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**MMG LIMITED**

**五礦資源有限公司**

*(Incorporated in Hong Kong with limited liability)*

**(STOCK CODE: 1208)**

## MINERAL RESOURCES AND ORE RESERVES STATEMENT AS AT 30 JUNE 2023

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 2023 (Mineral Resources and Ore Reserves Statement).

The key changes to Mineral Resources and Ore Reserves Statement as at 30 June 2023 are:

- the Group's Mineral Resources (contained metal) have increased for lead (17%).
- the Group's estimated Mineral Resource decreases (contained metal) have occurred in copper (13%), zinc (5%), molybdenum (15%), cobalt (18%), gold (12%) and silver (7%).
- the Group's Ore Reserves (contained metal) have increased for cobalt (7%).
- the Group's Ore Reserves (contained metal) have decreased for copper (9%), zinc (7%), lead (<1%), silver (8%), gold (13%) and molybdenum (2%).

Cost increases have impacted all sites and metals produced, which have not been offset by increased metal price assumptions in 2023. At Las Bambas drilling in Phase 5 and Phase 3 of the Ferrobamba pit have resulted in reductions in both Mineral Resources and Ore Reserves.

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 10).

**MINERAL RESOURCES AND ORE RESERVES STATEMENT****30 June 2023****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 2023 published on 5 December 2023 and is available to view on [www.mmg.com](http://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**  
**Li Liangang**  
*Interim CEO and Executive  
Director*

Hong Kong, 5 December 2023

*As at the date of this announcement, the Board comprises six directors, of which one is an executive director, namely Mr Li Liangang; two are non-executive directors, namely Mr Xu Jiqing (Chairman) 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.*



# MINERAL RESOURCES AND ORE RESERVES STATEMENT

**30 June 2023**

## 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 4 to 10, 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 11.

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<sup>1</sup> 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<sup>1</sup>. 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

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<sup>1</sup> 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 STATEMENT

30 June 2023

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 12 and 13 provide further discussion of the Mineral Resources and Ore Reserves changes.

## MINERAL RESOURCES<sup>1</sup>

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

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 (%)
<b>Las Bambas (62.5%)</b>																
<b>Ferrobamba Oxide Copper</b>																
Indicated	0.02	1.3							0.03	1.7						
Inferred																
<b>Total</b>	<b>0.02</b>	<b>1.3</b>							<b>0.03</b>	<b>1.7</b>						
<b>Ferrobamba Primary Copper</b>																
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	
<b>Total</b>	<b>640</b>	<b>0.63</b>			<b>2.8</b>	<b>0.05</b>	<b>200</b>		<b>850</b>	<b>0.64</b>			<b>2.9</b>	<b>0.05</b>	<b>190</b>	
<b>Ferrobamba Total</b>	<b>640</b>								<b>850</b>							
<b>Chalcobamba Oxide Copper</b>																
Indicated	6.2	1.4							6.8	1.4						
Inferred	0.53	1.2							0.1	1.5						
<b>Total</b>	<b>6.7</b>	<b>1.4</b>							<b>6.9</b>	<b>1.4</b>						
<b>Chalcobamba Primary Copper</b>																
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	
<b>Total</b>	<b>380</b>	<b>0.55</b>			<b>1.9</b>	<b>0.02</b>	<b>120</b>		<b>340</b>	<b>0.60</b>			<b>2.1</b>	<b>0.03</b>	<b>120</b>	
<b>Chalcobamba Total</b>	<b>387</b>								<b>347</b>							
<b>Sulfobamba Primary Copper</b>																
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	
<b>Total</b>	<b>210</b>	<b>0.58</b>			<b>5.2</b>	<b>0.02</b>	<b>98</b>		<b>180</b>	<b>0.62</b>			<b>5.7</b>	<b>0.02</b>	<b>140</b>	
<b>Sulfobamba Total</b>	<b>210</b>	<b>0.58</b>			<b>5.2</b>	<b>0.02</b>	<b>98</b>		<b>180</b>	<b>0.62</b>			<b>5.7</b>	<b>0.02</b>	<b>140</b>	
<b>Oxide Copper Stockpile</b>																
Indicated	14	1.1							14	1.1						
<b>Total</b>	<b>14</b>	<b>1.1</b>							<b>14</b>	<b>1.1</b>						
<b>Sulphide Stockpile</b>																
Measured	25	0.36			2.2		110		30	0.38			2.2		130	
<b>Total</b>	<b>25</b>	<b>0.36</b>			<b>2.2</b>		<b>110</b>		<b>30</b>	<b>0.38</b>			<b>2.2</b>		<b>130</b>	
<b>Las Bambas Total</b>	<b>1,300</b>								<b>1,400</b>							

<sup>1</sup> 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

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## MINERAL RESOURCES<sup>1</sup>

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 (%)
<b>Kinsevere (100%)</b>																
<b>Oxide Copper</b>																
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
<b>Total</b>	<b>8.0</b>	<b>2.4</b>						<b>0.09</b>	<b>9.0</b>	<b>2.6</b>						<b>0.10</b>
<b>Transition Mixed Copper Ore</b>																
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
<b>Total</b>	<b>3.8</b>	<b>1.9</b>						<b>0.10</b>	<b>4.8</b>	<b>1.9</b>						<b>0.12</b>
<b>Primary Copper</b>																
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
<b>Total</b>	<b>26</b>	<b>2.1</b>						<b>0.09</b>	<b>31</b>	<b>2.1</b>						<b>0.10</b>
<b>Oxide-TMO Cobalt</b>																
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
<b>Total</b>	<b>0.7</b>	<b>0.20</b>						<b>0.31</b>	<b>1.4</b>	<b>0.2</b>						<b>0.32</b>
<b>Primary Cobalt</b>																
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
<b>Total</b>	<b>0.16</b>	<b>0.38</b>						<b>0.30</b>	<b>0.41</b>	<b>0.28</b>						<b>0.21</b>
<b>Stockpiles</b>																
Measured																
Indicated	18	1.6							14	1.5						
<b>Total</b>	<b>18</b>	<b>1.6</b>							<b>14</b>	<b>1.5</b>						
<b>Kinsevere Total</b>	<b>56</b>	<b>1.9</b>							<b>61</b>	<b>1.9</b>						

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



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## MINERAL RESOURCES<sup>1</sup>

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 (%)
<b>Sokoroshe 2 (100%)</b>																
<b>Oxide Copper</b>																
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
<b>Total</b>	<b>2.9</b>	<b>2.1</b>						<b>0.37</b>	<b>2.9</b>	<b>2.1</b>						<b>0.37</b>
<b>Transition Mixed Copper Ore</b>																
Measured																
Indicated	0.07	1.6						0.23	0.1	1.6						0.23
Inferred																
<b>Total</b>	<b>0.07</b>	<b>1.6</b>						<b>0.22</b>	<b>0.1</b>	<b>1.6</b>						<b>0.23</b>
<b>Primary Copper</b>																
Measured																
Indicated	0.62	1.5						0.48	0.62	1.50						0.47
Inferred																
<b>Total</b>	<b>0.62</b>	<b>1.5</b>						<b>0.47</b>	<b>0.62</b>	<b>1.5</b>						<b>0.47</b>
<b>Oxide Cobalt</b>																
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
<b>Total</b>	<b>0.95</b>	<b>0.28</b>						<b>0.45</b>	<b>0.93</b>	<b>0.27</b>						<b>0.45</b>
<b>Primary Cobalt</b>																
Measured																
Indicated	0.05	0.54						0.65	0.05	0.53						0.64
Inferred																
<b>Total</b>	<b>0.05</b>	<b>0.54</b>						<b>0.65</b>	<b>0.05</b>	<b>0.53</b>						<b>0.64</b>
<b>Sokoroshe 2</b>	<b>4.6</b>	<b>1.6</b>						<b>0.40</b>	<b>4.6</b>	<b>1.6</b>						<b>0.40</b>
<b>Total</b>																
<b>Nambulwa (100%)</b>																
<b>Oxide Copper</b>																
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
<b>Total</b>	<b>1.3</b>	<b>2.1</b>						<b>0.11</b>	<b>1.2</b>	<b>2.1</b>						<b>0.11</b>
<b>Transition Mixed Copper Ore</b>																
Measured																
Indicated																
Inferred																
<b>Total</b>																
<b>Oxide-TMO Cobalt</b>																
Measured																
Indicated	0.21	0.14						0.27	0.17	0.14						0.27
Inferred																
<b>Total</b>	<b>0.21</b>	<b>0.14</b>						<b>0.27</b>	<b>0.2</b>	<b>0.14</b>						<b>0.27</b>
<b>Nambulwa</b>	<b>1.5</b>	<b>1.9</b>						<b>0.13</b>	<b>1.4</b>	<b>1.9</b>						<b>0.13</b>
<b>Total</b>																

<sup>1</sup> 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

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## MINERAL RESOURCES<sup>1</sup>

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 (%)
<b>DZ (100%)</b>																
<b>Oxide Copper</b>																
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
<b>Total</b>	<b>1.1</b>	<b>1.8</b>						<b>0.12</b>	<b>0.98</b>	<b>1.8</b>						<b>0.13</b>
<b>Oxide-TMO Cobalt</b>																
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
<b>Total</b>	<b>0.35</b>	<b>0.22</b>						<b>0.27</b>	<b>0.33</b>	<b>0.22</b>						<b>0.27</b>
<b>DZ Total</b>	<b>1.4</b>	<b>1.4</b>						<b>0.16</b>	<b>1.3</b>	<b>1.4</b>						<b>0.16</b>
<b>Mwepu (100%)</b>																
<b>Oxide Copper</b>																
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
<b>Total</b>	<b>2.3</b>	<b>2.4</b>						<b>0.12</b>	<b>1.2</b>	<b>2.6</b>						<b>0.22</b>
<b>TMO Copper</b>																
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
<b>Total</b>	<b>0.40</b>	<b>1.6</b>						<b>0.13</b>	<b>0.4</b>	<b>1.3</b>						<b>0.20</b>
<b>Oxide-TMO Cobalt</b>																
Measured																
Indicated	0.08	0.6						0.40	0.04	0.71						0.45
Inferred																
<b>Total</b>	<b>0.08</b>	<b>0.6</b>						<b>0.40</b>	<b>0.09</b>	<b>0.69</b>						<b>0.45</b>
<b>Primary Cobalt</b>																
Measured																
Indicated	0.12	0.32						0.44	0.07	0.25						0.31
Inferred																
<b>Total</b>	<b>0.12</b>	<b>0.31</b>						<b>0.44</b>	<b>0.27</b>	<b>0.26</b>						<b>0.39</b>
<b>Mwepu Total</b>	<b>2.9</b>	<b>2.2</b>						<b>0.15</b>	<b>2.0</b>	<b>1.9</b>						<b>0.25</b>

<sup>1</sup> 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 2023

## MINERAL RESOURCES<sup>1</sup>

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 (%)
<b>Dugald River (100%)</b>																
<b>Primary Zinc</b>																
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			
<b>Total</b>	<b>57</b>		<b>11.7</b>	<b>1.6</b>	<b>23</b>				<b>61</b>		<b>11.9</b>	<b>1.1</b>	<b>23</b>			
<b>Primary Copper</b>																
Inferred	4.8	1.6				0.2			4.5	1.5				0.1		
<b>Total</b>	<b>4.8</b>	<b>1.6</b>				<b>0.2</b>			<b>4.5</b>	<b>1.5</b>				<b>0.1</b>		
<b>Dugald River Total</b>	<b>62</b>								<b>65</b>							
<b>Rosebery (100%)</b>																
<b>Rosebery</b>																
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		
<b>Total</b>	<b>19</b>	<b>0.21</b>	<b>7.4</b>	<b>2.4</b>	<b>99</b>	<b>1.2</b>			<b>20</b>	<b>0.19</b>	<b>7.1</b>	<b>2.3</b>	<b>92</b>	<b>1.1</b>		
<b>Rosebery Total</b>	<b>19</b>								<b>20</b>							
<b>High Lake (100%)</b>																
<b>High Lake (100%)</b>																
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		
<b>Total</b>	<b>14</b>	<b>2.5</b>	<b>3.8</b>	<b>0.4</b>	<b>84</b>	<b>1.3</b>			<b>14</b>	<b>2.5</b>	<b>3.8</b>	<b>0.4</b>	<b>84</b>	<b>1.3</b>		
<b>Izok Lake (100%)</b>																
<b>Izok Lake (100%)</b>																
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		
<b>Total</b>	<b>15</b>	<b>2.3</b>	<b>13.1</b>	<b>1.4</b>	<b>73</b>	<b>0.18</b>			<b>15</b>	<b>2.3</b>	<b>13.1</b>	<b>1.4</b>	<b>73</b>	<b>0.18</b>		

