08	4	0.2	
Probable	0.3	1.4	0.06	4	0.2	
Mashi Pit Total	0.9	1.7	0.07	15	0.6	
Kinsevere Hill						
Oxide / TMO						
Probable	0.7	3.0	0.02	21	0.2	
Kinsevere Hill Total	0.7	3.0	0.02	21	0.2	
Stockpiles						
Oxide / TMO Probable	15	1.5	0.00	220	0.0	
Primary Probable	0.9	2.2	0.00	20	0.0	
Stockniles Total	16	16	0.00	242	0.0	
Kincovere Total	40	2.1	0.00	850	20	
Kinsevere rotai	40	2.1	0.07	050	23	

Cut-off grades were calculated at a US\$3.28/lb copper price and \$20.16/lb Cobalt.

They are based on a Net Value Script considering following:

- Gangue acid consumption
- Oxide Flotation Recovery
- Sulphide Flotation Recovery
- Roaster Recovery for Copper and Cobalt
- Cobalt Solution Recovery
- Cobalt Hydroxide Payables
- Oxide Leach Recovery

The cut-off grade approximates 1.1% Cu for Oxide and Transitional ex-pit material, 1.0% Cu for Primary Material and 0.9% Cu for Oxide existing stockpile reclaim. Figures are rounded according to JORC Code guidelines and may show apparent addition errors. Contained metal does not imply recoverable metal.

The main differences from the 2020 Ore Reserves are:

- (i) Significant change in Plant Processing Infrastructure and Processing Flowsheet
- (ii) Assumed copper price increased to US\$3.28/lb in 2021 from US\$3.23/lb in 2020
- (iii) Value assigned to Cobalt at a price of \$20.16/lb
- (iv) Mine and stockpile depletion

- (v) Mine to Mill Reconciliation study indicates that mining dilution is between 10 & 15% and ore loss between 10 & 15% (this is an increase in overall modell ore loss of approximately 2% compared with the 2020 Ore Reserve Estimate) :
 - Modelled planned Dilution:
 - Oxide 5%
 - Sulphide 4%
 - Modelled planned Ore Loss:
 - Oxide 8%

0

- Sulphide 2%
- Additional unplanned dilution and ore loss has been modelled at 5%, misallocation dilution is also considered for the Sulphide Processing circuit
- Projected cash flows from Ore Reserves do not consider any existing (30 June 2021) rehabilitation liability.

1.2.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 5 complies with the 2012 JORC Code requirements specified by "Table-1 Section 4" of the Code. Each of the items in this table has been summarised as the basis for the assessment of overall Ore Reserves risk in the table below, with each of the risks related to confidence and/or accuracy of the various inputs into the Ore Reserves qualitatively assessed.

 Table 5
 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Kinsevere Ore Reserves 2021

	Section 4 Estimation and Reporting of Ore Reserves				
Criteria		Commentary			
Mineral	•	The Mineral Resources are reported inclusive of the Ore Reserves.			
Resource estimates for	•	The Ore Reserves includes Mineral Resources on stockpiles.			
conversion to Ore Reserves	•	The sub-celled Mineral Resources block model named "KIN_GMR_2003_V5_ENG.bmf" and dated 16-06-2020 was used for dilution and ore loss modelling. The pit optimisation and designs were generated from the diluted mining model "kin_gmr_2003_v5_engBM_MSO_Diluted2.dm".			
	•	Mineral Resources block model based on Ordinary Kriging interpolation has been applied for the estimation of all elements. It has a parent block size of 10m x 20m x 5m with sub blocking down to 2.5m. The mining model simulates a mining panel of 10m x 15m x 5m introducing localised dilution and ore loss.			
	•	All existing stockpiles have been considered for economic inclusion in the Mineral Resources and Reserves.			
Site visits	•	The Competent Person visited the site in August 2019 and in February 2020. The Competent Person has been unable to visit site since this time due to COVID-19 restrictions, however he has been in regular contact with site personnel regarding operational performance.			
	•	Each visit consisted of discussions with relevant people associated with Ore Reserves modifying factors including geology, grade control, mine-to-mill reconciliation, mine dilution and mining recovery, geotechnical parameters, mine planning and mining operations, metallurgy, tailings and waste storage, and environmental and social disciplines. The outcomes from the visits have confirmed a common understanding of assumptions, calculation of the cut-off grades and development of the Life-of-Asset mine plan.			
Study status	•	The current mine and processing plant configuration has been in operation since September 2011. Ore Reserves are based on a combination of actual historical performance and cost data, lab test work and metallurgical simulation. This data has been adapted to projected Life-of-Asset planning.			
	•	Life-of-Asset Reserve Estimates were produced as part of the MMG planning cycle. This Estimate informs the Ore Reserves – it demonstrates it is technically achievable and economically viable, while incorporating material Modifying Factors.			

