

Hong Kong Exchanges and Clearing Limited and The Stock Exchange of Hong Kong Limited take no responsibility for the contents of this announcement, make no representation as to its accuracy or completeness and expressly disclaim any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this announcement.



MMG LIMITED

五礦資源有限公司

(Incorporated in Hong Kong with limited liability)

(HKEX STOCK CODE: 1208)

(ASX STOCK CODE: MMG)

MINERAL RESOURCES AND ORE RESERVES STATEMENT AS AT 30 JUNE 2019

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 report the Group's updated Mineral Resources and Ore Reserves Statement as at 30 June 2019 (Mineral Resources and Ore Reserves Statement).

The key changes to Mineral Resources and Ore Reserves Statement as at 30 June 2019 are:

- The Group's Mineral Resources (contained metal) have increased for zinc (4%) and decreased for copper (1%), lead (6%), silver (7%), gold (6%) and molybdenum (8%).
- The Group's Ore Reserves (contained metal) have increased for molybdenum (2%) and decreased for copper (7%), zinc (15%), lead (23%), silver (13%) and gold (9%).
- Cobalt has been reported for the first time in Mineral Resources and now includes 48kt cobalt from Kinsevere and 4kt from the regional deposits.

For copper metal, the main reasons for the changes are depletion, cost increases and pit design at Kinsevere which were partially offset by increased metal price. For zinc metal, the main reasons for the changes are depletion at all sites and changes in the mine design at Dugald River deposit.

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 7).



MMG Limited
MINERAL RESOURCES AND ORE RESERVES STATEMENT
30 June 2019

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 2019 published on 22 October 2019 and is available to view on www.mmg.com. 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
Gao Xiaoyu
CEO and Executive Director

Hong Kong, 22 October 2019

As at the date of this announcement, the Board comprises nine directors, of which two are executive directors, namely Mr Gao Xiaoyu and Mr Xu Jiqing; three are non-executive directors, namely Mr Guo Wenqing (Chairman), Mr Jiao Jian and Mr Zhang Shuqiang; and four are independent non-executive directors, namely Dr Peter William Cassidy, Mr Leung Cheuk Yan, Ms Jennifer Anne Seabrook and Professor Pei Ker Wei.

**MINERAL RESOURCES AND ORE RESERVES STATEMENT****30 June 2019****EXECUTIVE SUMMARY**

Mineral Resources and Ore Reserves for MMG have been estimated as at 30 June 2019 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 7, which include the 30 June 2019 and 30 June 2018 estimates for comparison. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources that convert 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 has 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 8.

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 2018 estimate have been mostly related to depletion¹ at all sites together with increased costs and changes to pit design at Kinsevere. An increase in metal price assumptions and decreases in cut-off grades (except Kinsevere) have partially offset these depletions. In the DRC, Mineral Resources have been declared for copper and cobalt at three new satellite oxide deposits. At Dugald River, a net increase has resulted from Mineral Resource extension in the hangingwall and footwall lenses which has replaced 2018 depletion.

Key changes to the Ore Reserves (contained metal) since the 30 June 2018 estimate have been mostly related to depletion. Ore loss and dilution greater than planned have been offset by gains from higher metal price assumptions. Decreases at Kinsevere are related to unplanned ore loss and dilution as well as to geotechnical challenges which have resulted in increased cut off grades and pit design changes. At Dugald River, changes to pillar design and mining sequence have resulted in lower Ore Reserves.

Las Bambas has been operating for 36 months since commercial production was declared on 1 July 2016. During this time the mine has experienced both positive and negative reconciliation factors compared to the Ore Reserve. Ore loss factors by material type have been increased for the 2019 Las Bambas Ore Reserve estimates (10% for mixed ores and 3%-5% for primary ore depending on the pit phase).

Pages 9 and 10 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.