<sup>1</sup> 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 2023

## ORE RESERVES<sup>1</sup>

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

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 (%)
<b>Las Bambas (62.5%)</b>																
<b>Ferrobamba Primary Copper</b>																
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	
<b>Total</b>	<b>440</b>	<b>0.66</b>			<b>3.3</b>	<b>0.06</b>	<b>210</b>		<b>470</b>	<b>0.72</b>			<b>3.4</b>	<b>0.06</b>	<b>200</b>	
<b>Chalcobamba Primary Copper</b>																
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	
<b>Total</b>	<b>220</b>	<b>0.66</b>			<b>2.4</b>	<b>0.03</b>	<b>120</b>		<b>230</b>	<b>0.68</b>			<b>2.4</b>	<b>0.03</b>	<b>120</b>	
<b>Sulfobamba Primary Copper</b>																
Proved																
Probable	57	0.77			5.8	0.03	159		54	0.80			5.9	0.03	160	
<b>Total</b>	<b>57</b>	<b>0.77</b>			<b>5.8</b>	<b>0.03</b>	<b>159</b>		<b>54</b>	<b>0.80</b>			<b>5.9</b>	<b>0.03</b>	<b>160</b>	
<b>Primary Copper Stockpiles</b>																
Proved	25	0.36			2.2		110		30	0.38			2.2		130	
<b>Total</b>	<b>25</b>	<b>0.36</b>			<b>2.2</b>		<b>110</b>		<b>30</b>	<b>0.38</b>			<b>2.2</b>		<b>170</b>	
<b>Las Bambas Total</b>	<b>740</b>	<b>0.66</b>			<b>3.2</b>		<b>170</b>		<b>780</b>	<b>0.70</b>			<b>3.2</b>		<b>170</b>	
<b>Kinsevere (100%)</b>																
<b>Oxide/TMO Copper and Cobalt</b>																
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
<b>Total</b>	<b>4.1</b>	<b>2.3</b>						<b>0.11</b>	<b>8.6</b>	<b>2.3</b>						<b>0.12</b>
<b>Primary Copper and Cobalt</b>																
Proved	1.2	2.0						0.17	1.9	2.3						0.21
Probable	15	2.3						0.09	16	2.2						0.10
<b>Total</b>	<b>16</b>	<b>2.2</b>						<b>0.10</b>	<b>18</b>	<b>2.2</b>						<b>0.11</b>
<b>Stockpiles</b>																
Proved																
Probable	18	1.6							14	1.5						
<b>Total</b>	<b>18</b>	<b>1.6</b>							<b>14</b>	<b>1.5</b>						
<b>Kinsevere Total</b>	<b>38</b>	<b>2.0</b>							<b>40</b>	<b>2.0</b>						
<b>Sokoroshe 2 (100%)</b>																
<b>Oxide Copper and Cobalt</b>																
Proved																
Probable	2.5	1.9						0.42								
<b>Total</b>	<b>2.5</b>	<b>1.9</b>						<b>0.42</b>								
<b>Primary Copper and Cobalt</b>																
Proved																
Probable	0.1	0.95						0.65								
<b>Total</b>	<b>0.1</b>	<b>0.95</b>						<b>0.65</b>								
<b>Sokoroshe Total</b>	<b>2.5</b>	<b>1.9</b>						<b>0.43</b>								

<sup>1</sup> 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 2023

## ORE RESERVES<sup>1</sup>

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 (%)
<b>Dugald River (100%)</b>																
<b>Primary Zinc</b>																
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			
<b>Total</b>	<b>20</b>		<b>10.8</b>	<b>1.7</b>	<b>40</b>				<b>22</b>		<b>10.5</b>	<b>1.4</b>	<b>39</b>			
<b>Dugald River</b>																
<b>Total</b>	<b>20</b>		<b>10.8</b>	<b>1.7</b>	<b>40</b>				<b>22</b>		<b>10.5</b>	<b>1.4</b>	<b>39</b>			
<b>Rosebery (100%)</b>																
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		
<b>Total</b>	<b>4.5</b>	<b>0.20</b>	<b>6.4</b>	<b>2.6</b>	<b>110</b>	<b>1.2</b>			<b>5.5</b>	<b>0.19</b>	<b>6.6</b>	<b>2.6</b>	<b>110</b>	<b>1.2</b>		
<b>Rosebery</b>																
<b>Total</b>	<b>4.5</b>	<b>0.20</b>	<b>6.4</b>	<b>2.6</b>	<b>110</b>	<b>1.2</b>			<b>5.5</b>	<b>0.19</b>	<b>6.6</b>	<b>2.6</b>	<b>110</b>	<b>1.2</b>		

<sup>1</sup> 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 2023**

## 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 <sup>1</sup>	HonFAusIMM (CP Geo)	MMG
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Cornel Parshotam <sup>1</sup>	MAusIMM	MMG
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources / Ore Reserves	Andrew Goulsbra <sup>1</sup>	MAusIMM	MMG
Las Bambas	Mineral Resources	Hugo Rios	MAusIMM (CP Geo)	MMG
Las Bambas	Ore Reserves	Xiaolin Wu <sup>1</sup>	SME RM <sup>4</sup>	MMG
Kinsevere	Mineral Resources	Jeremy Witley <sup>2</sup>	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 <sup>3</sup>	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.

<sup>1</sup> Participates in the MMG Long-Term Incentive Plans which may include Mineral Resources and Ore Reserves growth as a performance condition.

<sup>2</sup> South African Council for Natural Scientific Professions, Professional Natural Scientist

<sup>3</sup> Member of the Association of Professional Engineers and Geoscientists of British Columbia

<sup>4</sup> Registered Member of the Society for Mining, Metallurgy and Exploration



# MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2023

## 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 STATEMENT

**30 June 2023**

## 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 2 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 indicative 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.

**MINERAL RESOURCES AND ORE RESERVES STATEMENT****30 June 2023****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**

	<b>Ore Reserves</b>	<b>Mineral Resources</b>
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	As per Ore Reserves
AUD:USD	0.75	
USD:PEN	3.80	

**MINERAL RESOURCES AND ORE RESERVES STATEMENT**
**30 June 2023**
**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 <sup>1</sup>	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\$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 <sup>2</sup>	<i>In-situ</i> 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	<i>In-situ</i> cobalt Mineral Resources constrained within a US\$4.71/lb Cu and US\$32.72/lb Co pit shell, but exclusive of copper mineralisation.
	Oxide TMO Cobalt	OP	0.2% Co	
	Primary cobalt	OP	0.2% Co	
Sokoroshe 2	Oxide	OP	0.6% CuAS <sup>2</sup>	<i>In-situ</i> 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 <sup>2</sup>	<i>In-situ</i> 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.
	Oxide TMO cobalt	OP	0.2% Co	
	Primary cobalt	OP	0.2% Co	
Nambulwa / DZ	Oxide copper	OP	0.6% CuAS <sup>2</sup>	<i>In-situ</i> 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	<i>In-situ</i> cobalt Mineral Resources constrained within a US\$4.71/lb Cu and US\$32.71/lb Co pit shell, but exclusive of copper mineralisation.
	Oxide TMO cobalt	OP	0.2 Co	
	Primary cobalt	OP	0.2 Cu	
Mwepu	Oxide copper	OP	0.7% CuAS <sup>2</sup>	<i>In-situ</i> 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	<i>In-situ</i> cobalt Mineral Resources constrained within a US\$4.71/lb Cu and US\$32.71/lb Co pit shell, but exclusive of copper mineralisation.
	Oxide TMO cobalt	OP	0.3% Co	
	Primary cobalt	OP	0.3% Co	
Rosebery	Rosebery (Zn, Cu, Pb, Au, Ag)	UG	A\$177/t NSR <sup>3</sup>	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 <sup>3</sup>	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 <sup>4</sup>	CuEq <sup>4</sup> = 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 <sup>4</sup>	CuEq <sup>4</sup> = 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%.

<sup>1</sup> OP = Open Pit, UG = Underground

<sup>2</sup> CuAS = Acid Soluble copper

<sup>3</sup> NSR = Net Smelter Return

<sup>4</sup> CuEq = Copper Equivalent



# MINERAL RESOURCES AND ORE RESERVES STATEMENT

30 June 2023

Site	Mineralisation	Likely Mining Method <sup>1</sup>	Cut-Off Value	Comments
Izok Lake	Cu, Zn, Pb, Ag, Au	OP	4.0% ZnEq <sup>1</sup>	ZnEq <sup>1</sup> = Zn + (Cu×3.31) + (Pb×1.09) + (Au×1.87) + (Ag×0.033); prices and metal recoveries as per High Lake.

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 <sup>2</sup> , 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 <sup>2</sup> , 0.35% Co	
Rosebery	(Zn, Cu, Pb, Au, Ag)	UG	A\$177/t NSR <sup>3</sup>	
Dugald River	Primary zinc	UG	A\$158/t NSR <sup>3</sup> (average)	

## 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 <sup>4</sup> (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%	

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

<sup>1</sup> ZnEq = Zinc Equivalent

<sup>2</sup> CuAS = Acid Soluble Copper

<sup>3</sup> NSR = Net Smelter Return

<sup>4</sup> 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.



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Approvals Page

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<b>Signature</b>	<b>Name</b>	<b>Position</b>	<b>Date</b>
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<b>Signature</b>	<b>Name</b>	<b>Position</b>	<b>Date</b>
<hr/>	Joshua Annear	General Manager Operations and Technical Excellence	24/10/2023
<b>Signature</b>	<b>Name</b>	<b>Position</b>	<b>Date</b>

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

## **1. Introduction**

The JORC Code (2012) defines the requirements for public reporting of Exploration Results, Mineral Resources and Ore Reserves by mining companies. Reporting according to the JORC Code is a requirement of the MMG listing on The Stock Exchange of Hong Kong<sup>1</sup> as per amendments to Chapter 18 of the Listing Rules that were announced on 3 June 2010.

The JORC Code requires disclosure of material information prepared by the Competent Person with the addition of a detailed Appendix to the Mineral Resources and Ore Reserves public report, which outlines the supporting details to the Mineral Resources and Ore Reserves statement of tonnes and grades. This Technical Appendix provides these supporting details.

The principles governing the operation and application of the JORC Code are Transparency, Materiality and Competence:

Transparency requires that the reader of a Public Report is provided with sufficient information, the presentation of which is clear and unambiguous, to understand the report and not be misled by this information or by omission of material information that is known to the Competent Person.

Materiality requires that a Public Report contains all the relevant information that investors and their professional advisers would reasonably require, and reasonably expect to find in the report, for the purpose of making a reasoned and balanced judgment regarding the Exploration Results, Mineral Resources or Ore Reserves being reported. Where relevant information is not supplied an explanation must be provided to justify its exclusion.

Competence requires that the Public Report be based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional code of ethics (the Competent Person).

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<sup>1</sup> Specifically, the Updated Rules of Chapter 18 of the Hong Kong Stock Exchange Listing Rules require a Competent Person's report to comply with standards acceptable to the HKSE including JORC Code (the Australian code), NI 43-101 (the Canadian code) or SAMREC Code (the South African code) for Mineral Resources and Ore Reserves. MMG Limited has chosen to report using the JORC Code.

## 2. Common to All Sites

The economic analysis undertaken for each Ore Reserves described in this document and for the whole Company has resulted in positive net present values (NPVs). MMG uses a discount rate appropriate to the size and nature of the organisation and individual deposits.

### 2.1 Commodity Price Assumptions

The price and foreign exchange assumptions used for the 2023 Mineral Resources and Ore Reserves estimation at the date at which work commenced on the Mineral Resources and Ore Reserves are as shown in Table 1.

**Table 1: 2023 Price (real) and foreign exchange assumptions**

	<b>Ore Reserves</b>	<b>Mineral Resources</b>
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	As per Ore Reserves
AUD:USD	0.75	
USD:PEN	3.80	

## 2.2 Competent Persons

**Table 2: Competent Persons**

Deposit	Accountability	Competent Person	Professional Membership	Employer
MMG Mineral Resources and Ore Reserves Committee	Mineral Resources	Rex Berthelsen <sup>1</sup>	HonFAusIMM (CP Geo)	MMG
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Cornel Parshotam <sup>1</sup>	MAusIMM	MMG
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources / Ore Reserves	Andrew Goulsbra <sup>1</sup>	MAusIMM	MMG
Las Bambas	Mineral Resources	Hugo Rios <sup>1</sup>	MAusIMM (CP Geo)	MMG
Las Bambas	Ore Reserves	Xiaolin Wu <sup>1</sup>	SME RM	MMG
Kinsevere	Mineral Resources	Jeremy Witley <sup>2</sup>	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 Limited
High Lake, Izok Lake	Mineral Resources	Allan Armitage <sup>3</sup>	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 (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.

## 3. Las Bambas Operation

### 3.1 Introduction and Setting

Las Bambas is a world class copper (Cu) mine with molybdenum (Mo), silver (Ag) and gold (Au) by-product gold (Au). It is situated in the Andes Mountains of southern Peru, approximately 75

<sup>1</sup> Participates in the MMG Long-Term Incentive Plans which may include Mineral Resources and Ore Reserves growth as a performance condition.

<sup>2</sup> South African Council for Natural Scientific Professions, Professional Natural Scientist

<sup>3</sup> Member of the Association of Professional Engineers and Geoscientists of British Columbia

km south-southwest of Cusco, about 300 km north-northwest of Arequipa, and roughly 150 km northwest of Espinar (also known as Yauri). Las Bambas is conveniently accessible from either Cusco or Arequipa via a combination of sealed and good quality gravel roads. Road travel from Cusco takes approximately 6 hours, while road travel from Arequipa takes around 9 hours.