		Section 4 Estimation and Reporting of Ore Reserves
Criteria		Commentary
Cut-off parameters	•	Breakeven cut-off grades (COG) were calculated at a US 3.28 /lb copper price, 20.16 /lb Co considering all known Copper and Cobalt mineral species. A variable gangue acid consumption is estimated using the equation GAC (kg/t) = $33.823 \times Ca + 2.713 \times Mg + 2.8$. The following approximate COG's are applied:
		 1.1% Cu for ex-pit Oxide and Trasitional material 1.0% for Primary material 0.9% Cu for existing stockpile reclaim.
	•	The ex-pit COG estimates are based on a Net Value Script (NVS) calculation that incorporates commodity price assumptions, gangue acid consumption, recoveries and estimated payables; and costs associated with current and projected operating conditions.
	•	The NVS routine identifies material that is both suitable and potentially economic for processing in the Mineral Resource Model. This material is then considered for inclusion in the Ore Reserves process.
	•	For the cost assumptions please see the "Costs" section.
	•	For the price assumptions please see the "Revenue factors" section.
Mining factors or	•	The method for Ore Reserves estimation included: mine dilution modelling, pit optimisation, final pit and phase designs, consideration of mine and mill schedule, all identified modifying factors and economic valuation.
assumptions	•	Kinsevere mine is an open pit operation that is mining and processing oxide copper ore. The operation uses a contract mining fleet of excavators and both rigid body and articulated dump trucks along with a fleet of ancillary equipment.
	•	This mining method is appropriate for the style and size of the mineralisation.
	•	The pit optimisation was based on a mining model based on the 2020 Mineral Resources block model, and the strategy for the final pit selection was based on a revenue factor 1 (RF=0.96). The RF 0.96 pit shell was used to best estimate and "waste strip efficient" final pit shell, considering cutback mining, and appropriate discounting of revenues and costs. Final pit designs incorporating further practical mining considerations, such as minimum mining width, were carried out using these optimisation shells.
	•	Mining dilution is based on localised mining dilution modelling with an additional unplanned dilution and ore loss of 5% respectively (unplanned dilution and ore loss was 7% and 7% respectively in the 2019 Ore Reserves). The dilution and ore loss modelling were designed to reflect historic reconciliation data (2020 reconciliation study) of areas that are reflective of future mining. The combination of the planned and unplanned dilution and ore loss, effectively result in a reduction in metal of approximately 10% compared with the Resource Model.
	•	Minimum mining width (bench size) is typically in excess of 45m but is ~35m in some isolated areas during stage development.
	•	No Inferred Mineral Resources material has been included in optimisation and/or Ore Reserves reporting.
	•	All required infrastructure is in place for processing Oxide Copper bearing minerals only. Infrastructure required for the Sulphide plant is outlined in the Kinsevere Expansion Project (KEP) study. Mining rates are planned to stay relatively constant and is within the capacity of the proposed mining contractor capability and capacity.
	•	The slope guidelines used for the 2021 Kinsevere Ore Reserves are as follows:

Section 4 Estimation and Reporting of Ore Reserves								
Criteria	Commentary							
	Domain	Weathering Code	BFA (Max °)	Bench Height (m)	Berm Width (m)	IRA (°)	Stack Height (m)	Geotech. Berm (m)
		Completely Weathered (W4)	50	10	6	35	-	-
	All	Highly Weathered DIP West (W3)	45	10	9.5	27	30	15
		Moderately Weathered (W2)	70	10	9 7.25	50	90	17.5
	RAT_HBX	Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	RAT RSL	Moderately Weathered (W2)	70	15	7.25	50	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	SDOL	Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	SD	Moderately Weathered (W2)	70	15	9.5	45	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	DIP	Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	0	updated logging and dou 2021 guidelines remain u into account observed pe Inter-ramp and overall s Consequence of Failure	main interpro unchanged for erformance o slope design while further	etation in Cen or the Kinseve of the current criteria have water and bl	itral Pit. re Hill North an exposures. e been decreas ast control me	nd Kinsever sed from 2 asures are i	re Hill South p 019 from Hig implemented	its, which take h to Medium i.e. inter ramp
		and overall slope factors This factor of safety has continue to be implemen	of safety from been decrea nted. abted in the	m limit equilib sed from 1.3	orium analysis a and 1.2 in 202	ire in excess 0, as water the figure b	s of 1.2 and 1.3 and blast con	3, respectively. trol measures
Metallurgical	Kinsey	Image: constraint of the set of the	to account of hat could occ	HBX RSL Observed performance	TA TA Formance of the inter-ramp and	e current of overall slot	exposures at lope scale at Kir	Kinsevere and nsevere.
factors or assumptions	• Kir gri	nsevere is an operating min inding, tank leaching, coun	ne. The exist ter-current c	ting metallurg decantation (C	gical process is CCD) washing, s	a hydrome solvent extr	tallurgical pro action and ele	cess involving ctrowinning.

Section 4 Estimation and Reporting of Ore Reserves							
Criteria	Commentary						
	The acid leach process has been operating successfully since start-up in September 2011.						
	Copper recovery is determined by the equation:						
	Cu r	ecovery (%) = (0.963*CuA	S)/TCu				
	when stan the sulpl	re CuAS refers to the acid dard test. The CuAS value exact percentage varies hides which are not effect	d soluble copper content of has historically been arou with the ore type. Much ively leached in the tank lea	of the ore which is de Ind 80 to 90% of the t of the non-acid solu aching stage.	etermined according to a otal copper value though uble copper is present in		
	• The reco summari	onciliation between expension between expension between expension of the contract of the contr	cted and actual recovery last eight quarters.	is checked each mor	nth. The following table		
		Period	Recovery of Acid Solub	ole Copper (%)			
		renou	Predicted	Actual			
		Q3 2020	96.3	95.6			
		Q4 2020	96.3	96.4			
		Q1 2021	96.3	95.5			
		Q2 2021	96.3	96.4			
	 in the washing circuit and dolomite which increases acid consumption in the leaching process. The effect of black shale is currently controlled by blending which is used to limit the percentage of this component in the feed to less than 30%, it is planned that this will be increased to 50% over the coming 3 years. Total gangue acid consumption has been estimated based on the following equation GAC (kg/t) = 33.823 x %Ca + 2.713 x %Mg + 2.8. 						
	exceed 3	35kg/t.		5 5			
	• For Ore Reserves, a processing capacity of approximately 2.4Mtpa of ore (2.2Mpta when the Sulphide plant is operating) and an electrowinning capacity of 80ktpa of copper cathode has been assumed. Both mill throughput and cathode production rates have been demonstrated as sustainable.						
	Kinsever	e mine does not currently	produce any by-products.				
	Kinsevere Ex	xpansion Project (KEP)					
	The KEP stuc well as recov	dy proposes to expand the ver cobalt.	e current acid leach proces	s to treat sulphide, tra	nsition and oxide ore, as		
	The Kinsever	e processing facility upgra	ades required for the proje	ct are:			
	Oxid Oxid Oxid	 le pre-flotation circuit and Once Oxide Ore is exh replaced with a Jaw (accommodate the pro It has been estimated Sulphide Ore. le leach upgrades to conv 	l leach tank modifications f nausted, it is planned that t Crusher and an additional ocessing of Sulphide Ores. I that this modified oxide c ert to reductive leach cond	or 2.2 Mtpa ore treate the Oxide grinding circ Ball Mill be installed i fircuit will be capable itions.	ed: cuit be modified (i.e. Sizer into the Oxide Circuit) to of processing 1.3Mtpa of		