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

MINERAL RESOURCES¹

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

Deposit	2019								2018							
	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 (%)
Las Bambas (62.5%)																
Ferrobamba Oxide																
Copper																
Indicated	2.1	1.7							3.0	1.7						
Inferred	1.3	1.8							1.1	1.9						
Total	3.4	1.7							4.1	1.7						
Ferrobamba Primary																
Copper																
Measured	553	0.56			2.4	0.05	202		546	0.60			2.7	0.05	1099	
Indicated	465	0.58			2.5	0.05	166		426	0.61			3.0	0.05	890	
Inferred	239	0.61			1.3	0.03	79		254	0.63			3.0	0.05	493	
Total	1,257	0.57			2.2	0.04	166		1,226	0.61			2.9	0.05	2483	
Ferrobamba									1,230							
Total	1,261															
Chalcobamba Oxide																
Copper																
Indicated	6.5	1.4							6.1	1.5						
Inferred	0.5	1.5							0.7	1.5						
Total	7.0	1.4							6.8	1.5						
Chalcobamba Primary																
Copper																
Measured	113	0.44			1.4	0.02	75		75	0.44			1.4	0.02	189	
Indicated	174	0.63			2.4	0.03	179		179	0.67			2.5	0.03	353	
Inferred	38	0.51			1.8	0.02	33		33	0.54			1.9	0.03	70	
Total	325	0.55			2.0	0.02	287		287	0.60			2.2	0.03	612	
Chalcobamba									293							
Total	332															
Sulfobamba Primary																
Copper																
Indicated	98	0.61			4.3	0.02	89		89	0.65			4.6	0.02	187	
Inferred	133	0.50			5.2	0.02	106		106	0.56			6.3	0.02	238	
Total	230	0.55			4.8	0.02	194		194	0.60			5.5	0.02	425	
Sulfobamba									194							
Total	230															
Oxide																
Copper																
Stockpile																
Indicated	11.4	1.2							9.9	1.2						
Total	11.4	1.2							9.9	1.2						
Sulphide Stockpile																
Measured	9.0	0.46							2.3	0.41						
Total	9.0	0.46							2.3	0.41						
Las Bambas									1,730							
Total	1,844															

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 STATEMENT

30 June 2019

MINERAL RESOURCES – DRC¹

Deposit	2019								2018							
	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 (%)
Kinsevere (100%)																
Oxide Copper																
Measured	1.4	4.2						0.17	2.0	4.3						
Indicated	7.2	3.3						0.08	9.7	3.1						
Inferred	0.9	2.4						0.09	1.8	2.4						
Total	9.5	3.3						0.10	13.6	3.2						
Transition Mixed Copper Ore																
Measured	0.5	2.5						0.21	1.3	2.9						
Indicated	2.0	2.0						0.14	3.4	2.0						
Inferred	0.3	1.9						0.09	0.4	1.9						
Total	2.8	2.1						0.15	5.2	2.3						
Primary Copper																
Measured	1.2	2.8						0.28	6.1	2.7						
Indicated	19.5	2.3						0.13	15.8	2.1						
Inferred	2.4	1.9						0.12	2.0	1.7						
Total	23.2	2.3						0.14	24.0	2.2						
Oxide-TMO Cobalt																
Measured	0.03							0.61								
Indicated	0.3							0.59								
Inferred	0.1							0.56								
Total	0.4							0.58								
Primary Cobalt																
Measured	0.01							0.33								
Indicated	0.2							0.31								
Inferred	0.1							0.29								
Total	0.3							0.30								
Stockpiles																
Measured																
Indicated	12.9	1.8							10.2	2.2						
Total	12.9	1.8							10.2	2.2						
Kinsevere																
Total	49.2								52.9							
Sokoroshe II (100%)																
Oxide Copper																
Measured																
Indicated	0.8	3.5						0.28								
Inferred	0.1	1.9						0.11								
Total	0.9	3.3						0.26								
Nambulwa (100%)																
Oxide Copper																
Measured																
Indicated																
Inferred	0.9	2.3						0.11								
Total	0.9	2.3						0.11								
DZ (100%)																
Oxide Copper																
Measured																
Indicated																
Inferred	0.5	1.9						0.16								
Total	0.5	1.9						0.16								