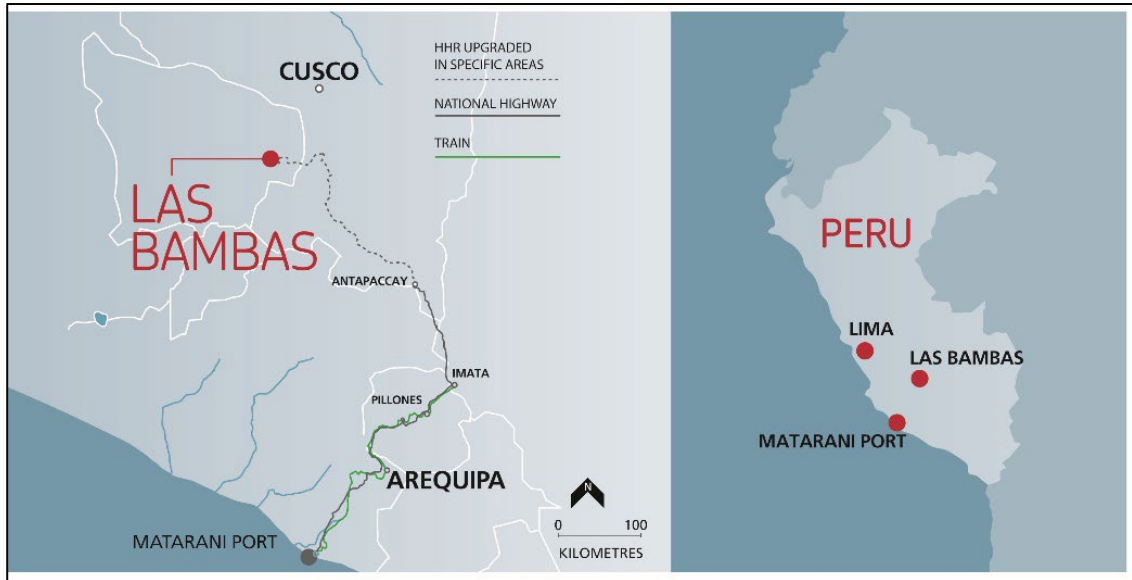


Figure 2-1: Las Bambas Mine location

Las Bambas is a truck and shovel mining operation with a conventional copper concentrator. Copper production commenced in the fourth quarter of 2015, and the first concentrate was achieved on 26 November. The first shipment of product departed the Port of Matarani for China on 15 January 2016. Las Bambas is now in its eighth year of operation.

Las Bambas is a joint venture project between the operator MMG (62.5%), a wholly owned subsidiary of Guoxin International Investment Co. Ltd (22.5%), and CITIC Metal Co. Ltd (15.0%).

The Mineral Resources and Ore Reserves have been updated with additional drilling completed in 2022 for the June 2023 report. The 2023 Mineral Resources estimation includes updated geological interpretation and estimation parameters.

## 3.2 Mineral Resources – Las Bambas

### 3.2.1 Results

The 2023 Las Bambas Mineral Resources are summarised in Table 3. The Las Bambas Mineral Resources are inclusive of the Ore Reserves. All data reported here is on a 100% asset basis. MMG's attributable interest in Las Bambas is 62.5%.

Table 3: 2023 Las Bambas Mineral Resources tonnage and grade (as at 30 June 2023)

Las Bambas Mineral Resource									
Ferrobamba Oxide Copper <sup>1</sup>	Tonnes (Mt)	Copper (% Cu)	Mo (ppm)	Silver (g/t Ag)	Gold (g/t Au)	Contained Metal			
						Copper (kt)	Mo (kt)	Silver (Moz)	Gold (Moz)
Indicated	0.02	1.3				0.2			
Inferred									
<b>Total</b>	<b>0.02</b>	<b>1.3</b>				<b>0.2</b>			
<b>Ferrobamba Primary Copper<sup>2</sup></b>									
Measured	380	0.59	220	2.6	0.05	2,200	82	32	0.6
Indicated	220	0.66	180	3.2	0.06	1,400	41	22	0.4
Inferred	39	0.80	190	2.8	0.07	310	8	4	0.1
<b>Total</b>	<b>640</b>	<b>0.63</b>	<b>200</b>	<b>2.8</b>	<b>0.05</b>	<b>4,000</b>	<b>130</b>	<b>58</b>	<b>1.0</b>
<b>Ferrobamba Total</b>	<b>640</b>	<b>0.63</b>	<b>200</b>	<b>2.8</b>	<b>0.05</b>	<b>4,000</b>	<b>130</b>	<b>58</b>	<b>1.0</b>
<b>Chalcobamba Oxide Copper<sup>1</sup></b>									
Indicated	6.2	1.4				85			
Inferred	0.5	1.2				7			
<b>Total</b>	<b>6.7</b>	<b>1.4</b>				<b>92</b>			
<b>Chalcobamba Primary Copper<sup>3</sup></b>									
Measured	150	0.51	120	1.5	0.02	780	19	7.6	0.10
Indicated	190	0.60	120	2.2	0.03	1,100	23	13	0.16
Inferred	43	0.47	100	1.9	0.02	200	4.5	2.6	0.03
<b>Total</b>	<b>380</b>	<b>0.55</b>	<b>120</b>	<b>1.9</b>	<b>0.02</b>	<b>2,100</b>	<b>46</b>	<b>24</b>	<b>0.29</b>
<b>Chalcobamba Total</b>	<b>390</b>	<b>0.56</b>	<b>120</b>	<b>1.9</b>	<b>0.02</b>	<b>2,200</b>	<b>46</b>	<b>24</b>	<b>0.29</b>
<b>Sulfobamba Oxide Copper<sup>1</sup></b>									
Inferred									
<b>Total</b>									
<b>Sulfobamba Primary Copper<sup>4</sup></b>									
Indicated	93	0.62	140	4.4	0.02	580	13	13	0.1
Inferred	110	0.54	64	6.0	0.02	610	7	21	0.1
<b>Total</b>	<b>210</b>	<b>0.58</b>	<b>98</b>	<b>5.2</b>	<b>0.02</b>	<b>1,200</b>	<b>20</b>	<b>35</b>	<b>0.1</b>
<b>Sulfobamba Total</b>	<b>210</b>	<b>0.58</b>	<b>98</b>	<b>5.2</b>	<b>0.02</b>	<b>1,200</b>	<b>20</b>	<b>35</b>	<b>0.1</b>
<b>Oxide Stockpiles</b>									
Indicated	14	1.1				150			
<b>Sulphide Stockpiles</b>									
Measured	25	0.36	110	2.2		92	2.8	1.8	
<b>Total Contained</b>	<b>1,300</b>	<b>0.60</b>	<b>160</b>	<b>2.9</b>	<b>0.04</b>	<b>7,600</b>	<b>200.0</b>	<b>120</b>	<b>2</b>

**Notes:**

- 1% Cu Cut-off grade contained within a US\$4.71/lb pit shell for oxide material.
  - Average 0.15% Cu Cut-off grade contained within a US\$4.71/lb pit shell for primary material.
  - Average 0.17% Cu Cut-off grade contained within a US\$4.04/lb pit shell for primary material.
  - Average 0.19% Cu Cut-off grade contained within a US\$4.04/lb pit shell for primary material.
- Figures are rounded according to JORC Code guidelines and may show apparent addition errors. Contained metal does not imply recoverable metal.



**3.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 4 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 4: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Las Bambas Mineral Resources 2023