	Section 4 Estimation and Reporting of Ore Reserves							
Criteria		Commentary						
	•	Plant misallocation has been considered, the flowsheet allows for the recovery of any Sulphides that may inadvertently arrive in the Oxide Circuit. However, any oxide material reporting to the Sulphide Circuit will inevitably be lost to tailings. This "misallocation" has been considered as part of the mine planning:						
		Planned Misallocation Modelling:						
		 Sulphide Circuit where the Ratio AsCu / TCu < 0.4 Oxide Circuit where the Ratio AsCu / TCu >= 0.4 						
		Operational Target:						
		 Sulphide Circuit where the Ratio AsCu / TCu < 0.2 Oxide Circuit where the Ratio AsCu / TCu >= 0.2 						
Environmental	•	Geochemical analysis of mine waste material over a two year period (2017 onwards) has been reviewed to confirm the classification of Potential Acid Forming (PAF) material. The review resulted in a change to the PAF classification. The updated classification has reduced the volume of potentially acid generating material (separating non-acid generating materials from potentially acid generating materials), thus preserving clean waste for construction and rehabilitation requirements.						
	•	Surface water management plans for the short and medium term have been completed and are progressively being implemented. Maintenance of infrastructure will be continuing throughout the 2021 dry season.						
	•	Existing tailings storage facility (TSF 2) has design capacity to meet the 2021 Ore Reserves requirements. The TSF 2 is currently at RL 1290.6 it is planned to be elevated a further 14m.						
	•	A new facility (TSF 3) is planned for the KEP.						
Infrastructure	٠	The Kinsevere mine site is well established with the following infrastructure in place:						
		 The plant is operational. 						
		 Labour is mostly sourced from Lubumbashi and surrounding villages with some expatriate support. There is an existing accommodation facility onsite. 						
		 There is sufficient water for the processing. 						
		 Copper cathode is transported off-site by truck. 						
		 Site has an access road that is partially sealed. 						
		 There is power supply from the national grid and from onsite generators. 						
		 The Ore Reserves do not require any additional land for expansion. 						
		 Tailings Storage Facility in place and future lifts are planned for. 						
	•	Grid power in country can be intermittent; mitigation management is through diesel-based power generation. Future grid power availability is forecast to improve.						
	•	Timely dewatering of the mining areas continues to be an important aspect of mining operations.						
	Ki	nsevere Expansion Project (KEP)						
	•	Tailings storage facility (sulphide tailings) including tailings and decant pipelines						
	•	Reagents storage and utilities; power, water, air, sewer						

Section 4 Estimation and Reporting of Ore Reserves				
Criteria	Commentary			
	Operation buildings and services relocations			
	Roads and drainage upgrades			
Costs	• Kinsevere is an operating mine, historical costs have been used to inform the 2020 Kinsevere Budget (January 2021 to December 2021), with the exception of the contract mining costs and the Sulphide Processing Plant costs.			
	• Mining costs are based on contract mining costs, tendered in 2021. Some opportunities within the mining contract have been identified and have been projected to commence in 2021. Given that mining operations are currently ceased, various sensitivities have been tested to ensure that the Reserve Estimate continues to be economic with potential delays in the commencement of mining.			
	• The Sulphide Processing Plant costs are based on the most recent feasibility study (KEP), consisting of independent estimates from two separate engineering houses.			
	• Transportation charges used in the valuation are based on the actual invoice costs that MMG are charged by the commodity trading company per the agreement.			
	• Royalties charges have been considered, approximating 6% of the Copper revenue and 10% of the Cobalt revenue.			
	The processing costs include calculated gangue acid consumption.			
	The final product contains no deleterious elements.			
	• US dollars have been used thus no exchange rates have been applied.			
	Weathering profiles have been used to model in-pit blasting costs.			
	• Since the final Copper product is copper cathode (Grade A non LME registered) there are no additional treatment, refining or similar charges. The final product for Cobalt, is Cobalt Hydroxide, payability, transport, export duty, customs clearance, agency fees and freight have been estimated and incorporated.			
	• Sustaining capital costs have been included in the pit optimisation. The sustaining capital costs are principally related to the tailings storage facility lift construction and the process plant. The inclusion or exclusion of these costs in the Ore Reserves estimation is based on accepted industry practice.			
	• A cash flow model was produced based on the mine and processing schedule and the aforementioned costs.			
	• The Ore Reserves estimation has been based on the aforementioned costs.			
Revenue	For cost assumptions see section above – "Costs"			
factors	• The assumed long-term copper and cobalt price is US\$3.28/lb and \$20.16/lb respectively. These prices are used to inform the cut-off parameters (see cut-off section above). These prices are provided by MMG corporate, approved by the MMG Board, and are based on external company broker consensus and internal MMG analysis.			
	• The current practise is to process Black Shale material at a maximum blend of 30% of the total feed. Internal studies are are currently in progress, they identify opportunities whereby black shale is proposed to be process up to 50% of the total feed by Q3 2023.			

