Mineral Resources and Ore Reserves

Executive Summary

Mineral Resources and Ore Reserves for MMG have been estimated as at 30 June 2023 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 8 to 14, which include the 30 June 2022 and 30 June 2023 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 15.

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.

Key changes to the Mineral Resources (contained metal) since the 30 June 2022 estimate relate to depletion[1] at all sites together with increased costs, increased metal price assumptions, cut-off grade increase and updates to the models at all sites. Cost increases are the primary driver across the business. At Las Bambas, cost increases account for 1,475kt of copper metal removed from the Mineral Resources. Results from drilling in Ferrobamba pit have led to further reductions of about 380kt of copper metal. Increased metal price assumptions have only partially offset the reductions. At Dugald River, updated estimates have added around 280kt of lead metal. Rosebery has almost replaced milled depletion on a zinc equivalent basis despite upward cost pressures with drilling success in Z and U lenses. Mining depletion has reduced the cobalt metal by around 30% at Kinsevere, while the Mwepu Resource has increased 70% for copper.

Key changes to the Ore Reserves (contained metal) since the 30 June 2022 estimate are mostly related to depletion[1]. At Rosebery, all metal has reduced by around 20% which is proportionate to mine life. Dugald River milled depletion has almost been replenished by Resource to Reserve conversion. Las Bambas is mostly impacted by changes to the model through drilling in Ferrobamba pit and costs partially offset by metal price assumptions.

Following a favourable preliminary ruling by the International Chamber of Commerce in a preliminary arbitration proceeding filed in Q4 2022, and engagement with La Générale des Carrières et des Mines S.A. (Gécamines) and local authorities, the armed forces and third parties present on the Sokoroshe II and Nambulwa leases, left the sites in late 2022. MMG re-established control of both sites shortly afterwards.

MMG is continuing to engage with Gécamines to resolve outstanding matters and conclude the legal processes and to complete the renewal of the Kinsevere, Nambulwa and Sokoroshe II permits for a further 15 years. MMG wishes to work with Gécamines to ensure a strong future for the Kinsevere asset, as well as maintaining its long-standing relationship.

Pages 16 and 17 provide further discussion of the Mineral Resources and Ore Reserves changes.

---

1 Depletion in this report refers to material processed by the mill and depleted from the Mineral Resources and Ore Reserves through mining and processing.

Mineral Resources and Ore Reserves
Continued

Mineral Resources[1]

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

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Las Bambas (62.5%)																
Ferrobamba Oxide Copper																
Indicated	0.02	1.3							0.03	1.7						
Inferred																
Total	**0.02**	**1.3**							**0.03**	**1.7**						
Ferrobamba Primary Copper																
Measured	380	0.59			2.6	0.05	220		470	0.56			2.3	0.04	210	
Indicated	220	0.66			3.2	0.06	180		270	0.70			3.3	0.06	180	
Inferred	39	0.80			2.8	0.07	190		110	0.84			4.2	0.08	170	
Total	**640**	**0.63**			**2.8**	**0.05**	**200**		**850**	**0.64**			**2.9**	**0.05**	**190**	
Ferrobamba Total	**640**								**850**							
Chalcobamba Oxide Copper																
Indicated	6.2	1.4							6.8	1.4						
Inferred	0.53	1.2							0.1	1.5						
Total	**6.7**	**1.4**							**6.9**	**1.4**						
Chalcobamba Primary Copper																
Measured	150	0.51			1.5	0.02	120		140	0.54			1.7	0.02	140	
Indicated	190	0.60			2.2	0.03	120		180	0.64			2.5	0.03	110	
Inferred	43	0.47			1.9	0.02	100		29	0.56			2.4	0.03	130	
Total	**380**	**0.55**			**1.9**	**0.02**	**120**		**340**	**0.60**			**2.1**	**0.03**	**120**	
Chalcobamba Total	**387**								**347**							
Sulfobamba Primary Copper																
Indicated	93	0.62			4.4	0.02	140		84	0.67			4.7	0.02	170	
Inferred	110	0.54			6.0	0.02	64		98	0.58			6.5	0.02	120	
Total	**210**	**0.58**			**5.2**	**0.02**	**98**		**180**	**0.62**			**5.7**	**0.02**	**140**	
Sulfobamba Total	**210**	**0.58**			**5.2**	**0.02**	**98**		**180**	**0.62**			**5.7**	**0.02**	**140**	
Oxide Copper Stockpile																
Indicated	14	1.1							14	1.1						
Total	**14**	**1.1**							**14**	**1.1**						
Sulphide Stockpile																
Measured	25	0.36			2.2		110		30	0.38			2.2		130	
Total	**25**	**0.36**			**2.2**		**110**		**30**	**0.38**			**2.2**		**130**	
Las Bambas Total	**1,300**								**1,400**							