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Sampling techniques	<ul style="list-style-type: none"> <li>▪ Diamond drilling (DD) was used to obtain an average 2m sample that is half core split, crushed and pulverised to produce a pulp (95% passing 106µm). Diamond drill cores are marked and numbered for sampling by the logging geologist.</li> <li>▪ Since 2019 samples have also been obtained from Reverse Circulation (RC) drilling for infill drilling programs, using an automated rotation-vibrating-cone splitter to obtain a chips sample with an average weight of 4Kg corresponding to 2m drilled. The device allows to take duplicates in a second tray.</li> <li>▪ The sampling information is stored in the MMG SQL database through the Geobank interface software for correlation with returned geochemical assay results.</li> <li>▪ For 2005-2010, the whole drill core was cut as half core and prepared on-site by the Inspectorate Laboratory and pulps analysed in Lima Inspectorate facilities.</li> <li>▪ For 2014-2015, the whole core was sent to the Certimin Laboratory in Lima for half-core splitting, sample preparation and analysis.</li> <li>▪ From mid-2015, all DH samples were prepared at the ALS sample preparation laboratory onsite, including core cutting. Pulps samples are sent to ALS laboratory in Lima for analysis.</li> <li>▪ There are no inherent sampling problems recognised. Measures taken to ensure sample representativity include the collection, and analysis of field and coarse crush duplicates.</li> <li>▪ Commencing in 2019, Field Duplicates were taken from the RC vibrating-rotary-cone splitter.</li> <li>▪ During late 2022 and the beginning of 2023, four DD holes were sampled as ½ core Field Duplicate samples.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>▪ The most widely used drilling technique historically in Las Bambas is diamond drilling, however reverse air circulation drilling method have also been implemented since 2019 for infill drilling short-length holes(&lt;300m). RC drilling is also sometimes used to drill pre-collars for deep diamond holes.</li> <li>▪ Generally, drill core is not oriented, unless for drill holes for geotechnical purposes. Most of diamond drillholes used in the Mineral Resource estimates have been drilled using HQ size, with the exception of deep directional NQ daughter holes.</li> <li>▪ Directional drilling is utilised for drilling parts of the resource that are not accessible by conventional drillholes. Mother holes are HQ size, and NQ daughter holes are wedged off and curved/cut to a required orientation. Core is not recovered from the curve/cut.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>▪ Recovery is estimated by measuring the recovered core within a drill run length and recorded in the database. Run by run recovery has been recorded for 619,394.31m of the total 737,555.18m of diamond drilling used for Mineral Resources estimation for the Sulfobamba, Chalcobamba and Ferrobamba</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>deposits. Diamond drill recovery average is about 97% for all deposits (98% for Sulfofamba, 98% for Chalcobamba and 94% for Ferrobamba deposits).</p> <ul style="list-style-type: none"> <li>▪ For RC samples, a measurement of weights has been established, supported by Francois-Bongarcon's study of RC sampling in Ferrobamba.</li> <li>▪ Sample quality is acceptable for dry samples, with acceptable sample recovery per meter drilled, with some loss of samples during rod changes.</li> <li>▪ The drilling process is controlled by the drill crew, and geological supervision is aimed at maximising sample recovery and ensures suitable core presentation. No other measures are taken to maximise core recovery.</li> <li>▪ No detectable correlation between recovery and grade can be determined from statistical analysis. Preferential loss/gains of fine or coarse materials are not significant and do not result in sample bias as the nature of mineralisation is stockwork veins and disseminated sulphides.</li> <li>▪ Diamond core and RC chips sampling recoveries are considered acceptable.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>▪ 100% of DD core and RC percussion drilling chips used in the Mineral Resource estimates have been geologically and geotechnically logged (DD only) to support Mineral Resources estimation, mining and metallurgy studies.</li> <li>▪ Although geological logging is generally qualitative, quantitative data such as assays are used to support logging. Geotechnical logging is quantitative. All drill core and RC chips are photographed.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>▪ All samples included in the Mineral Resource estimates are from DD core and RC rock chips.</li> <li>▪ The drill core is longitudinally sawn to provide half-core samples within intervals directed by the logging geologist. The remaining half-core is kept and stored in the original sample tray. The standard sampling length is 2m for PQ core (minimum 1.2m) and HQ core (minimum 1.2m, maximum 2.2m) while NQ core is sampled at 2.5m (minimum 1.5m and maximum 2.5m). Sample intervals do not cross geological boundaries.</li> <li>▪ From 2005 geological samples have been processed in the following manner: Dried, crushed, pulverised to 95% passing 106µm. Sizing tests are carried out on 1 in 30 samples.</li> <li>▪ The representativity of samples is checked by duplication at the crush stage one in every 40 samples. No field duplicates were taken for DDH until the end of 2022 where four DD holes were specifically drilled to take field duplicate samples as half-core.</li> <li>▪ RC Drilling was officially implemented for Resource Estimations since 2019 (in 2018 only tests were executed, and no RC data was added to the resource model).</li> <li>▪ In 2019 RC chips samples were collected in buckets, weighted, and divided on-site using a riffle splitter, aimed at obtaining 2 to 3 kg subsample, weighted on-site with an electronic balance.</li> <li>▪ Regular practice is that if a sample from a cyclone is: <ul style="list-style-type: none"> <li>– less than 4-6 kg, no split is undertaken</li> <li>– 6- 12 kg, two subsamples are taken</li> <li>– 12-24 kg, a split is undertaken as necessary to get 3 kg sample splits.</li> </ul> </li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Since 2020 so far, an automated vibrating-rotary-cone splitter has been implemented to take 2m interval samples in the cyclone, using a couple of trays which take 3 to 6 kg on average (original and duplicate); samples are collected in plastic bags and weighted in an electronic balance on-site, ready to be sent to the lab.</li> <li>▪ The vibrating-rotary-cone splitter can handle dry and wet samples.</li> <li>▪ The vibrating-rotary-cone splitter can control the rotation speed and the tray aperture, allowing the amount of material without overspill, or not getting sufficient material.</li> <li>▪ The Competent Person considers the sample types, nature, quality, and sample preparation techniques appropriate for the mineralisation style from Las Bambas (porphyry and skarn Cu-Mo).</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ From 2005 until 2010 the assay methods undertaken by Inspectorate (Lima) for Las Bambas were as follows: <ul style="list-style-type: none"> <li>– Digestion by 4-Acids. Cu, Ag, Pb, Zn, Mo - 0.5g of sample, and the determination was done by Atomic Absorption Spectrometry (AAS).</li> <li>– Acid soluble - 0.2g sample. Leaching by a 15% solution of H<sub>2</sub>SO<sub>4</sub> at 73°C for 5 minutes. Determination by AAS.</li> <li>– Acid soluble - 0.2g of sample. Digestion by a citric acid solution at 65°C for 15 minutes. Determination by AAS.</li> <li>– Au – 30g Fire Assay Cupellation at 950°C. Determination by AAS. Above detection limit analysis by gravimetry.</li> <li>– 35 elements - Digestion by aqua-regia and determination by ICP.</li> </ul> </li> <li>▪ From 2010 to 2015, routine assay methods undertaken by Certimin (Lima) for Las Bambas are as follows: <ul style="list-style-type: none"> <li>– Cu, Ag, Pb, Zn, Mo - 0.5g of sample. Digestion by 4-Acids. Determination by Atomic Absorption Spectrometry (AAS).</li> <li>– Acid soluble copper – 0.2g sample. Leaching by a 15% solution of H<sub>2</sub>SO<sub>4</sub> at 73°C for 5 minutes. Determination by AAS.</li> <li>– Acid Soluble copper - 0.2g of sample. Digestion by a citric acid solution at 65°C for 15 minutes. Determination by AAS.</li> <li>– Au – 30g Fire assay with AAS finish. Over-range results are re-assayed by Gravimetric Finish.</li> <li>– 35 elements - Digestion by aqua-regia and determination by ICP.</li> </ul> </li> <li>▪ In 2015 ALS (Lima) used the following methods: <ul style="list-style-type: none"> <li>– Cu, Ag, Pb, Zn, Mo - 0.5g of sample. Digestion by 4-Acids. Determination by Atomic Absorption Spectrometry (AAS).</li> <li>– Acid soluble copper – 0.5g sample. Leaching by a 5% solution of H<sub>2</sub>SO<sub>4</sub> at ambient temperature for 1 hour. Determination by AAS.</li> <li>– Au – 30g Fire assay with AAS Finish. Over-range results are re-assayed by Gravimetric Finish.</li> <li>– 52 elements - Digestion by aqua-regia and determination by ICP.</li> </ul> </li> <li>▪ From 2016 to present routine assay methods undertaken by ALS (Lima) for Las Bambas are as follows: <ul style="list-style-type: none"> <li>– Cu, Ag, Mo. Digestion by 4-Acids and determination by Atomic Absorption</li> </ul> </li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Cu Sequential: Cu is reported as soluble in sulfuric acid, Soluble in cyanide and residual. Determination by Atomic Absorption.</li> <li>– Au – 30g Fire assay with AAS Finish. Over-range results are re-assayed by Gravimetric Finish.</li> <li>– 60 elements - Digestion by 4-Acids and determination by ICP, includes a package of rare earth elements.</li> <li>▪ Since July 2022 Rare Earth elements are no longer analysed for infill drillholes.</li> <li>▪ All the above methods except the acid-soluble copper are considered as a quasi-total digest.</li> <li>▪ Until 2017 inclusive, 6-8 meters composite samples were analysed by sequential copper methods.</li> <li>▪ In 2018 and 2019, all unassayed 2m pulps where the original copper grade was &gt;0.1% were analysed using the sequential copper method by ALS Global Laboratory.</li> <li>▪ The pulps are currently sent for sequential copper analysis where samples exceed 0.1% Cu.</li> <li>▪ From 2022, selected pulps samples from Chalcobamba were analysed for Cu and Fe, using Ore Grade 4a-ICP method (0.4 g charge and 5% precision method). The site employed 'double blind' sample randomisation at the laboratory until 2016. It essentially was to guarantee the secrecy of results from the operating laboratory. However, it poses a negligible risk of compromising sample provenance, although the risk is low. This practice has now been ceased.</li> <li>▪ No geophysical tools, spectrometers or handheld XRF instruments have been used to analyse samples external to the ALS laboratory for the estimation of Mineral Resources.</li> <li>▪ Assay techniques are considered suitable and representative; independent umpire laboratory checks occurred routinely between 2005-2010 using the ALS Chemex laboratory in Lima. Check samples were inserted at a rate of 1 in every 25 samples (2005-2007), every 50 samples since 2008, and every 40 samples since 2010.</li> <li>▪ For the 2014 to 2018 sampling programs, duplicated samples were collected, for umpire analytical test, at the sampling time and securely stored. Samples were then sent to the Inspectorate Laboratory, Lima, for third party (umpire) analysis. The samples were selected at a rate of 1:40. Analytical results indicated a good correlation between datasets and showed no significant bias for copper, molybdenum, silver, and gold.</li> <li>▪ In 2019, Certimin was selected as the umpire laboratory, using similar rate of sample selection, 1 in 20 samples, using the criteria to check samples over 0.1% Copper.</li> <li>▪ From 2020 to the present, Las Bambas is using Inspectorate-BV laboratory for the umpire assay checks. In 2021 Geobank® software was used to make automatic sample selection. The sample selection rate is 1 in 20, checking samples over 0.1% copper.</li> <li>▪ ALS provided quarterly QAQC reports to Las Bambas for analysis of internal laboratory standard performance. The performance of the internal laboratory preparation and assaying processes is within acceptable limits.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Las Bambas routinely insert:               <ul style="list-style-type: none"> <li>– Primary coarse duplicates: Inserted at a rate of 1:25 samples (2005-2007), 1:50 samples (2008), and 1:40 samples (2010-2022).</li> <li>– Pulp blank samples: Until 2018 inclusive, these controls were inserted before the coarse blank sample, and always after a high-grade sample (blank pulp samples currently make up about 4.1% of all samples analysed).</li> <li>– From 2019 to the present, pulp blanks are inserted at a rate of 1 in 100 samples.</li> <li>– Coarse blank samples: Inserted after a high-grade sample (coarse blank samples currently make up about 4.1% of all samples analysed).</li> <li>– Pulp duplicates samples: Inserted 1:25 samples (2005-2007), 1:50 samples (2008), and 1:40 samples (2010-2022).</li> <li>– From 2019 Field duplicates are inserted at a rate of 1:50 from the RC chips samples.</li> <li>– Late 2022, a Core Duplicate test was implemented for ½ core Field duplicate samples.</li> <li>– Certified Reference Material (CRM) samples: Inserted at a rate of 1:50 samples (2005-2006), 1:40 samples (2007) and 1:20 samples (2008 to the present).</li> </ul> </li> <li>▪ QAQC analysis has shown that:               <ul style="list-style-type: none"> <li>– Blanks: no significant evidence of contamination has been identified during the sample preparation and assay.</li> <li>– Duplicates: the analytical precision is within acceptable ranges when compared to the original sample, i.e., more than 90% of the pairs of samples are within the error limits evaluated for a maximum relative error of 10% (R2&gt;0.90). In 2021, all average Coefficient of Variation (CV%) calculated from coarse and pulp duplicates is acceptable. These results were also repeated in the external umpire check samples.</li> <li>– Certified Reference Material: acceptable levels of accuracy and precision have been established. In 2021 a recertification Round Robin was run, with the Las Bambas matrix CRMs provided by OREAS, to get copper-molybdenum-silver determinations by specific AAS and ICP separately, allowing to produce digestion/determination matched Statistics and Control Graphics.</li> <li>– Sizing test results were applied to 3% of samples. In 2021, sizing tests results are inside acceptable parameters.</li> </ul> </li> <li>▪ Density control was implemented from 2015 onwards; an acceptable density range was established for each rock type unit for each deposit group of samples.</li> <li>▪ Sample Weight: in 2021, a minimum sample size study was carried out (Agoratek International Consultants Inc.) to verify the current drill sampling and preparation protocols, concluding that the actual average sample weight used are within the safe and acceptable limits to get representative copper and molybdenum analysis. Three kilograms (3kg) are defined as minimum rock sample size for the diamond drilling half-core and the Reverse Circulation chips sampling.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Drilling, core logging and sampling data is entered by the geologists; assay results are entered by the geochemistry geologist after the data is checked for outliers, sample mix-ups, performance of duplicates, blanks and standards, and</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>significant intersections are checked against core log entries and core photos. Errors are rectified before data is entered into the database.</p> <ul style="list-style-type: none"> <li>▪ From 2019 to present, the workflow is: logging and sample definition is done by the logging geology team. The mine geologist supervises the QC sample location for its insertion and sample Dispatch into Geobank. The geochemist geologist verifies the QC sample insertion and sample Dispatch integrity. Assays are reported directly to the Database Team for uploading into the database. The geochemist geologist validates the QAQC from each laboratory assay batch analysis, accepting the data if no anomaly is detected in the control samples. If one anomaly is detected, the analysis is not approved, and an investigation is triggered. Once the analytical data passes the QC, the results are accepted for release from the database. Subsequently, the data is released for its use.</li> <li>▪ In 2019-2020 a twinning program was completed to test RC drilling against previously completed Diamond Drill holes. The lithology, grade distribution and variability between dry and wet samples comparison were made. Nine RC drill holes twinned existing DDH.</li> <li>▪ In 2021 Agoratek International Consultants Inc validated the RC sampling process, particularly the automatic sample splitter, based on a heterogeneity test previously obtained from blastholes, the study endorsed an adequate process both for Cu and Mo, considering the current economic cut-off grades for both elements.</li> <li>▪ All drill holes are logged using tablets directly into the drill hole database (Geobank). Before November 2014, diamond drill holes were logged on paper and transcribed into the database. Assay results are provided in digital format (both spreadsheet and PDF) by the laboratories and are automatically loaded into the database after validation. All laboratory primary data and certificates are stored on the Las Bambas server.</li> <li>▪ The database has internal validation processes which prevent invalid or unapproved records from being stored. Additional manual data validation occurs in Geobank® and Vulcan software before data is used for interpretation and Mineral Resources modelling. The unreliable information is flagged and excluded from Mineral Resources estimation work.</li> <li>▪ No adjustments have been made to assay data – if there is any doubt about the data quality or location, the drillhole is excluded from the estimation process.</li> <li>▪ Aqua Regia digestion method has shown to be inadequate for Fe assessment, this was particularly notorious in magnetite stoichiometric calculations for Chalcobamba, and these samples have been removed from the estimation process, representing 54% of samples in the case of magnetite skarn. Similar is the case for Ca and Mg assessment, with significant differences in regard to 4-acid digestion method, in samples from calcareous protolith in Ferrobamba. Copper was not digested by Aqua Regia, or all samples have been opportunely reanalysed. Aqua Regia is not in use since 2016.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ In 2005 collar positions of surface drillholes were picked up by Horizons South America using Trimble 5700 differential GPS equipment. From 2006, the Las Bambas engineering personnel have performed all subsequent surveys using the same equipment. Since 2014, drillholes are set out using UTM co-ordinates with a handheld Differential Global Positioning System (DGPS) and are accurate to within 1m. On completion of drilling, collar locations are picked up by the</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>onsite surveyors using DGPS (Trimble or Topcon). During the 2019 drilling campaign MMG team undertook a survey of drillhole collar locations using Differential GPS. But they also used a TN14 Reflex for alignment of the drilling machine. These collar locations are accurate to within 0.5m.</p> <ul style="list-style-type: none"> <li>▪ During the 2014 due diligence process (2014) RPM independently checked five collar locations at Ferrobamba and Chalcobamba with a handheld GPS and noted only small differences and well within the error limit of the GPS used. RPM did not undertake independent checking of any Sulfobamba drillholes. The collar locations are considered accurate for Mineral Resources estimation work.</li> <li>▪ In 2005 the drilling contractor conducted downhole survey's using the AccuShot method for non-vertical drillholes. Vertical holes were not surveyed. If the AccuShot arrangement was not working, the acid test (inclination only) was used. Since 2006, all drillholes are surveyed using Reflex Maxibor II equipment units which take measurements every 3m. The downhole surveys are considered accurate for Mineral Resources estimation work.</li> <li>▪ The datum used is WGS 84 with a UTM coordinate system zone 18 South.</li> <li>▪ In 2006 Horizons South America surveyed the topography at a scale of 1:1000 based on aerophotogrametric restitution of orthophotos. A digital model of the land was generated every 10m and, using interpolation, contour lines were obtained every metre. The maps delivered were drafted in UTM coordinates and the projections used were WGS 84 and PSAD 56. A triangulated surface model presumably derived from this survey is in current use at site and is considered suitable for Mineral Resources and Ore Reserves estimation purposes.</li> <li>▪ Downhole surveys are now routinely completed by modern gyroscope techniques. Instruments such as Champ Navigator, aligner and Gyro Sprint-IQ are employed.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ The Las Bambas mineral deposits are drilled on variable spacing dependent on rock type (porphyry vs. skarn). Drill spacing typically ranges from 100m x 100m to 25m x 25m and is considered sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resources estimation and classifications applied.</li> <li>▪ Drillhole spacing of approximately 25m x 25m within skarn hosted material and 50m x 50m within porphyry hosted is considered sufficient for long term Mineral Resources estimation purposes based on a drillhole spacing study undertaken in 2015. While the 25m spacing is suitable for Mineral Resource estimation, the Las Bambas deposits tends to have short scale 5m - 10m variations within the skarn that are not captured by the infill drilling at this spacing. This localised geological variability is captured by mapping and drillhole logging.</li> <li>▪ In 2022 a Drill hole Spacing Analysis has been executed, endorsing what it has been found in previous exercises.</li> <li>▪ Diamond drillhole samples are not composited prior to routine chemical analysis; however, the nominal sample length is generally 2m.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ Overall drillhole orientation is planned at 90 degrees to the strike of the mineralised zone for each deposit. Drillhole spacing and orientation is planned to provide evenly spaced, high angle intercepts of the mineralised zone where possible, thus minimising sampling bias related to orientation. However, in some</li> </ul>