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

MINERAL RESOURCES¹

Deposit	2019								2018							
	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																
Measured	12.9		13.1	2.3	69				8.9		12.9	2.3	72			
Indicated	20.9		12.3	1.6	23				24.3		12.6	2.0	30			
Inferred	25.5		11.7	1.2	7				23.5		12.1	1.5	8			
Total	59.3		12.2	1.6	26				56.7		12.4	1.8	27			
Primary Copper																
Inferred	8.7	1.6				0.2			6.6	1.5				0.2		
Total	8.7	1.6				0.2			6.6	1.5				0.2		
Dugald River Total	68.0								63.3							
Rosebery (100%)																
Primary Sulphides																
Measured	6.1	0.20	8.3	2.9	109	1.3			6.4	0.21	8.6	2.9	113	1.3		
Indicated	3.1	0.18	7.0	2.4	92	1.3			5.6	0.23	7.6	2.4	91	1.2		
Inferred	7.3	0.33	8.9	3.1	100	1.5			6.0	0.28	7.4	2.8	89	1.4		
Total	16.6	0.26	8.3	2.9	102	1.4			18.1	0.24	7.9	2.7	98	1.3		
Rosebery Total	16.6								18.1							
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	14.0	2.5	3.8	0.4	84	1.3			14.0	2.5	3.8	0.4	84	1.3		
Izok Lake (100%)																
Measured																
Indicated	13.5	2.4	13	1.4	73	0.18			13.5	2.4	13.3	1.4	73	0.18		
Inferred	1.2	1.5	11	1.3	73	0.21			1.2	1.5	10.5	1.3	73	0.21		
Total	14.6	2.3	13	1.4	73	0.18			14.6	2.3	13.1	1.4	73	0.18		



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

ORE RESERVES¹

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

Reserves														
Deposit	2019							2018						
	Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)	Tonnes (Mt)	Cu (%)	Zn (%)	Pb (%)	Ag (g/t)	Au (g/t)	Mo (ppm)
Las Bambas (62.5%)														
Ferrobamba Primary Copper														
Proved	487	0.59			2.5	0.05	205	504	0.62			3	0.05	197
Probable	295	0.65			2.9	0.06	172	287	0.68			4	0.07	179
Total	783	0.61			2.7	0.05	192	791	0.64			3	0.06	191
Chalcobamba Primary Copper														
Proved	73	0.52			1.7	0.02	161	56	0.54			1.8	0.02	144
Probable	122	0.71			2.7	0.03	128	139	0.72			2.7	0.03	135
Total	195	0.64			2.4	0.03	141	195	0.67			2.5	0.03	137
Sulfobamba Primary Copper														
Proved														
Probable	69	0.73			5.2	0.03	164	59	0.81			5.9	0.03	161
Total	69	0.73			5.2	0.03	164	59	0.81			5.9	0.03	161
Primary Copper Stockpiles														
Proved	9.0	0.46			2.3		151	2.30	0.41			1.7		158
Total	9.0	0.46			2.3		151	2.30	0.41			1.7		158
Las Bambas Total	1,056							1,048						
Kinsevere (100%)														
Oxide Copper														
Proved	1.0	4.2						1.9	4.4					
Probable	4.3	3.2						6.1	3.7					
Total	5.3	3.4						8.0	3.8					
Stockpiles														
Proved														
Probable	6.6	1.9						7.7	2.3					
Total	6.6	1.9						7.7	2.3					
Kinsevere Total	11.9							15.7						
Dugald River (100%)														
Primary Zinc														
Proved	11.8		10.9	2.0	57			6.9		11.5	2.1	65		
Probable	14.1		11.1	1.5	18			21.7		11.7	2.0	30		
Total	25.9		11.0	1.7	36			28.6		11.7	2.0	38		
Dugald River Total	25.9							28.6						
Rosebery (100%)														
Proved	3.6	0.20	7.4	2.7	107	1.3		3.7	0.21	8.3	3.0	114	1.4	
Probable	1.1	0.20	6.9	2.5	95	1.3		1.7	0.19	7.3	2.9	113	1.4	
Total	4.7	0.20	7.3	2.7	104	1.3		5.4	0.21	8.0	3.0	114	1.4	
Rosebery Total	4.7							5.4						