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

Mineral Resources and Ore Reserves
Continued

Mineral Resources[1]

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Kinsevere (100%)																
Oxide Copper																
Measured	1.4	2.7						0.09	2.6	2.9						0.08
Indicated	4.3	2.5						0.10	4.4	2.6						0.12
Inferred	2.2	2.0						0.08	2.0	2.0						0.09
Total	**8.0**	**2.4**						**0.09**	**9.0**	**2.6**						**0.10**
Transition Mixed Copper Ore																
Measured	0.7	2.0						0.11	1.0	2.2						0.16
Indicated	2.1	2.0						0.11	2.5	2.0						0.12
Inferred	1.0	1.6						0.09	1.3	1.7						0.08
Total	**3.8**	**1.9**						**0.10**	**4.8**	**1.9**						**0.12**
Primary Copper																
Measured	1.2	2.0						0.17	2.2	2.5						0.23
Indicated	17	2.3						0.09	18	2.2						0.10
Inferred	8	1.7						0.06	10.0	1.6						0.07
Total	**26**	**2.1**						**0.09**	**31**	**2.1**						**0.10**
Oxide-TMO Cobalt																
Measured																
Indicated	0.31	0.24						0.30	0.70	0.21						0.32
Inferred	0.40	0.16						0.31	0.73	0.16						0.33
Total	**0.7**	**0.20**						**0.31**	**1.4**	**0.2**						**0.32**
Primary Cobalt																
Measured																
Indicated	0.06	0.53						0.30	0.17	0.31						0.20
Inferred	0.10	0.29						0.30	0.24	0.26						0.22
Total	**0.16**	**0.38**						**0.30**	**0.41**	**0.28**						**0.21**
Stockpiles																
Measured																
Indicated	18	1.6							14	1.5						
Total	**18**	**1.6**							**14**	**1.5**						
Kinsevere Total	**56**	**1.9**							**61**	**1.9**						

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

Mineral Resources and Ore Reserves
Continued

Mineral Resources[1]

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Sokoroshe 2 (100%)																
Oxide Copper																
Measured																
Indicated	2.7	2.1						0.39	2.8	2.1						0.39
Inferred	0.17	1.1						0.10	0.16	1.1						0.10
Total	**2.9**	**2.1**						**0.37**	**2.9**	**2.1**						**0.37**
Transition Mixed Copper Ore																
Measured																
Indicated	0.07	1.6						0.23	0.1	1.6						0.23
Inferred																
Total	**0.07**	**1.6**						**0.22**	**0.1**	**1.6**						**0.23**
Primary Copper																
Measured																
Indicated	0.62	1.5						0.48	0.62	1.50						0.47
Inferred																
Total	**0.62**	**1.5**						**0.47**	**0.62**	**1.5**						**0.47**
Oxide Cobalt																
Measured																
Indicated	0.64	0.24						0.52	0.63	0.24						0.51
Inferred	0.31	0.37						0.31	0.31	0.35						0.31
Total	**0.95**	**0.28**						**0.45**	**0.93**	**0.27**						**0.45**
Primary Cobalt																
Measured																
Indicated	0.05	0.54						0.65	0.05	0.53						0.64
Inferred																
Total	**0.05**	**0.54**						**0.65**	**0.05**	**0.53**						**0.64**
Sokoroshe 2 Total	**4.6**	**1.6**						**0.40**	**4.6**	**1.6**						**0.40**
Nambulwa (100%)																
Oxide Copper																
Measured																
Indicated	1.2	2.2						0.11	1.1	2.2						0.11
Inferred	0.12	1.7						0.07	0.10	1.9						0.07
Total	**1.3**	**2.1**						**0.11**	**1.2**	**2.1**						**0.11**
Transition Mixed Copper Ore																
Measured																
Indicated																
Inferred																
Total																
Oxide-TMO Cobalt																
Measured																
Indicated	0.21	0.14						0.27	0.17	0.14						0.27
Inferred																
Total	**0.21**	**0.14**						**0.27**	**0.2**	**0.14**						**0.27**
Nambulwa Total	**1.5**	**1.9**						**0.13**	**1.4**	**1.9**						**0.13**