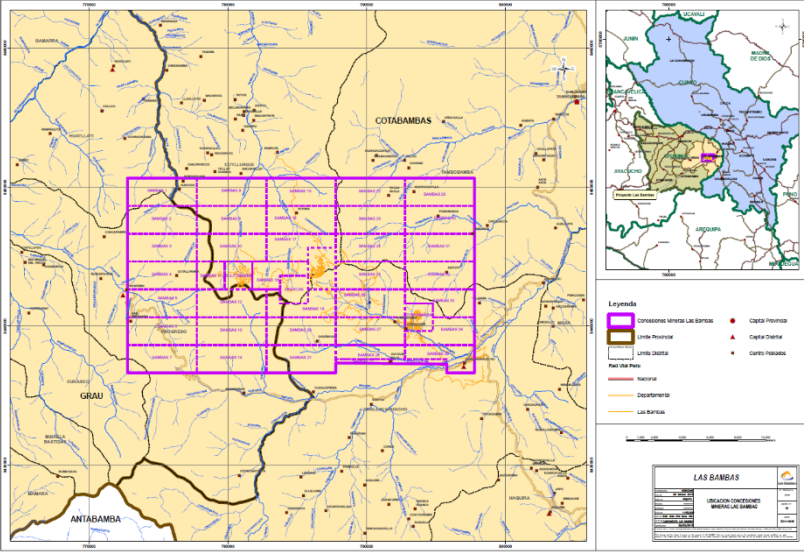
<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>areas of Ferrobamba where skarn mineralisation is orientated along strike, holes orientations were not adjusted.</p> <ul style="list-style-type: none"> <li>▪ Drilling orientation is not considered to have introduced sampling bias.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Measures to provide sample security include: <ul style="list-style-type: none"> <li>– Adequately trained and supervised sampling personnel.</li> <li>– Samples are stored in a locked compound with restricted access during preparation.</li> <li>– Dispatch to various laboratories via contract transport provider in sealed containers.</li> <li>– Receipt of samples acknowledged by receiving analytical laboratory by email and checked against expected submission list.</li> <li>– Assay data is returned separately in both spreadsheet and PDF formats.</li> </ul> </li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>▪ In 2015, an internal audit, checking 5% of the total samples contained in the acquire database (at that time) was undertaken comparing database entry values to the original laboratory certificates for Cu, Ag, Mo, As and S. No material issues were identified.</li> <li>▪ An independent third-party audit was completed by AMC Consultants (Brisbane office) on the 2017 Mineral Resource model in February 2018. The audit identified some minor improvements to the estimation process but concluded there were not material issues or risks to long term mine planning.</li> <li>▪ Given to COVID19 pandemic there was no option to visit the laboratory in the year 2020, re-establishing visits to the lab in 2021 and 2022.</li> <li>▪ AMC Consultants executed a third-party independent audit of both the Ferrobamba and Chalcobamba models in 2020. AMC have reported no material issues from the audit.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>																																	
<b>Criteria</b>	<b>Commentary</b>																																
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The mineral resources of Peru are owned by the Peruvian State and the private sector can only exploit them in accordance with the Peruvian system of concessions. According to Peruvian legislation, investors can carry out mining activities in Peru only after obtaining the necessary concessions and the corresponding permits. Therefore, the concession system is the mechanism conceived under Peruvian legislation to grant rights to perform mining exploration, exploitation, processing and transportation of minerals, among others.</li> <li>▪ Las Bambas consists of 41 mining concessions (collectively, "The Property"), which are listed in the following table:</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #ff0000; color: white;"> <th>No.</th> <th>Name</th> <th>Identification code</th> <th>Extension Available</th> <th>No.</th> <th>Name</th> <th>Identification code</th> <th>Extension Available</th> </tr> <tr style="background-color: #ff0000; color: white;"> <th colspan="3"></th> <th>(Ha)</th> <th colspan="3"></th> <th>(Ha)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Bambas 1</td> <td>10315610</td> <td>1,000</td> <td>22</td> <td>Bambas 22</td> <td>10317710</td> <td>1,000</td> </tr> <tr> <td>2</td> <td>Bambas 2</td> <td>10315710</td> <td>1,000</td> <td>23</td> <td>Bambas 23</td> <td>10317810</td> <td>1,000</td> </tr> </tbody> </table>	No.	Name	Identification code	Extension Available	No.	Name	Identification code	Extension Available				(Ha)				(Ha)	1	Bambas 1	10315610	1,000	22	Bambas 22	10317710	1,000	2	Bambas 2	10315710	1,000	23	Bambas 23	10317810	1,000
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	3	Bambas 3	10315810	1,000	24	Bambas 24	10317910	1,000
	4	Bambas 4	10315910	1,000	25	Bambas 25	10318010	1,000
	5	Bambas 5	10316010	990.9676	26	Bambas 26	10318110	1,000
	6	Bambas 6	10316110	884.788	27	Bambas 27	10318210	1,000
	7	Bambas 7	10316210	987.9216	28	Bambas 28	10318310	500
	8	Bambas 8	10316310	1,000	29	Bambas 29	10318410	1,000
	9	Bambas 9	10316410	1,000	30	Bambas 30	10318510	1,000
	10	Bambas 10	10316510	1,000	31	Bambas 31	10318610	1,000
	11	Bambas 11	10316610	400	32	Bambas 32	10318710	1,000
	12	Bambas 12	10316710	1,000	33	Bambas 33	10318810	800
	13	Bambas 13	10316810	1,000	34	Bambas 34	10318910	800
	14	Bambas 14	10316910	1,000	35	Bambas 35	10319010	700
	15	Bambas 15	10317010	1,000	36	Bambas 36	10409411	141.4319
	16	Bambas 16	10317110	1,000	37	Bambas 37	10409511	123.408
	17	Bambas 17	10317210	800	38	Sulfobamba	05580414Z0 4	400
	18	Bambas 18	10317310	600	39	Ferrobamba	05580414Z0 2	400
	19	Bambas 19	10317410	800	40	Chalcobamba	05580414Z0 5	600
	20	Bambas 20	10317510	1,000	41	Charcas	05580414Z0 3	400
	21	Bambas 21	10317610	1,000	<b>TOTAL</b>		<b>Approx. 34,328</b>	
	<ul style="list-style-type: none"> <li>▪ The Peruvian State has granted to Las Bambas each of the 41 mining concessions titles that comprise the Project, after having completed the corresponding procedure. Subsequently, these were registered in the Registry of Mining Rights that forms part of the Real Property Registry of the National System of Public Registries for an indefinite period. It is important to note that these concessions are valid and enforceable against third parties and the State.</li> <li>▪ Each of the rights linked to the mining concessions that comprise the Project are different of all rights related to the surface (i.e., land rights) where said mining concessions are located. In effect, the Mining Law establishes that the mining concession is a different right and separate from the land property where it is located. The below map outlines the 41 Mining Concessions granted to Minera Las Bambas S.A.</li> <li>▪ There are no known legal impediments restricting the exercise of the mining concession rights. However, in order to carry out mining activities, it is required, among other things, to have the property rights or use of the land where such activities will be developed.</li> </ul>							

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<p>Exploration done by other parties</p>	<ul style="list-style-type: none"> <li>Las Bambas project has a long history of exploration by the current and previous owners. Exploration commenced in 1966, now with more than 700km of drilling so far.</li> <li>Initial exploration drilling commenced in Chalcobamba in 1996 by Cerro de Pasco followed by Cyprus in the same year, totalizing 2,273m of diamond drill cores; in 1997 Phelps Dodge and BHP executed 2,416m of diamond drilling in Ferrobamba and Chalcobamba, and in 2003 Pro Invest drilled 2,328m of DDH in the same targets, as outlined in the table below.</li> </ul> <p style="text-align: center;"><b>EXPLORATION HOLES EXECUTED BY OTHER PARTIES - NOT INCLUDED IN THE DATABASE FOR RESOURCE ESTIMATION</b></p> <table border="1" data-bbox="375 1234 1417 1608"> <thead> <tr> <th>Company</th> <th>Year</th> <th>Deposit</th> <th>Purpose</th> <th>Type</th> <th># Holes</th> <th>DH size</th> <th>Total (m)</th> </tr> </thead> <tbody> <tr> <td>Cerro de Pasco</td> <td>1996</td> <td>Chalcobamba</td> <td>Exploration</td> <td>DDH</td> <td>6</td> <td>UNK</td> <td>906</td> </tr> <tr> <td>Cyprus</td> <td>1996</td> <td>Chalcobamba</td> <td>Exploration</td> <td>DDH</td> <td>9</td> <td>UNK</td> <td>1 367</td> </tr> <tr> <td rowspan="2">Phelps Dodge</td> <td rowspan="2">1997</td> <td>Ferrobamba</td> <td rowspan="2">Exploration</td> <td rowspan="2">DDH</td> <td>4</td> <td rowspan="2">UNK</td> <td>738</td> </tr> <tr> <td>Chalcobamba</td> <td>4</td> <td>653</td> </tr> <tr> <td rowspan="2">BHP</td> <td rowspan="2">1997</td> <td>Ferrobamba</td> <td rowspan="2">Exploration</td> <td rowspan="2">DDH</td> <td>3</td> <td rowspan="2">UNK</td> <td>366</td> </tr> <tr> <td>Chalcobamba</td> <td>4</td> <td>659</td> </tr> <tr> <td rowspan="2">Pro Invest</td> <td rowspan="2">2003</td> <td>Ferrobamba</td> <td rowspan="2">Exploration</td> <td rowspan="2">DDH</td> <td>4</td> <td rowspan="2">HQ</td> <td>738</td> </tr> <tr> <td>Chalcobamba</td> <td>7</td> <td>1 590</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>In 2005 Xstrata started an aggressive drilling campaign in Ferrobamba, Chalcobamba and Sulfobamba. Later in 2013, Glencore and Xstrata merged to form Glencore plc., then MMG Ltd, Guoxin International Investment Corporation Limited and CITIC Metal Co. Ltd entered into an agreement to purchase the Las Bambas project from Glencore plc. It is noticeable that the available information in the data base for resource estimation purposes starts in 2005 (drillholes from Xstrata and later), as detailed in the table below.</li> <li>In 2022 some holes were removed from the estimation process due to their low reliability. A total of 177 holes (40,504.2m) from Ferrobamba and 116 holes (17,370.7m) from Chalcobamba were removed, given that they were reused from other objectives than resource evaluation, or flawed with significant errors in collar, survey, logging, assays, etc.</li> </ul>	Company	Year	Deposit	Purpose	Type	# Holes	DH size	Total (m)	Cerro de Pasco	1996	Chalcobamba	Exploration	DDH	6	UNK	906	Cyprus	1996	Chalcobamba	Exploration	DDH	9	UNK	1 367	Phelps Dodge	1997	Ferrobamba	Exploration	DDH	4	UNK	738	Chalcobamba	4	653	BHP	1997	Ferrobamba	Exploration	DDH	3	UNK	366	Chalcobamba	4	659	Pro Invest	2003	Ferrobamba	Exploration	DDH	4	HQ	738	Chalcobamba	7	1 590
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	<b>DRILL HOLES EXECUTED BY XSTRATA AND MMG - INCLUDED IN THE DATABASE FOR RESOURCE ESTIMATION</b>							
	<b>Company</b>	<b>Year</b>	<b>Deposit</b>	<b>Purpose</b>	<b>Type</b>	<b># of DDH</b>	<b>Drill size</b>	<b>Metres Drilled</b>
	Xstrata	2005	Ferrobamba	Resource Evaluation	DDH	109	HQ	26,840
			Chalcobamba			66		14,754
			Sulfobamba			60		13,943
		2006	Ferrobamba	Resource Evaluation	DDH	124	HQ	50,432
			Chalcobamba			95		27,983
			Sulfobamba			60		16,972
		2007	Ferrobamba	Resource Evaluation	DDH	163	HQ	53,589
			Chalcobamba			137		36,743
			Sulfobamba			22		4,997
		2008	Ferrobamba	Resource Evaluation	DDH	112	HQ	44,235
			Chalcobamba			90		22,097
		2009	Ferrobamba	Resource Evaluation	DDH	1	HQ	331
		2010	Ferrobamba	Resource Evaluation	DDH	91	HQ	28,400
		2014	Ferrobamba	Resource Evaluation	DDH	29	HQ	13,546
	2015	Ferrobamba	Resource Evaluation	DDH	153	HQ	53,752	
	2016	Ferrobamba	Resource Evaluation	DDH	104	HQ	29,408	
		Chalcobamba	Resource Evaluation	DDH	9		1,629	
	2017	Ferrobamba	Resource Evaluation	DDH	45	HQ	20,463	
	2018	Ferrobamba	Resource Evaluation	DDH	107	HQ	54,605	
		Chalcobamba	Resource Evaluation	DDH	49		10,452	
	2019	Ferrobamba	Resource Evaluation	DDH	109	HQ	40,530	
			RC	52	6,804			
		Chalcobamba	Resource Evaluation	DDH	80	HQ	29,108	
			RC	2	58.9			
	2020	Ferrobamba	Resource Evaluation	DDH	31	HQ	7,854	
			RC	38	5,507			
		Chalcobamba	Resource Evaluation	DDH	115	HQ	22,749	
			RC	1	300			
	2021	Ferrobamba	Resource Evaluation	DDH	166	HQ	43,725	
			RC	154	24,460			
		Chalcobamba	Resource Evaluation	DDH	189	HQ	30,380	
			Resource Evaluation	RC	2		550	
	2022	Ferrobamba	Resource Evaluation	DDH	124	HQ	42,750	
			RC	141	22,385			
		Chalcobamba	Resource Evaluation	DDH	29	HQ	7,470	
	<b>Total</b>					<b>2,857</b>	<b>809,801</b>	
Geology	<ul style="list-style-type: none"> <li>Las Bambas is located in a belt of Cu (Mo-Au) skarn deposits associated with porphyry type systems situated in south-eastern Peru. This metallogenic belt is controlled by the Andahuaylas-Yauri Batholith of Eocene-Oligocene age, which is emplaced in strongly folded and faulted Mesozoic sedimentary units, with the</li> </ul>							