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 STATEMENT

30 June 2019

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)	MMG
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Neil Colbourne ¹	MAusIMM	MMG
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources / Ore Reserves	Geoffrey Senior ¹	MAusIMM	MMG
Las Bambas	Mineral Resources	Rex Berthelsen ⁴	HonFAusIMM(CP)	MMG
Las Bambas	Ore Reserves	Yao Wu ¹	MAusIMM(CP)	MMG
Las Bambas	Metallurgy: Mineral Resources / Ore Reserves	Amy Lamb ¹	MAusIMM(CP)	MMG
Kinsevere	Mineral Resources	Douglas Corley ¹	MAIG R.P.Geo.	MMG
Kinsevere	Ore Reserves	Dean Basile	MAusIMM(CP)	MMG
Kinsevere	Metallurgy: Mineral Resources / Ore Reserves	Nigel Thiel ¹	MAusIMM(CP)	MMG
Rosebery	Mineral Resources	Douglas Corley ¹	MAusIMM(CP)	MMG
Rosebery	Ore Reserves	Karel Steyn ¹	MAusIMM	MMG
Rosebery	Metallurgy: Mineral Resources / Ore Reserves	Kevin Rees	MAusIMM(CP)	MMG
Dugald River	Mineral Resources	Douglas Corley ¹	MAIG R.P.Geo.	MMG
Dugald River	Ore Reserves	Karel Steyn ¹	MAusIMM	MMG
Dugald River	Metallurgy: Mineral Resources / Ore Reserves	Nigel Thiel ¹	MAusIMM(CP)	MMG
High Lake, Izok Lake	Mineral Resources	Allan Armitage ²	MAPEG (P.Geo)	Formerly MMG

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.

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

² Member of the Association of Professional Engineers and Geoscientists of British Columbia



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

SUMMARY OF SIGNIFICANT CHANGES

MINERAL RESOURCES

Mineral Resources as at 30 June 2019 have changed since the 30 June 2018 estimate for a number of reasons with the most significant changes outlined in this section.

Increases:

- increases to the Mineral Resources (contained metal) for zinc (3%) at Dugald River are due to continued drilling, resulting in additions in the hangingwall and footwall lenses;
- additional copper Mineral Resources (60kt) have been added from MMG's DRC tenements from the deposits of Sokoroshe II, Nambulwa and DZ. Cobalt has been reported for the first time and now includes 48kt cobalt from Kinsevere and 4kt from the regional deposits.

Decreases:

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

- depletion at all producing operations;
- reduction in tonnage at Kinsevere Hill South Inferred Resource after drilling;
- overall reduction in Kinsevere due to a small increase to cut-off grade and changes to pit design parameters resulting from geotechnical assumptions.



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

ORE RESERVES

Ore Reserves as at 30 June 2019 (contained metal) have decreased for copper (7%), zinc (15%), lead (23%), silver (13%), gold (9%) and increased for molybdenum (2%).

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

Increases:

- a net increase in Ore Reserves for molybdenum at Las Bambas due to increased metal price assumptions.

Decreases:

A net reduction in Ore Reserves (metal) for copper, zinc, lead, silver and gold due to:

- depletion at all producing operations;
- a further reduction at Las Bambas due to increase in ore loss assumption;
- a further reduction at Kinsevere due to changes in ore loss assumption, pit design from changed geotechnical assumptions and reductions in uneconomic stockpiles. Increase in copper price assumption did not offset the above;
- a further reduction at Dugald River due to changed pillar design and mining sequence;
- at Rosebery, metal price increases had negligible impact on the overall outcome compared to depletion.

**MINERAL RESOURCES AND ORE RESERVES STATEMENT****30 June 2019****KEY ASSUMPTIONS****PRICES AND EXCHANGE RATES**

The following price and foreign exchange assumptions, set according to the relevant MMG Standard as at January 2019, have been applied to all Mineral Resources and Ore Reserves estimates. Price assumptions for all metals have changed from the 2018 Mineral Resources and Ore Reserves statement.