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

Mineral Resources and Ore Reserves
Continued

Mineral Resources[1]

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
DZ (100%)																
Oxide Copper																
Measured																
Indicated	1.0	1.8						0.12	0.94	1.8						0.13
Inferred	0.05	1.9						0.11	0.04	1.9						0.12
Total	**1.1**	**1.8**						**0.12**	**0.98**	**1.8**						**0.13**
Oxide-TMO Cobalt																
Measured																
Indicated	0.34	0.2						0.27	0.33	0.22						0.27
Inferred	0.01	0.13						0.25	0.01	0.14						0.25
Total	**0.35**	**0.22**						**0.27**	**0.33**	**0.22**						**0.27**
DZ Total	**1.4**	**1.4**						**0.16**	**1.3**	**1.4**						**0.16**
Mwepu (100%)																
Oxide Copper																
Measured	0.37	2.0						0.15								
Indicated	1.5	2.6						0.14	0.75	2.5						0.17
Inferred	0.38	2.3						0.02	0.45	2.7						0.29
Total	**2.3**	**2.4**						**0.12**	**1.2**	**2.6**						**0.22**
TMO Copper																
Measured	0.05	1.3						0.13								
Indicated	0.25	1.5						0.17	0.20	1.3						0.18
Inferred	0.10	1.9						0.03	0.18	1.4						0.22
Total	**0.40**	**1.6**						**0.13**	**0.4**	**1.3**						**0.20**
Oxide-TMO Cobalt																
Measured																
Indicated	0.08	0.6						0.40	0.04	0.71						0.45
Inferred																
Total	**0.08**	**0.6**						**0.40**	**0.09**	**0.69**						**0.45**
Primary Cobalt																
Measured																
Indicated	0.12	0.32						0.44	0.07	0.25						0.31
Inferred																
Total	**0.12**	**0.31**						**0.44**	**0.27**	**0.26**						**0.39**
Mwepu Total	**2.9**	**2.2**						**0.15**	**2.0**	**1.9**						**0.25**

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

Mineral Resources and Ore Reserves
Continued

Mineral Resources[1]

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Dugald River (100%)																
Primary Zinc																
Measured	16		12.8	1.9	58				12		13.5	2.2	71			
Indicated	13		11.3	1.4	16				15		12.0	0.9	16			
Inferred	28		11.3	1.4	5.8				33		11.3	0.8	8			
Total	**57**		**11.7**	**1.6**	**23**				**61**		**11.9**	**1.1**	**23**			
Primary Copper																
Inferred	4.8	1.6				0.2			4.5	1.5				0.1		
Total	**4.8**	**1.6**				**0.2**			**4.5**	**1.5**				**0.1**		
Dugald River Total	**62**								**65**							
Rosebery (100%)																
Rosebery																
Measured	7.4	0.22	7.6	2.8	120	1.3			7.3	0.20	7.4	2.7	118	1.2		
Indicated	4.7	0.21	7.1	2.0	83	1.2			4.6	0.18	6.9	1.9	75	1.1		
Inferred	6.5	0.19	7.5	2.3	85	1.1			7.9	0.19	7.0	2.1	77	1.1		
Total	**19**	**0.21**	**7.4**	**2.4**	**99**	**1.2**			**20**	**0.19**	**7.1**	**2.3**	**92**	**1.1**		
Rosebery Total	**19**								**20**							
High Lake (100%)																
Measured																
Indicated	7.9	3.0	3.5	0.3	83	1.3			7.9	3.0	3.5	0.3	83	1.3		
Inferred	6.0	1.8	4.3	0.4	84	1.3			6.0	1.8	4.3	0.4	84	1.3		
Total	**14**	**2.5**	**3.8**	**0.4**	**84**	**1.3**			**14**	**2.5**	**3.8**	**0.4**	**84**	**1.3**		
Izok Lake (100%)																
Measured																
Indicated	13	2.4	13.3	1.4	73	0.18			13	2.4	13.3	1.4	73	0.18		
Inferred	1.2	1.5	10.5	1.3	73	0.21			1.2	1.5	10.5	1.3	73	0.21		
Total	**15**	**2.3**	**13.1**	**1.4**	**73**	**0.18**			**15**	**2.3**	**13.1**	**1.4**	**73**	**0.18**		