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	<p>Ferrobamba Formation (Lower to Upper Cretaceous) being of greatest mineralising importance.</p> <ul style="list-style-type: none"> <li>The porphyry style mineralisation occurs in quartz-monzonite to granodiorite rocks. The main economic hypogene minerals are bornite, chalcopyrite and molybdenite, with minor occurrence of supergene copper oxides and carbonates near surface. The intrusive rocks of the batholith in contact with the Ferrobamba limestones gave rise to contact metamorphism and, in certain locations, skarn (garnet, pyroxene and magnetite) bodies with Cu (Mo-Au) mineralisation.</li> </ul>
Drillhole information	<ul style="list-style-type: none"> <li>Historical exploration drillholes (prior to 2005) have been excluded from the Mineral Resource estimates.</li> <li>Drillhole data is not provided in this report as this report is for the Las Bambas Mineral Resources which use all available data and no single hole is material for the Mineral Resource estimates.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>There are no exploration results reported in this Public Report</li> <li>No metal equivalents are used in the Mineral Resources estimation.</li> </ul>
Relationship between mineralisation width and intercepts lengths	<ul style="list-style-type: none"> <li>The geological modelling is assisted by 3D implicit modelling (Leapfrog3D), this software allows modelling tri-dimensionally without the need to go through sections, allowing a more accurate identification of contacts and hence honouring the data in the modelling process.</li> <li>Infill drilling campaigns are now more accurate as holes can be oriented perpendicularly to the mineralized orebodies, instead of going strictly through predefined sections.</li> </ul>
Diagrams	<p><b>Section Through Ferrobamba</b></p>

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	<p><b>Section Through Chalcobamba</b></p> <p><b>Section Through Sulfobamba</b></p>
Balanced reporting	<ul style="list-style-type: none"> <li>Drilling completed during the 2022 reporting period completed at Ferrobamba and Chalcobamba is dominated by infill type, however exploratory holes (i.e. Ferrobamba Deeps) have also been included in the MROR process. Historical exploration drillholes (prior to 2005) have been excluded from the Mineral Resource estimates. A small number of holes were drilled at Ferrobamba and Chalcobamba for the purpose of hydrogeology and geotechnical.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>The exploration drilling campaign was directed to Ferrobamba Deeps, Ferrobamba South and Ferrobamba East, and previously to Chalcobamba SW; in the case of Ferrobamba exploration has been addressed at depth, looking for geological continuity particularly in the exoskarn.</li> <li>In previous years, several orebody-knowledge studies have been carried out including skarn zonation, vein densities, age dating, deposit paragenesis, clay / talc sampling, and wall rock control of the skarn mineralisation. Recent work has focused on relogging and standardizing the logging database, to be able to model the intrusive units and limestone protoliths with greater accuracy and precision, to benefit resource estimation, geotechnical designs and blast hole modelling. Limestone protoliths are important for geotechnical characteristics, as inward dipping slopes on several walls have already caused structural failures.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>An ongoing program of regional and deposit scale mapping, cross sectional studies, infrared spectral analyses, isotopic and petrographic studies and soil sampling.</li> <li>A program of exploration assessment and targeting is currently underway to identify exploration options for the Las Bambas leases.</li> <li>Permitting for regional exploration drilling is underway.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Ongoing infill programs are planned to increase deposit confidence to support the short to medium term mine plan, In addition, the Las Bambas Mineral Resource has potential to grow to extend the life of the mine and/or support expansions and replace the annual mined Ore Reserve depletion.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The following measures are in place to ensure database integrity:                             <ul style="list-style-type: none"> <li>– All Las Bambas drillhole data is stored in a Microsoft SQL Server database on the Las Bambas site server, which is regularly backed up following IT policies.</li> <li>– Geological logging is entered directly into laptop computers which are uploaded to the database. Prior to November 2014, diamond drillholes were logged on paper logging forms and transcribed into the database. From November 2015 logging was entered directly into a customised interface using portable tablet computers using AcQuire. From February 2019, logging was entered directly into Geobank® using internal validation rules set in the software.</li> <li>– Assays are loaded directly into the database from encrypted digital files provided from the assay laboratory.</li> <li>– The measures described above ensure that transcription or data entry errors are minimised.</li> </ul> </li> <li>▪ Data validation procedures include:                             <ul style="list-style-type: none"> <li>– A database validation project was undertaken in early 2015 checking 5% of the assayed samples in the database against original laboratory certificates. No material issues were identified.</li> <li>– In April 2021, an internal database validation took place to check randomly 5% of the assayed samples (data from 2020 and previous years) comparing recorded information vs original laboratory certificates. No material issues were identified.</li> <li>– The database has internal validation processes which prevent invalid or unapproved records to be stored.</li> </ul> </li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person has undertaken numerous site visits to Las Bambas since acquisition including 2022/2023, however during 2021 only one visit was executed, given to Covid-19 restrictions, and further social contingencies. In the view of the Competent Person there are no material risks to the Mineral Resources based on observations of the site's geological practices.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ There is good confidence on the geological continuity and interpretation of the Ferrobamba and Chalcobamba deposits. Confidence in the Sulfobamba deposit is considered moderate due to limited drilling.</li> <li>▪ The 2023 geological interpretation was undertaken on sections oriented perpendicular to the established structural trend of each deposit, using 3D implicit modelling with Leapfrog® software. Section spacing for the interpretations varied between deposits from 25m at Ferrobamba and Chalcobamba to 50m at Sulfobamba. The geological logging, assay data, blast hole information and surface mapping were used in the interpretation. The drilling and surface mapping were checked against each other to ensure they were concordant. The updating</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>of the lithological model was carried out with the advice and validation of the Principal Exploration Geologist.</p> <ul style="list-style-type: none"> <li>▪ No alternative interpretations have been generated for the Las Bambas mineralisation and geology.</li> <li>▪ Exploratory data analysis (EDA) indicated that the lithological characterisation used for the 2022 geological interpretation was for the most part valid (with minor changes) and were applied for the 2023 modelling. Each lithological unit was modelled according to age, with the youngest modelled first. Structural considerations such as plunge of the units, folding and faults were taken into consideration (where information existed). Orthogonal sections were also interpreted to ensure lithological continuity.</li> <li>▪ In 2019, the Chalcobamba geological model and interpretation was changed based on a complete relog of the deposit combined with detailed surface mapping, with refinements according to new information since then.</li> <li>▪ For the Ferrobamba 2020 model, a grade shell domain was updated in each porphyry and marble domain based on 0.1% Cu cut off.</li> <li>▪ In 2023 the 0.1%Cu grade-shell was extended to all rock types with the exception of dykes. This criterion better constrains the estimation of grade and prevents over-smoothing or smearing. This model was constructed with Leapfrog® using RBF Interpolant, transforming numeric data into categoric, with the use of interval selection.</li> <li>▪ Oxidation domains were produced for the Ferrobamba and Chalcobamba models. Oxidation domains were based on logged mineral species, sequential copper and acid soluble copper to total copper assay ratios, each of which had a priority to represent the oxidation field.</li> <li>▪ Geological volumes were then modelled as wireframe solids (based on the sections) and peer reviewed by the Principal Exploration Geologist and the Mineral Resources Competent Person.</li> <li>▪ Grade shells have been applied to Cu, Mo and Ag to prevent excessive smoothing, the same strategy have been applied in both Chalcobamba and Ferrobamba.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>▪ The Las Bambas Mineral Resources comprises three distinct deposits; each have been defined by drilling and estimated:                             <ul style="list-style-type: none"> <li>– Ferrobamba Mineral Resources occupies a footprint which is 2500m N-S and 1800m E-W and over 900m vertically.</li> <li>– Chalcobamba Mineral Resources occupies a footprint of 2300m N-S and 1300m E-W and 800m vertically.</li> <li>– Sulfobamba Mineral Resources is 1800m along strike in a NE direction and 850m across strike in a NW direction and 450m deep.</li> </ul> </li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ Mineral Resources estimation for the three deposits has been undertaken in Vulcan (Maptek) mining software with the following key assumptions and parameters:</li> <li>▪ Ordinary Kriging interpolation has generally been applied for the estimation of Cu, Mo, Ag, Au, As, Fe, S, CuAS (acid soluble copper), CuCN (cyanide soluble copper), CuRE (residual copper) and density. Simple Kriging has been applied for Ca and Mg, and in some distal sectors where the amount of data is scarce and is required</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>to align the estimation to an expected mean. This is considered appropriate for the estimation of Mineral Resources at Las Bambas.</p> <ul style="list-style-type: none"> <li>▪ The Ferrobamba, Chalcobamba and Sulfobamba block models utilised sub-blocking. Models were then regularised for use in mine planning purposes.</li> <li>▪ High erratic grade values were managed by upper grade capping based on statistical assessment evaluated for all variables and domains. Consideration was also given to the metal content above the top cut value.</li> <li>▪ All elements were estimated by lithology domains. At Ferrobamba five different orientation domains were identified in the skarn and were used in the interpolation. Copper grade-shells greater than 0.1% Cu by lithology were made. These were used together with lithology and oxidation domain models as constraints to the block models.</li> <li>▪ At Sulfobamba high-grade skarn shoots were identified and were used in the interpolation of copper only. The boundaries between the low and the high-grade skarn were treated as hard boundaries.</li> <li>▪ Data compositing for estimation was set to 4m, which matches two times the majority of drillhole sample lengths (2m), provides good definition across interpreted domains, and adequately accounts for bench height.</li> <li>▪ Variogram analysis was updated for Ferrobamba and Chalcobamba deposits, the Sulfobamba model was not updated.</li> <li>▪ No assumptions have been made about the correlation between variables. All variables are comparably informed and independently estimated.</li> <li>▪ Interpolation was undertaken in three to four passes.</li> <li>▪ Check estimates using Discrete Gaussian change of support modelling have been performed on all models. Block model results are comparable with previous Mineral Resources estimations after changes due to drilling and re-modelling by the site.</li> <li>▪ Assumptions about the recovery of by-products are accounted in the net-smelter return (NSR) calculation which includes the recovery of Mo, Ag and Au along with the standard payable terms.</li> <li>▪ Arsenic is considered a deleterious element and has been estimated. It is not considered a material risk. Sulphur, calcium and magnesium are also estimated to assist in the determination of NAF (non-acid forming), PAF (potentially acid forming) and acid neutralising material.</li> <li>▪ Calcium and Magnesium are also prejudicial to ore recovery in the flotation process, their estimation has been controlled using the lithological information of limestone type, discriminating micritic from dolomitic, dirty, or carbonaceous limestones. These estimations have been executed only with 4-acid digested samples, as Aqua Regia shown to be significantly biased, and hence excluded from the process in Ferrobamba.</li> <li>▪ Block sizes for all three deposits were selected based on Quantitative Kriging Neighbourhood Analysis (QKNA). The Ferrobamba and Chalcobamba block size was 20m x 20m x 15m with sub-blocks of 5m x 5m x 5m. The block size at Sulfobamba was set to 50m x 50m x 15m (sub-blocked to 25m x 25m x 7.5m) which roughly equates to the drill spacing. The search anisotropy employed was based on both the ranges of the variograms and the drill spacing. All models were regularised to 20m x 20m x 15m for use in Ore Reserve estimates.</li> </ul>