Section 4 Estimation and Reporting of Ore Reserves				
Criteria	Commentary			
Market assessment	• MMG considers that the outlook for the copper and cobalt price over the medium and longer term is positive, supported by further steady demand growth.			
	• Global copper consumption growth will continue to be underpinned by rising consumption in China and the developing countries in Asia as these nations invest in infrastructure such as power grids, commercial and residential property, motor vehicles and transportation networks and consumer appliances such as air conditioners.			
	• Cobalt has received considerable attention in the past decade or so due to its importance in the rechargeable battery industry, most notably with the increase in the electric car and related industries.			
	• Global copper and cobalt demand will also rise as efforts are made to reduce greenhouse gas emissions through increased adoption of renewable energy sources for electricity generation and electric vehicles for transportation.			
	• Supply growth is expected to be constrained by a lack of new mine projects ready for development and the requirement for significant investment to maintain existing production levels at some operations.			
	• There is a life of mine off-take agreement with a trading company in place for all Kinsevere's copper cathode production. The off-take arrangement has been in place since the commencement of cathode production at site and has operated effectively. There is no reason to expect any change to this in future.			
Economic	• The costs are based on historic actuals and estimated Sulphide Plant feasibility study operating costs, the 2020 Kinsevere Budget and tendered contractor mining costs.			
	• Revenues are based on historic, contracted realised costs and the feasibility study estimates for Cobalt. Copper and Cobalt prices are based on MMG's short term pricing forecast (2021 to 2025) with a long-term forecast of \$3.28/lb Copper and \$20.16/lb Cobalt.			
	• The Ore Reserves financial model demonstrates the mine has a positive NPV, assuming existing rehabilitation liability costs are treated as sunk.			
	• The discount rate is in line with MMG's corporate economic assumptions and is considered to be appropriate for the location, type and style of operation.			
	• Standard sensitivity analyses were undertaken for the Ore Reserve work and support that the Ore Reserve estimate is robust.			
Social	• Social and Security teams are working together to mitigate security threats resulting from theft and other illegal activities by engaging the community to raise awareness of issues and garner support, improving security at the site.			
	• There were some incursions during 2020. Officials continue to be engaged in the management of artisanal miners from the region and site. Improved security management has been implemented in response to incursions.			
	• There was in increase in children entering site. The Social Development team, authorities and community chiefs continue to engage to address this issue and training programs were run through the schools to educate children on the dangers and risks they could be exposed to.			
	• With resepect land access, the Social Development Team together with Administrative authorties of the Kipushi Territory have surveyed the land occupancy on the PE 7274 to relocate farmers and pay compensation before the end of 2021. The TSF 3 construction is planned in this area in April 2022.			
	• The Social Development team continue to engage with Community leaders and government representatives regarding the MMG Social Development Plan and governance and distribution of funds by the Cashier de' Charges to better direct the funds to those in need.			