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

Mineral Resources and Ore Reserves
Continued

Ore Reserves[1]

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

Deposit	2023 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	2022 Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Las Bambas (62.5%)																
Ferrobamba Primary Copper																
Proved	310	0.63			3.0	0.05	220		340	0.65			2.9	0.05	200	
Probable	130	0.73			3.9	0.07	190		130	0.91			4.6	0.08	180	
Total	**440**	**0.66**			**3.3**	**0.06**	**210**		**470**	**0.72**			**3.4**	**0.06**	**200**	
Chalcobamba Primary Copper																
Proved	96	0.62			2.0	0.03	120		100	0.65			2.1	0.03	130	
Probable	130	0.68			2.7	0.03	110		130	0.71			2.7	0.03	110	
Total	**220**	**0.66**			**2.4**	**0.03**	**120**		**230**	**0.68**			**2.4**	**0.03**	**120**	
Sulfobamba Primary Copper																
Proved																
Probable	57	0.77			5.8	0.03	159		54	0.80			5.9	0.03	160	
Total	**57**	**0.77**			**5.8**	**0.03**	**159**		**54**	**0.80**			**5.9**	**0.03**	**160**	
Primary Copper Stockpiles																
Proved	25	0.36			2.2		110		30	0.38			2.2		130	
Total	**25**	**0.36**			**2.2**		**110**		**30**	**0.38**			**2.2**		**130**	
Las Bambas Total	**740**	**0.66**			**3.2**		**170**		**780**	**0.70**			**3.2**		**170**	
Kinsevere (100%)																
Oxide/TMO Copper and Cobalt																
Proved	0.9	2.5						0.11	3.0	2.5						0.12
Probable	3.2	2.3						0.11	5.7	2.2						0.12
Total	**4.1**	**2.3**						**0.11**	**8.6**	**2.3**						**0.12**
Primary Copper and Cobalt																
Proved	1.2	2.0						0.17	1.9	2.3						0.21
Probable	15	2.3						0.09	16	2.2						0.10
Total	**16**	**2.2**						**0.10**	**18**	**2.2**						**0.11**
Stockpiles																
Proved																
Probable	18	1.6							14	1.5						
Total	**18**	**1.6**							**14**	**1.5**						
Kinsevere Total	**38**	**2.0**							**40**	**2.0**						
Sokoroshe 2 (100%)																
Oxide Copper and Cobalt																
Proved																
Probable	2.5	1.9						0.42								
Total	**2.5**	**1.9**						**0.42**								
Primary Copper and Cobalt																
Proved																
Probable	0.1	0.95						0.65								
Total	**0.1**	**0.95**						**0.65**								
Sokoroshe Total	**2.5**	**1.9**						**0.43**								

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

Mineral Resources and Ore Reserves
Continued

Ore Reserves[1]

Deposit	2023								2022							
	Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)	Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Co (%)
Dugald River (100%)																
Primary Zinc																
Proved	12		11.3	1.9	57				12		10.9	1.9	62			
Probable	8		10.0	1.4	14				10		10.1	0.9	14			
Total	**20**		**10.8**	**1.7**	**40**				**22**		**10.5**	**1.4**	**39**			
Dugald River Total	**20**		**10.8**	**1.7**	**40**				**22**		**10.5**	**1.4**	**39**			
Rosebery (100%)																
Proved	3.9	0.20	6.5	2.7	110	1.2			4.8	0.19	6.7	2.7	120	1.2		
Probable	0.63	0.18	5.6	2.2	82	1.2			0.77	0.20	6.1	2.1	79	1.3		
Total	**4.5**	**0.20**	**6.4**	**2.6**	**110**	**1.2**			**5.5**	**0.19**	**6.6**	**2.6**	**110**	**1.2**		
Rosebery Total	**4.5**	**0.20**	**6.4**	**2.6**	**110**	**1.2**			**5.5**	**0.19**	**6.6**	**2.6**	**110**	**1.2**		