<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The selective mining unit is assumed to be approximately 20m x 20m x 15m (x, y, z) which equates to the Ferrobamba block model block size.</li> <li>▪ Block model validation was conducted by the following processes – no material issues were identified:                             <ul style="list-style-type: none"> <li>– Visual inspections for true fit for all wireframes (to check for correct placement of blocks and sub-blocks).</li> <li>– Visual comparison of block model grades against composite sample grades.</li> <li>– Global statistical comparison of the estimated block model grades against the declustered composite statistics.</li> <li>– Change of support analysis was completed on major lithological domains and compared to the block estimates to measure the smoothing in each estimation domain.</li> <li>– Swath plots and drift plots were generated and checked for skarn and porphyry domains.</li> </ul> </li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ All tonnages are stated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The Mineral Resources are reported above a range of cut-offs based on material types. The cut-off grades range from 0.18% Cu cut-off grade for hypogene material to 0.2% Cu for marble/calc-silicate hosted material at Ferrobamba. Oxide material has been reported above a 1% Cu cut-off grade. The reported Mineral Resources have also been constrained within a US\$4.71/lb Cu pit shell with revenue factor=1.</li> <li>▪ The reporting cut-off grade is in line with MMG's policy on reporting of Mineral Resources which considers current and future mining and processing costs and satisfies the requirement for prospects for future economic extraction.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ Mining of the Las Bambas deposits is undertaken by open pit method, which is expected to continue throughout the life of mine. Large scale mining equipment including 300 tonne trucks and 100 tonne electric face shovels are used for material movement.</li> <li>▪ During block regularisation, internal dilution is included to produce full block estimates.</li> <li>▪ Further information on mining factors is provided in Section 4 of this table.</li> <li>▪ No other mining factors have been applied to the Mineral Resources.</li> </ul>
Metallurgical factors or assumptions.	<ul style="list-style-type: none"> <li>▪ Currently the processing of oxide copper mineralisation has not been studied to pre-feasibility or feasibility study level. The inclusion of oxide copper Mineral Resources assumes that processing of very similar ores at Tintaya was completed successfully in the past where a head grade of greater than 1.5% Cu was required for favourable economics. This assumption has been used at this stage for the oxide copper mineralisation.</li> <li>▪ Sulphide and partially oxidised material is included in the Mineral Resources which is expected to be converted to Ore Reserves and treated in the onsite concentrator facilities.</li> <li>▪ No other metallurgical factors have been applied to the Mineral Resources.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Environmental factors are considered in the Las Bambas life of asset work, which is updated annually and includes provision for mine closure.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Geochemical characterisation undertaken in 2007, 2009, 2017 and 2021 indicate most of the waste rock from Ferrobamba and Chalcobamba deposits to be Non-Acid Forming (NAF) and that no acid rock drainage from the waste rock dumps from these two pits should be expected. Waste rock samples from Sulfobamba were found to contain higher concentrations of sulphur and that 30% to 40% of waste rock could be Potentially Acid Forming (PAF). Suitable controls will be implemented for all PAF waste rock, including investigating opportunities for backfill into pit voids. Additional geochemical characterisation work is ongoing.</li> <li>▪ Tailings generated from processing of Ferrobamba and Chalcobamba were determined to be NAF. Geochemical characterisation of tailings generated from processing of Sulfobamba ores has been finalized and the results determined to be NAF, however for environmental assessment purposes it was assumed to have PAF behaviour. Current Life of Asset schedules have Ferrobamba tailings processing scheduled for approximately 3 years after Sulfobamba tailings are processed. The closure plan update was approved by regulator in Mar-23 (RD No. 0044-2023/MINEM-DGAAM) and describes the encapsulation method for Sulfobamba tailings.</li> <li>▪ On 13 July 2020, the environmental technical report was submitted to SENACE that included: Ferrobamba Phase 7A, drilling, processing facilities, truck shop relocation and ancillary components for Ferrobamba and Chalcobamba. This technical report was approved in October 2021 by the authority.</li> <li>▪ On October 17, 2021, another environmental technical report was submitted, which included Ferrobamba pit expansion (6A), relocation of conveyor belt #4, Chalcobamba pit expansion, Concentrator plant expansion to 152,250 tn/d, relocation of the tailings auxiliary dam and other components. The Environmental Technical report was approved by the authority on February 18-22.</li> <li>▪ On September 16, 2022 the environmental technical report was approved, this report included TSF Expansion to 67 Mt. Las Bambas has started the process for the 4th modification to include: Ferrobamba Pit expansion, TSF 1 expansion up to the 4200 Level, drilling and other components. The citizen participation plan for MEIA4 is currently in process. MEIA 4 will be submitted in 2023.</li> <li>▪ In February 2019 the file for the authorisation to start activities for Chalcobamba was presented to MINEM, the approval of the AIA was planned for 31 July 2020. However, due to the current situation caused by the health crisis (COVID 19), and now government related issues, this permit was approved in March 2022.</li> <li>▪ Based on the current TSF design and the design assumptions for dry settled density and beach angle, the TSF currently under construction at Las Bambas has a final capacity of 784Mt of tailings from processing 800Mt.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ Bulk density is determined using the Archimedes' principle (weight in air and weight in water method). Samples of 20cm in length are measured at a frequency of approximately one per core tray and based on geological domains. The density measurements are considered representative of each lithology domain.</li> <li>▪ Bulk density measurement occurs at the external, independent assay laboratory. The core is air dried and whole core is wax coated prior to bulk density determination to ensure that void spaces are accounted for.</li> <li>▪ Density values in the Mineral Resources models are estimated using Ordinary Kriging within the lithology domain shapes. Un-estimated blocks were assigned a</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources																																				
Criteria	Commentary																																			
	density value based on an expected value of un-mineralised rock within each geological domain.																																			
Classification	<ul style="list-style-type: none"> <li>▪ Mineral Resource classifications used criteria that required a certain minimum number of drillholes. The requirement of more than one drillhole ensures that any interpolated block was informed by sufficient spatially distributed samples to establish grade continuity. Furthermore, rock type specific hole spacing (skarn vs. porphyry) were used to classify each Mineral Resource category.</li> <li>▪ Drillhole spacing for classification were based on an internal Ferrobamba drillhole spacing study undertaken in 2015, and verified in 2022 by a drill hole spacing analysis executed by Geovariances in 2022. Drill spacing currently applied for each category are: <table border="1" data-bbox="528 730 1294 1077"> <thead> <tr> <th rowspan="2">Deposit</th> <th rowspan="2">Ore Type</th> <th colspan="3">Drill Spacing (m)</th> </tr> <tr> <th>Measured</th> <th>Indicated</th> <th>Inferred</th> </tr> </thead> <tbody> <tr> <td rowspan="2">FB</td> <td>Skarn</td> <td>40x40</td> <td>70x70</td> <td>140x140</td> </tr> <tr> <td>Porphyry</td> <td>60x60</td> <td>120x120</td> <td>250x250</td> </tr> <tr> <td rowspan="2">CB</td> <td>Skarn</td> <td>25x25</td> <td>60x60</td> <td>90x90</td> </tr> <tr> <td>Porphyry</td> <td>60x60</td> <td>120x120</td> <td>150x150</td> </tr> <tr> <td rowspan="2">SB</td> <td>Skarn</td> <td>-</td> <td>50x50</td> <td>90x90</td> </tr> <tr> <td>Porphyry</td> <td>-</td> <td>100x100</td> <td>150x150</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>– Measured and Indicated generally require at least three holes in the referred radius.</li> </ul> </li> <li>▪ Only copper estimates were used for classification. Estimation confidence of deleterious elements such as arsenic was not considered for classification purposes.</li> <li>▪ The Mineral Resource classification applied appropriately reflects the Competent Person's view of the deposit.</li> </ul>	Deposit	Ore Type	Drill Spacing (m)			Measured	Indicated	Inferred	FB	Skarn	40x40	70x70	140x140	Porphyry	60x60	120x120	250x250	CB	Skarn	25x25	60x60	90x90	Porphyry	60x60	120x120	150x150	SB	Skarn	-	50x50	90x90	Porphyry	-	100x100	150x150
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Audits or reviews	<ul style="list-style-type: none"> <li>▪ Historical models have all been subject to a series of internal and external reviews during their history of development. The recommendations of each review have been implemented at the next update of the relevant Mineral Resource estimates.</li> <li>▪ Several extensive reviews were undertaken as part of the MMG due diligence process for the purchase of Las Bambas. These reviews included work done by: <ul style="list-style-type: none"> <li>– Runge Pincock Minarco (RPM), which resulted in the published Competent Person report in 2014.</li> <li>– AMC completed an independent audit of the 2017 block model during 2018. Minor recommendations were made towards the subsequent 2018 model update.</li> <li>– Significant review work was carried out by AMEC in 2019 on the 2018 model.</li> <li>– AMC completed an independent audit of the 2020 block model from Aug. to Nov. 2020. Minor recommendations were made, and most of them were raised.</li> <li>– No fatal flaws were detected in any of these reviews and all recommendations were considered and addressed in the further models.</li> </ul> </li> <li>▪ As was the case in previous years, a self-assessment of all 2023 Mineral Resource modelling was completed by the Competent Person using a standardised MMG template. No fatal flaws were detected. Areas previously identified for improvement have been addressed and include:</li> </ul>																																			

Section 3 Estimating and Reporting of Mineral Resources																																																											
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	<ul style="list-style-type: none"> <li>– Mineral Resource classification for the Ferrobamba block model uses a wireframe shape to constrain the final Mineral Resource category.</li> <li>– Sequential copper results are used to model an oxidation type domain. This is used to constrain the soluble copper in sulfuric acid, cyanide soluble Cu (which has its own “bornite” domain) and residual Cu which is a calculated field.</li> <li>– Some elements are significantly affected by Aqua Regia digestion being not efficient for quantitative assessment, including Fe in CB, and Ca and Mg in FB.</li> </ul>																																																										
Discussion of relative accuracy / confidence	<ul style="list-style-type: none"> <li>▪ There is high geological confidence of the spatial location, continuity and estimated grades of the modelled lithologies within the Mineral Resources. Minor, local variations are expected to occur on a sub-25m scale that is not detectable by the current drill spacing. Global declustered statistics of the composite databases on a domain basis were compared against the block model. Block model estimates were within 10% of the composite database. Local swath plots were undertaken for each deposit. All plots showed appropriate smoothing of composite samples with respect to estimated block grades.</li> <li>▪ The Las Bambas Mineral Resource estimates are considered suitable for Ore Reserve estimation and mine design purposes. The Mineral Resources model was evaluated using the discrete Gaussian change of support method for copper in most domains. Based on the grade tonnage curves generated, the Mineral Resources model should be a reasonable predictor of tonnes and grade selected during mining.</li> <li>▪ Reconciliation of the last 12 months of production indicates that the mine planning block model (derived from the 2023 Mineral Resource model) has over-called the ore control model (F1) by 3% for copper metal. This comprises a 1% under-call of grade and a 3% over-call of tonnage.</li> <li>▪ The F1 reconciliation indicates that the 2022 model has over-called metal by 7% for the year to June 2022, triggered by 3% overcalling of grade and 5% under-calling of tonnage.</li> <li>▪ The F3 (Mill / Reserve) reconciliation indicates that the Reserve model has over-called metal by 7%, triggered by 7% overcalling of grade. Tonnage is accurately called during this period. The project to date reconciliation shows the Reserve has over-called metal production (F3) by 4% while the F1 metal of 5% under-call is consistent with prior years’ models.</li> <li>▪ Further analysis using the F2 reconciliation factor (Mill / Grade Control) for the year ending June 2022 shows that metal is 5% lower, comprising 3% higher tonnes and 7% lower grade received by the mill than estimated by the mine. The F2 factor result indicates that ore loss and dilution are issues that need to be addressed. Both the F2 and F3 factors are affected by ore loss and dilution.</li> </ul> <table border="1" data-bbox="368 1720 1449 2067"> <thead> <tr> <th></th> <th>Block Model</th> <th>Factor</th> <th>Grade</th> <th>Tonnes</th> <th>Metal</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Year to June 2023</td> <td rowspan="3">2023</td> <td>F1</td> <td>0.98</td> <td>0.95</td> <td>0.93</td> </tr> <tr> <td>F2</td> <td>0.93</td> <td>1.03</td> <td>0.95</td> </tr> <tr> <td>F3</td> <td>0.91</td> <td>0.97</td> <td>0.89</td> </tr> <tr> <td rowspan="3">1 July 2022 to 30 June 2023</td> <td rowspan="3">2023</td> <td>F1</td> <td>1.01</td> <td>0.97</td> <td>0.97</td> </tr> <tr> <td>F2</td> <td>0.92</td> <td>1.04</td> <td>0.96</td> </tr> <tr> <td>F3</td> <td>0.93</td> <td>1.00</td> <td>0.93</td> </tr> <tr> <td rowspan="3">1 July 2021 to 30 June 2022</td> <td rowspan="3">2023</td> <td>F1</td> <td>1.02</td> <td>0.99</td> <td>1.01</td> </tr> <tr> <td>F2</td> <td>0.92</td> <td>1.04</td> <td>0.96</td> </tr> <tr> <td>F3</td> <td>0.94</td> <td>1.03</td> <td>0.97</td> </tr> <tr> <td>1 July 2020 to 30 June 2021</td> <td>2023</td> <td>F1</td> <td>0.98</td> <td>1.05</td> <td>1.03</td> </tr> </tbody> </table>						Block Model	Factor	Grade	Tonnes	Metal	Year to June 2023	2023	F1	0.98	0.95	0.93	F2	0.93	1.03	0.95	F3	0.91	0.97	0.89	1 July 2022 to 30 June 2023	2023	F1	1.01	0.97	0.97	F2	0.92	1.04	0.96	F3	0.93	1.00	0.93	1 July 2021 to 30 June 2022	2023	F1	1.02	0.99	1.01	F2	0.92	1.04	0.96	F3	0.94	1.03	0.97	1 July 2020 to 30 June 2021	2023	F1	0.98	1.05	1.03
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Section 3 Estimating and Reporting of Mineral Resources						
Criteria	Commentary					
			F2	0.94	0.98	0.92
			F3	0.93	1.03	0.95
All (since commercial production start)	2023		F1	1.03	1.02	1.05
			F2	0.94	0.97	0.92
			F3	0.97	0.99	0.96
		F1	Ore Control / Ore Reserve			
		F2	Mill / Ore Control			
		F3	Mill / Ore Reserve			
	<ul style="list-style-type: none"> <li>The accuracy and confidence of the 2023 Mineral Resource estimates are considered suitable for use as an input to Ore Reserve estimation and public reporting by the Competent Person. MMG internal procedures for external 3<sup>rd</sup> party reviews are triggered upon a 10% variance (excluding depletion) year on year.</li> </ul>					

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

This Mineral Resources 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”).

**3.2.3.1 Competent Person Statement**

I, Hugo Rios, confirm that I am the Competent Person for the Las Bambas Mineral Resources 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 sufficient 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 and hold Chartered Professional accreditation in the field of Geology.
- I have reviewed the relevant Las Bambas Mineral Resources section of this Report to which this Consent Statement applies.

I am a full-time employee of MMG Las Bambas 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 Las Bambas Mineral Resources 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 Las Bambas Mineral Resources.

### 3.2.3.2 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 Las Bambas Mineral Resources - I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Hugo Rios MAusIMM (CP) (#311727)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

José Calle (Lima, Peru)

Witness Name and Residents:  
(eg, town/suburb)

## 3.3 Ore Reserves – Las Bambas

### 3.3.1 Results

The 2023 Las Bambas Ore Reserves are summarised in Table 1. All data reported here are on a 100% asset basis. MMG's attributable interest in Las Bambas is 62.5%.