Section 4 Estimation and Reporting of Ore Reserves					
Criteria	Commentary				
Other	•	MMG has a Contrat d'Amodiation (Lease Agreement) with Gécamines to mine and process ore from the Kinsevere Project until 2024. A renewal application process for 15 year extension has been submitted to DRC regulatory at least 1 year and no more than 5 years before the expiry date.			
	•	The PE 528 permit covers the three major deposits of Tshifufiamashi, Tshifufia and Kinsevere Hill/Kilongo.			
	•	A Contrat d'Amodiation is provided for under the DRC Mining Code, enacted by law No 007/2002 of July 11, 2002.			
	•	A conversion of the adjacent_PR7274 to an exploitation permit was completed in 2018. Tenement amalgamation (of PE528 and PE7274)_was completed in early March 2019, with PE7274 incorporated into PE528.			
Classification	•	The Ore Reserves classification is based on the JORC 2012 Code. The basis for the classification was the Mineral Resources classification and Net Value cut-off grade. The ex-pit material classified as Measured and Indicated Mineral Resources, has a cut-off value calculated using a Net Value Script (NVS). It is demonstrated to be economic to process and is classified as Proved and Probable Ore Reserves respectively.			
	•	Existing stockpile material at Kinsevere is classified as Indicated. Indicated Mineral Resources above 1.0% Cu for Primary and 0.9% Cu for TMO/Oxide material, is demonstrated to be economic to process, and is classified as Probable Ore Reserves. The Resource confidence level of the Cobalt grade in the existing stockpiles is of an unclassified status and has therefore not been included in the Reserve estimate.			
	•	The Ore Reserves do not include any Inferred Mineral Resources (metal).			
Audit or Reviews	 An external audit was completed in 2020 on the 2020 feasibility study. The work was carried Consultants and subsequently by Nerin Institute of Technical Design. Whilst some minor impressing suggested, no material issues were identified. 				
	•	The next external Ore Reserves audit is planned for completion in 2022 on the 2021 Ore Reserves.			
Discussion of relative accuracy/ confidence	•	The most significant factors affecting confidence in the Ore Reserves are:			
		 Mining Dilution and Ore Loss. 			
		 Existence of Karst features, with respect to perched water and impacts to mining Dilution and Ore Loss. 			
		 Increase in operating costs for mining and processing. 			
		 Cobalt process recovery for TMO/Oxide material, which has been revised following further testwork to 30% cobalt flotation recovery, 35% cobalt leach extraction for 65% total extraction (was 75% total). 			
		 Cobalt process extraction in leach with SMBS prior to commissioning the sulphide project was revised to 55% for ASCu/TCu > 0.65 (was 70%). 			
		 Geotechnical risk related to slope stability. 			
		 Effective management of both ground and surface water. 			

1.2.3 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 6.

In compiling the Ore Reserves the Competent Person has reviewed the supplied information for reasonableness but has relied on this advice and information to be correct.

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Samson Malenga, Superintendent Geology	Mineral Resources model
and Survey, MMG Ltd (Kinsevere)	Stockpile Tonnes and Grade
Dr. Kevin Rees, Principal Metallurgist Mining One Consultants (Melbourne)	Metallurgy
Jeff Price, Principal Geotechnical Engineering, MMG Ltd (Melbourne)	Geotechnical parameters
Dean Basile, Principal Mining Engineer, Mining One Consultants (Melbourne)	Mining costs, pit designs, mine and mill schedules, Ore Reserves estimate
Kinsevere Geology department	Production reconciliation
Knight Piésold	Tailings dam design & Capactiy
Ada Fang, Senior Analyst, Business Evaluation, MMG Ltd	Economic Assumptions and evaluation
Hugues Munung, Environment and Social Performance, MMG Ltd (Kinsevere)	Environment & Social
Hong Yu, Head of Marketing, MMG Ltd (Beijing)	Marketing

Table 6 Contributing experts – Kinsevere Mine Ore Reserves

MMG | 2021 June Mineral Resources and Ore Reserves Statement - Appendix

1.2.4 Statement of Compliance with JORC Code Reporting Criteria and Consent to Release

This Ore Reserve statement has been compiled in accordance with the guidelines defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2012 JORC Code").

1.2.4.1 **Competent Person Statement**

I, Dean Basile, confirm that I am the Competent Person for the Kinsevere Ore Reserves section of this Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting . of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having five years' experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member of The Australasian Institute of Mining and Metallurgy
- I have reviewed the relevant Kinsevere Ore Reserves section of this Report to which this Consent Statement applies.

I am a full time employee of Mining One Pty Ltd.

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Kinsevere Ore Reserves section of this Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to the Kinsevere Ore Reserves.

1.2.4.2 **Competent Person Consent**

Pursuant to the requirements Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

With respect to the sections of this report for which I am responsible - the Kinsevere Ore Reserves - I consent to the release of the updated Mineral Resources and Ore Reserves Statement as at 30 June 2021 Executive Summary and Technical Appendix Report and this Consent Statement by the directors of MMG Limited:

This signature was scanned for the exclusive use in this document?) the MMG Mineral Resource and Ore Reserve fiftement as at 30 June 2021 – with the author's approval. Any other use is not authorised.

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author's approval. Any other use is not authorised.

ent as at 30 June 2021 – with the

Dean Basile MAusIMM(CP) (#301633)

this

01/03/2022

Date[.]

Davron Lu Melbourne, VIC

01/03/2022

Witness Name and Residence: (e.g. town/suburb)