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

Mineral Resources and Ore Reserves
Continued

Competent Persons

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

Deposit	Accountability	Competent Person	Professional Membership	Employer
MMG Mineral Resources and Ore Reserves Committee	Mineral Resources	Rex Berthelsen[1]	HonFAusIMM (CP Geo)	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	Andrew Goulsbra[1]	MAusIMM	MMG
Las Bambas	Mineral Resources	Hugo Rios	MAusIMM (CP Geo)	MMG
Las Bambas	Ore Reserves	Xiaolin Wu[1]	SME RM[4]	MMG
Kinsevere	Mineral Resources	Jeremy Witley[2]	Pr.Sci.Nat.	The MSA Group (Pty) Ltd
Kinsevere	Ore Reserves	Dean Basile	MAusIMM (CP Min)	Mining One Pty Ltd
Rosebery	Mineral Resources	Maree Angus	MAusIMM (CP Geo), MAIG	ERM Australia Consultants Pty Ltd
Rosebery	Ore Reserves	Andrew Robertson	FAusIMM	MMG
Dugald River	Mineral Resources	Maree Angus	MAusIMM (CP Geo), MAIG	ERM Australia Consultants Pty Ltd
Dugald River	Ore Reserves	Peter Willcox	MAusIMM (CP Min), RPEQ	MMG
High Lake, Izok Lake	Mineral Resources	Allan Armitage[3]	MAPEG (P.Geo)	Formerly MMG

1   Participates 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

3   Member of the Association of Professional Engineers and Geoscientists of British Columbia

4   Registered Member of the Society for Mining, Metallurgy and Exploration

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.

Mineral Resources and Ore Reserves
Continued

Summary of significant changes

Mineral Resources

Mineral Resources as at 30 June 2023 have changed, since the 30 June 2022 estimate, for several reasons with the most significant changes outlined in this section.

Mineral Resources (contained metal) have decreased globally for copper (-13%), cobalt (-18%), molybdenum (-15%) and gold (-12%). Zinc (-5%) and silver (-7%) have also decreased from 2022 while lead has increased (17%). Variations to Mineral Resources (contained metal) on an individual site basis are discussed below:

Increases:

The increases in Mineral Resources (contained metal) are due to:

- continuous improvement in ore body modelling, specifically at Dugald River where improved lead modelling has resulted in a 35% increase or an additional 264kt Pb metal in estimated metal content after depletion;
- increased metal price assumptions have partially offset the impact of cost increases and milling depletions;
- drilling in 2022 at Rosebery resulted in approximately 90kt ZnEQ to be added which has offset the 83kt ZnEQ depleted by milling. Impact from increases in metal price assumptions has been negated by increased costs at the operation; and
- drilling in 2022 at Mwepu which resulted in a 70% increase of copper.

Decreases:

The decreases in Mineral Resources (contained metal) are due to:

- milled depletion at all producing operations;
- cost increases account for most of the decreased copper Mineral Resource at Las Bambas Drilling and remodelling at Las Bambas equating to approximately 1,260kt Cu metal. At Ferrobamba approximately 300kt of copper metal was removed resulting from new drilling information in Phase 3 and Phase 5 of the open pit;
- increased costs and cut-off grades at Kinsevere have resulted in removing 46kt Cu in addition to 32kt Cu of milled depletion and 13kt Cu from drilling and an updated estimate;
- zinc has decreased at Dugald River by 394kt Zn after depletion. Reclassification of some Inferred material, new drilling data and increased costs and cut-off grade have resulted in reductions of 297kt Zn, 118kt Zn and 69kt Zn respectively. These are partially offset by increases due to improved density estimation and effects of metal price assumptions; and
- removal of a further 12kt Cu from Sulfobamba deposit at Las Bambas due to illegal mining over the last 12 months taking the total estimated depletion due to illegal mining to 62kt Cu.

Mineral Resources and Ore Reserves
Continued

Ore Reserves

Ore Reserves as at 30 June (contained metal) have decreased for copper (-9%), zinc (-7%), lead (-0.5%), silver (-8%), gold (-13%), molybdenum (-2%) but have increased for cobalt (7%).

Variations to Ore Reserves (contained metal) on an individual site basis are discussed below:

Increases:

Increases in Ore Reserves (metal) as stated above are due to:

- the inclusion of Sokoroshe II copper and cobalt deposit for the first time resulting in a global increase of cobalt Ore Reserves.
- improvements in geological modelling at Dugald River have resulted in increased estimates of lead across the deposit.