Table 2 : 2019 Price (real) and foreign exchange assumptions

	Ore Reserves	Mineral Resources
Cu (US\$/lb)	3.18	3.64
Zn (US\$/lb)	1.22	1.46
Pb (US\$/lb)	0.90	1.08
Au US\$/oz	1252	1461
Ag US\$/oz	16.66	19.19
Mo (US\$/lb)	8.58	9.81
Co (US\$/lb)	23.23	30.19
USD:CAD	1.30	
AUD:USD	0.78	As per Ore Reserves
USD:PEN	3.20	



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

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. <i>In-situ</i> copper Mineral Resources constrained within US\$3.64/lb Cu pit shell.
	Primary Copper	OP	0.14 – 0.22% Cu	
Kinsevere	Oxide Copper & Stockpiles	OP	0.6% CuAS ²	<i>In-situ</i> copper Mineral Resources constrained within a US\$3.64/lb Cu pit shell.
	Transition Mixed Copper	OP	0.7% Cu ³	
	Primary Copper	OP	0.8% Cu ³	
	Oxide TMO Cobalt	OP	0.4% Co ⁷	<i>In-situ</i> cobalt Mineral Resources constrained within a US\$3.64/lb Cu pit shell, but exclusive of copper mineralisation.
	Primary Cobalt	OP	0.2% Co ⁷	<i>In-situ</i> cobalt Mineral Resources constrained within a US\$3.64/lb Cu pit shell, but exclusive of copper mineralisation.
Sokoroshe II	Oxide Copper	OP	1.1% CuAS ²	<i>In-situ</i> copper Mineral Resources constrained within a US\$3.64/lb Cu pit shell.
Nambulwa / DZ	Oxide Copper	OP	0.9% CuAS ²	<i>In-situ</i> copper Mineral Resources constrained within a US\$3.64/lb Cu pit shell.
Rosebery	Rosebery (Zn, Cu, Pb, Au, Ag)	UG	A\$165/t NSR ⁴	Remnant upper mine areas A\$165/t NSR ⁴
Dugald River	Primary Zinc (Zn, Pb, Ag)	UG	A\$138/t NSR ⁴	
	Primary Copper	UG	1% Cu	
High Lake	Cu, Zn, Pb, Ag, Au	OP	2.0% CuEq ⁵	CuEq ⁵ = 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%.
High Lake Izok Lake	Cu, Zn, Pb, Ag, Au Cu, Zn, Pb, Ag, Au	UG	4.0% CuEq ⁵	CuEq ⁵ = 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%.
		OP	4.0% ZnEq ⁶	ZnEq ⁶ = 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 Cu = Total Copper

⁴ NSR = Net Smelter Return

⁵ CuEq = Copper Equivalent

⁶ ZnEq = Zinc Equivalent

⁷ Co = Total Cobalt



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

Table 4 : Ore Reserves cut-off grades

Site	Mineralisation	Mining Method	Cut-Off Value	Comments
Las Bambas	Primary Copper Ferrobamba	OP	0.17 – 0.21 %Cu	Range based on rock type recovery.
	Primary Copper Chalcobamba		0.20 – 0.25 %Cu	
	Primary Copper Sulfobamba		0.22 – 0.27 %Cu	
Kinsevere	Copper Oxide	OP	1.3% CuAS ¹	Approximate cut-off grades shown in this table for ex-pit material. Variable cut-off grade based on net value script.
		OP	1.0% CuAS ¹²	
Rosebery	(Zn, Cu, Pb, Au, Ag)	UG	A\$165/t NSR ²	
Dugald River	Primary Zinc	UG	A\$138/t NSR ¹³	

¹ CuAS = Acid Soluble Copper

² NSR = Net Smelter Return



MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2019

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
		Copper	Zinc	Lead	Silver	Gold	Mo	
Las Bambas	Copper Concentrate	86%	-	-	75%	71%		10%
	Molybdenum Concentrate						55%	5%
Rosebery	Zinc Concentrate		84%	6%	9%	7%		8%
	Lead Concentrate		8%	80%	41%	14%		7%
	Copper Concentrate	57%			41%	37%		8%
	Doré ¹ (gold and silver)				0.2%	28%		
Dugald River	Zinc Concentrate	-	87%		35%	-		10%
	Lead Concentrate	-		64%	37%	-		10%
Kinsevere	Copper Cathode	76% (96% CuAS ²)	-	-	-	-		-

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

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

² CuAS = Acid Soluble Copper