Decreases:

Decreases in Ore Reserves (metal) as stated above are due to:

- milling and mining depletion at all producing operations;
- reductions of copper, molybdenum, gold and silver at Las Bambas are due to cost increases and new drilling in Ferrobamba. Increased metal price assumptions have partially offset the impact;
- all metals at Rosebery (zinc, lead, silver, copper and gold) have reduced largely due to costs and subsequent cut-off grade increases. Negative drill results also resulted in reduction of K lens from the estimate; and
- minor reductions in zinc and silver metal at Dugald River are indictive of Resource to Reserve conversion, almost offsetting milling depleting and impacts due to increased cost assumptions and cut-off grades over the 12-month period.

Key assumptions

Prices and Exchange Rates

The following price and foreign exchange assumptions, set according to the relevant MMG Standard as at February 2023, have been applied to all Mineral Resources and Ore Reserves estimates. Price assumptions for all metals have changed from the 2022 Mineral Resources and Ore Reserves statement.

Table 2 - 2023 Price (real) and foreign exchange assumptions

	Ore Reserves	Mineral Resources
Cu (US$/lb)	3.92	4.71
Zn (US$/lb)	1.27	1.53
Pb (US$/lb)	0.91	1.10
Au US$/oz	1,575	1,890
Ag US$/oz	20.83	25.00
Mo (US$/lb)	11.19	13.43
Co (US$/lb)	23.37	32.72
USD:CAD	1.25	
AUD:USD	0.75	As per Ore Reserves
USD:PEN	3.80	

Mineral Resources and Ore Reserves
Continued

Cut-Off Grades

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

Table 3 – Mineral Resources cut-off grades

Site	Mineralisation	Likely Mining Method[1]	Cut-Off Value	Comments
Las Bambas	Oxide copper	OP	1% Cu	Cut-off is applied as a range that varies for each deposit and mineralised rock type at Las Bambas. In-situ copper Mineral Resources constrained within US$4.71/lb Cu and US$13.43/lb Mo pit shell.
	Primary copper Ferrobamba		0.15% Cu (average)	
	Primary copper Chalcobamba		0.17% Cu (average)	
	Primary copper Sulfobamba		0.19% Cu (average)	
Kinsevere	Oxide copper & stockpiles	OP	0.5% CuAS[2]	*In-situ* copper Mineral Resources constrained within a US$4.71/lb Cu and US$32.72/lb Co pit shell.
	Transition mixed ore copper (TMO)	OP	0.7% Cu	
	Primary copper	OP	0.7% Cu	
	Oxide TMO Cobalt	OP	0.2% Co	*In-situ* cobalt Mineral Resources constrained within a US$4.71/lb Cu and US$32.72/lb Co pit shell, but exclusive of copper mineralisation.
	Primary cobalt	OP	0.2% Co	
Sokoroshe 2	Oxide	OP	0.6% CuAS[2]	*In-situ* copper Mineral Resources constrained within a US$4.71/lb Cu and US$32.72/lb Co pit shell.
	TMO Copper	OP	0.8% Cu	
	Primary copper	OP	0.8% Cu[2]	
	Oxide TMO cobalt	OP	0.2% Co	*In-situ* cobalt Mineral Resources constrained within a US$4.71/lb Cu and US$32.72/lb Co pit shell, but exclusive of copper mineralisation above cut off.
	Primary cobalt	OP	0.2% Co	
Nambulwa / DZ	Oxide copper	OP	0.6% CuAS[2]	In-situ copper Mineral Resources constrained within a US$4.71/lb Cu and US$32.72/lb Co pit shell.
	TMO copper	OP	0.9% Cu	
	Primary copper	OP	0.8% Cu	
	Oxide TMO cobalt	OP	0.2 Co	*In-situ* cobalt Mineral Resources constrained within a US$4.71/lb Cu and US$32.71/lb Co pit shell, but exclusive of copper mineralisation.
	Primary cobalt	OP	0.2 Cu	
Mwepu	Oxide copper	OP	0.7% CuAS[2]	*In-situ* copper Mineral Resources constrained within a US$4.71/lb Cu and US$32.71/lb Co pit shell.
	TMO copper	OP	1.0% Cu	
	Primary copper	OP	1.0% Cu	
	Oxide TMO cobalt	OP	0.3% Co	*In-situ* cobalt Mineral Resources constrained within a US$4.71/lb Cu and US$32.71/lb Co pit shell, but exclusive of copper mineralisation.
	Primary cobalt	OP	0.3% Co	
Rosebery	Rosebery (Zn, Cu, Pb, Au, Ag)	UG	A$177/t NSR[3]	All areas of the mine are reported using the same NSR cut-off value.
Dugald River	Primary zinc (Zn, Pb, Ag)	UG	A$161/t NSR[3]	All areas of the mine are reported using the same NSR cut-off value.
	Primary copper	UG	1% Cu	All areas of the mine are reported at the same cut-off grade
High Lake	Cu, Zn, Pb, Ag, Au	OP	2.0% CuEq[4]	CuEq4 = Cu + (Zn×0.30) + (Pb×0.33) + (Au×0.56) + (Ag×0.01): based on Long-Term prices and metal recoveries at Au:75%, Ag:83%, Cu:89%, Pb:81% and Zn:93%.
	Cu, Zn, Pb, Ag, Au	UG	4.0% CuEq[4]	CuEq4 = Cu + (Zn×0.30) + (Pb×0.33) + (Au×0.56) + (Ag×0.01): based on Long-Term prices and metal recoveries at Au:75%, Ag:83%, Cu:89%, Pb:81% and Zn:93%.
Izok Lake	Cu, Zn, Pb, Ag, Au	OP	4.0% ZnEq[5]	ZnEq1 = Zn + (Cu×3.31) + (Pb×1.09) + (Au×1.87) + (Ag×0.033); prices and metal recoveries as per High Lake.

1 OP = Open Pit, UG = Underground
2 CuAS = Acid Soluble copper
3 NSR = Net Smelter Return
4 CuEq = Copper Equivalent
5 ZnEq = Zinc Equivalent

Mineral Resources and Ore Reserves
Continued

Table 4 – Ore Reserves cut-off grades

Site	Mineralisation	Mining Method	Cut-Off Value	Comments
Las Bambas	Primary copper Ferrobamba	OP	0.18% Cu (average)	Range based on rock type recovery.
	Primary copper Chalcobamba		0.21% Cu (average)	
	Primary copper Sulfobamba		0.23% Cu (average)	
Kinsevere	Oxide	OP	0.9% CuAS[1], 0.4% Co	Approximate cut-off grades shown in this table. Variable cut-off grade based on net value script. Copper cut-off assumes zero cobalt. Cobalt cut-off assumes zero copper. For Sokoroshe cut-offs calculated on an incremental cost basis to Kinsevere
	TMO	OP	1.0% Cu, 0.3% Co	
	Primary	OP	1.2% Cu, 0.4% Co	
Sokoroshe 2	Oxide	OP	0.75% CuAS[2], 0.35% Co	
Rosebery	(Zn, Cu, Pb, Au, Ag)	UG	A$177/t NSR[2]	
Dugald River	Primary zinc	UG	A$158/t NSR[3] (average)	

1 CuAS = Acid Soluble Copper

2 NSR = Net Smelter Return

3 Silver in Rosebery doré is calculated as a constant ratio to gold in the doré. Silver is set to 0.17 against gold being 20.7.

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							Concentrate Moisture Assumptions
		Cu	Zn	Pb	Ag	Au	Mo	Co	
Las Bambas	Copper Concentrate	86%	–	–	75%	71%			10%
	Molybdenum Concentrate						55.5%		5%
Rosebery	Zinc Concentrate		86%						7.8%
	Lead Concentrate		7%	77%	39%	16%			6%
	Copper Concentrate	59%			39%	37%			8.7%
	Doré[3] (gold and silver)				0.14	24%			
Dugald River	Zinc Concentrate	–	91%		32%	–			9.4%
	Lead Concentrate	–		63%	45%	–			9.3%
Kinsevere and satellites	Copper Cathode (Oxide)	86%							
	Copper Cathode (Sulphide)	83%							
	Cobalt Precipitate (Oxide)							60%	
	Cobalt Precipitate (Sulphide)							72%	

1 Silver in Rosebery doré is calculated as a constant ratio to gold in the doré. Silver is set to 0.17 against gold being 20.7.

The Technical Appendix published on the MMG website contains additional Mineral Resources and Ore Reserves information (including the JORC 2012 Table 1 disclosure).