Table 5: 2023 Las Bambas Ore Reserves tonnage and grade (as at 30 June 2023)

Las Bambas Ore Reserves						Contained Metal			
Ferrobamba Primary Copper <sup>1</sup>	Tonnes (Mt)	Copper (% Cu)	Silver (g/t Ag)	Gold (g/t Au)	Mo (ppm)	Copper (kt)	Silver (Moz)	Gold (Moz)	Mo (kt)
Proved	310	0.63	3.0	0.05	220	1,900	29	0.51	67
Probable	130	0.73	3.9	0.06	190	980	17	0.28	26
<b>Total</b>	<b>440</b>	<b>0.66</b>	<b>3.3</b>	<b>0.06</b>	<b>210</b>	<b>2,900</b>	<b>46</b>	<b>0.79</b>	<b>92</b>



# Mineral Resources and Ore Reserves Statement as at 30 June 2023

Technical Appendix

<b>Chalcobamba Primary Copper<sup>2</sup></b>									
Proved	96	0.62	2.0	0.03	120	600	6	0.09	12
Probable	130	0.68	2.7	0.03	110	860	11	0.12	14
<b>Total</b>	<b>220</b>	<b>0.66</b>	<b>2.4</b>	<b>0.03</b>	<b>120</b>	<b>1,500</b>	<b>17</b>	<b>0.21</b>	<b>26</b>
<b>Sulfobamba Primary Copper<sup>3</sup></b>									
Probable	57	0.77	5.8	0.03	160	440	11	0.05	9
<b>Total</b>	<b>57</b>	<b>0.77</b>	<b>5.8</b>	<b>0.03</b>	<b>160</b>	<b>440</b>	<b>11</b>	<b>0.05</b>	<b>9</b>
<b>Sulphide Stockpiles</b>									
Proved	25	0.36	2.2	-	110	92	1.8	-	2.8
<b>Total</b>	<b>25</b>	<b>0.36</b>	<b>2.2</b>	<b>-</b>	<b>110</b>	<b>92</b>	<b>1.8</b>	<b>-</b>	<b>2.8</b>
<b>Total Contained Metal</b>	<b>740</b>	<b>0.66</b>	<b>3.2</b>	<b>0.04</b>	<b>170</b>	<b>4,900</b>	<b>76</b>	<b>1.0</b>	<b>130</b>

1 0.18% to 0.22% Cu cut-off grade based on rock type and recovery

2 0.21% to 0.28% Cu cut-off grade based on rock type and recovery

3 0.23% to 0.28% Cu cut-off grade based on rock type and recovery

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

Contained metal does not imply recoverable metal

**3.3.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 6 complies with the 2012 JORC Code requirements specified by “Table-1 Section 4” of the Code. Each item 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 6: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Las Bambas Ore Reserve 2023**

<b>Section 4 Estimation and Reporting of Ore Reserves</b>				
<b>Criteria</b>	<b>Commentary</b>			
Mineral Resource estimates for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>Mineral Resource block models have been updated by Resource Geology within Strategic Planning and reviewed by the Mineral Resource Competent Person. The block models contain descriptions of lithology, Mineral Resources classification, mineralisation, ore types, and other variables described in the model release memorandums. Ore loss modifying factors have been incorporated in the block models via a variable. These block models were used for the pit optimisation purpose using corporately approved assumptions for cost and metal prices. The software package used for this purpose is GEOVIA Whittle.</li> </ul>			
	<b>MR block models</b>	<b>Ferrobamba</b>	<b>Chalcobamba</b>	<b>Sulfobamba</b>
	Previously Completed by	Paolo Petersen / Hugo Rios	Paolo Petersen / Hugo Rios	Paolo Petersen / Hugo Rios
	Updated by	Paolo Petersen	Paolo Petersen	Paolo Petersen
	Reviewed by	Hugo Rios	Hugo Rios	Hugo Rios
	Memorandum date	05 Apr 2023	05 Apr 2023	10 May 2021
	Block model file	lb_fe_mor_2304.bmf	lb_ch_mor_2304.bmf	lb_sb_mor_1704_v2.bmf
	Block size (m)	20 x 20 x 15	20 x 20 x 15	20 x 20 x 15
	Model rotation	35°	0°	0°
		<ul style="list-style-type: none"> <li>The Measured and Indicated Mineral Resources quantities are inclusive and not additional to the Ore Reserves reported.</li> </ul>		
Site visits	<ul style="list-style-type: none"> <li>The Competent Person has undertaken a site visit to Las Bambas and has engaged in many weekly and bi-weekly meetings with geology, block modelling, and mine planning teams, along with monthly meetings of reconciliation since April 2022. Additionally, frequent discussion sessions have been held with site experts listed in Table 7 of Section 2.2.3, focusing on Ore Reserves in areas of Geology, Block Modelling, Mine Planning, Metallurgy, Grade Control, Geotechnical Engineering, Mine Operations, Tailings Disposal, Waste Storage, and Environmental. The site visit and meetings have led to a comprehensive understanding of all aspects for ore reserves estimation.</li> </ul>			
Study status	<ul style="list-style-type: none"> <li>The Las Bambas Ore Reserve estimates were prepared based on Feasibility and Pre-Feasibility level studies that include the following: <ul style="list-style-type: none"> <li>Bechtel Feasibility Study 2010; and</li> <li>TSF-1 PFS-B Geotechnical Design Memorandum, Khlon Crippen Berger, 2023;</li> <li>PFS-A Hydrogeology Study – TSF-1 Expansion, Flosolutions, 2021; and</li> <li>Feasibility Study Report – Tailings Deposition and Reclaim Water Improvement, PSI/JRI, 2022.</li> </ul> </li> </ul>			



<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Additional work/studies include:               <ul style="list-style-type: none"> <li>– Glencore Mineral Resources and Ore Reserves Report 2013;</li> <li>– Audit of Las Bambas Ore Reserves 2013, by Mintec, Inc in October 2013.</li> <li>– Audit of Las Bambas Ore Reserves 2020 by AMC Consultants in March 2021.</li> <li>– MMG Competent Person Report prepared by Runge Pincock Minarco (RPM), June 2014;</li> <li>– MMG Las Bambas cut-Off Grade Report 2023;</li> <li>– Rock Mass Model Update by Golder (2019) &amp; Itasca (2022);</li> <li>– Structural Geology Mode Update for Ferrobamba (SRK 2021), Chalcobamba (Anddes, 2023)</li> <li>– Hydrogeology Model Update by Piteau (2022);</li> <li>– Provision of geotechnical design parameters recommendation for Phases 3 and 5 of the Ferrobamba pit, (ITASCA June 2022);</li> <li>– Provision of geotechnical design parameters recommendation for Ferrobamba Pit Final Phase (MROR), (ITASCA May 2022);</li> <li>– Geotechnical Report for the detail engineering of Chalcobamba expansion pit (Anddes 2023);</li> <li>– Stability Analysis Update – Ferrobamba Waste Deposit. (ANDDES, Abril 2023);</li> <li>– Geotechnical Slope Design Guidance 2023 (Design parameters update for Ferrobamba, Chalcobamba &amp; Sulfobamba)</li> <li>– Sulfobamba Metallurgy Testing, 2015;</li> <li>– Tailings Storage Facility 1 – Design Report, Stage 5 RL 4130 Crest Raise, ATCW, 2022;</li> <li>– Tailings Storage Facility 1 – Design Report, Stage 6 RL 4160 Crest Raise, ATCW, 2023;</li> </ul> </li> <li>▪ The 2023 Life of Mine (LoM) Reserve Case, produced as part of the MMG planning cycle, demonstrates its technical feasibility, economic viability, and thorough consideration of Modifying Factors.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The breakeven cut-off grades for copper, as detailed in the "MMG Las Bambas Open Pit Cut-Off Grade Report" for the year 2023, was determined using the following metal prices and costs:</li> <li>▪ In accordance with the MMG Mineral Resources and Ore Reserves (MROR) Standard, the MMG Group Finance provided metal prices that were approved by the MMG Board for use in the cut-off calculation.</li> <li>▪ Costs were calculated using information from the Las Bambas Finance Department.</li> <li>▪ Cut-off grades were calculated for each ore type within each deposit. The ore types include Skarn Low Solubility (SSL), Porphyry Low Solubility (PSL), Marble Low Solubility (MSL), Breccia (BRE). Skarn Medium Solubility (SSM), Porphyry Medium Solubility (PSM). Skarn Magnetite Low Solubility (SML), and Skarn Magnetite Medium Solubility (SMM).</li> </ul>

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Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ The method of Ore Reserves estimation included pit optimisation, final pit and phase designs, consideration of mining schedule and all modifying factors. Additional information is provided in this section.</li> <li>▪ The mining method selected for the Las Bambas operation is open-cut mining, which enables bulk mining of these large low to moderate grade mineral deposits that are outcropping to sub-cropping. Three deposits, Ferrobamba, Chalcobamba and Sulfobamba are each mined in separate open pits. Mining is by way of conventional truck and shovel operation. This method and selected mining equipment are appropriate for these deposits.</li> <li>▪ An extension of Chalcobamba pit in the southwest sector (CBSW) is included in the reserve, after the completion of various assessments and studies, including mine planning, geological confirmation, hydrogeological, geotechnical and metallurgical studies. It also forms part of the Las Bambas permitting plan.</li> <li>▪ The geotechnical recommendations were provided by the Geotechnical &amp; Hydrogeology team at Las Bambas in coordination with MLB Operational Excellence and Strategic Planning (OE&amp;SP) and MMG Operational and Technical Excellence (OTE). These recommendations are based on recommended practices and studies performed by site personnel and Itasca (2020 to 2022) on Ferrobamba and by Ausenco (2020 to 2021) and Anddes (2023) for Chalcobamba pit. The pits are sectored by structural domains and geotechnical sectors.</li> <li>▪ Ferrobamba Design sectors were updated in 2022 based on the stability and sensitivity analysis for slope stability validation of FB Final phase performed by Itasca. Design parameters were divided in five sectors base in new laboratory, structural information and sensitivity analysis. Primary changes are on North and North-East area. Analysis also provided updates on dewatering and slope performance targets to support the design implementation.</li> <li>▪ Chalcobamba design parameters were re-validated during 2023 performing kinematic validations at bench scale which show bench configurations meet acceptance criteria. Design guidance remain without changes. Introduced increase on Bench Face Angles for design sectors CH-N, CH-E, CH-SE, CH-S2, CH-S1 and CH-SW (increase from 65° to 70° on upper level) were</li> </ul>																													

**Section 4 Estimation and Reporting of Ore Reserves**

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	<p>maintained, as structural and rock mass conditions on the sectors are favourable). No change to IRA was introduced.</p> <ul style="list-style-type: none"> <li>Geotechnical slope design angles for 2023 are reported on the memorandum (Geotechnical Slope Design Guidance 2023). The summary tables for slope design parameters, by pit, are presented below.</li> </ul> <p style="text-align: center;"><b>Geotechnical recommendations for Ferrobamba pit</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #ff0000; color: white;"> <th colspan="9">Ferrobamba Pit Geotechnical Design Parameters</th> </tr> <tr style="background-color: #ff0000; color: white;"> <th>Zone</th> <th>Slope Orientation (Dipdir °)</th> <th>Level (mASL) From-to</th> <th>Bench height (m)</th> <th>Bench Face Angle (BFA)</th> <th>Berm Width (m)</th> <th>Inter-ramp Angle (IRA°)</th> <th>Inter-ramp Height (m)</th> <th>Decoupling berm width (m)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>050 – 125</td> <td>3720-4230</td> <td>15</td> <td>70</td> <td>11.2</td> <td>42</td> <td>105</td> <td>25</td> </tr> <tr> <td>2</td> <td>150 – 295</td> <td>3380-4300</td> <td>15</td> <td>70</td> <td>9</td> <td>46</td> <td>150</td> <td>30</td> </tr> <tr> <td rowspan="3">3</td> <td>Above T6 Channel</td> <td>*</td> <td>15</td> <td rowspan="3">70</td> <td>11.2</td> <td>42</td> <td rowspan="3">150</td> <td>30</td> </tr> <tr> <td>000 – 359</td> <td>3285-4425</td> <td>15</td> <td>8.5</td> <td>47</td> <td>30</td> </tr> <tr> <td>080 – 095</td> <td>North Sector 3540-3720</td> <td>30</td> <td>17</td> <td>47</td> <td>30</td> </tr> <tr> <td>4</td> <td>125 – 305</td> <td>3510-3870</td> <td>30</td> <td>70</td> <td>12.5</td> <td>52</td> <td>150</td> <td>30</td> </tr> <tr> <td>5</td> <td>045 – 305</td> <td>3285-3870</td> <td>30</td> <td>70</td> <td>12</td> <td>53</td> <td>150</td> <td>30</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Geotechnical recommendations for Chalcobamba pit</b></p> <table border="1" style="width: 100%; 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CH-E	4165 - 4435	70	15	8	48,1	150	43	30																																																																																																																																																																																								
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CH-N	4165 - 4360	70	15	8	48,1	120	43	30																																																																																																																																																																																								
	4360 - 4465	70	15	9.5	45,0																																																																																																																																																																																											
CH-NW	4165 - 4285	70	15	8	48,1	120	43	30																																																																																																																																																																																								
	4285 - 4375	65	15	8	45,0																																																																																																																																																																																											
CH-W	4165 - 4330	70	15	8	48,1	120	43	30																																																																																																																																																																																								
	4330 - 4420	65	15	8	45,0																																																																																																																																																																																											
CH-SW	4315 - 4435	70	15	8	48,1	150	43	30																																																																																																																																																																																								
	4435 - 4525	70	15	9.5	45,0																																																																																																																																																																																											

Section 4 Estimation and Reporting of Ore Reserves								
Criteria	Commentary							
CH-SW2	4225 - 4450	70	15	8	48,1	150	43	30
	4450 - 4555	70	15	9.5	45,0			
All	Quaternary (QT) & Overburden	65	10	10.2	34	n/a	n/a	n/a
<b>Geotechnical recommendations for Sulfobamba pit</b>								
<b>Sulfobamba Pit Geotechnical Design Parameters</b>								
Ore reserve sectors	Levels (masl)	Bench Height (m)	Bench Face Angle (BFA °)	Berm width (m)	Interamp Angle (IRA °)	Interamp / stack height (m)	Decoupling Berm width (m)	
SU-N	4460 – 4310	15	65	8	45	150	30	
SU-NE	4420 – 4345	15	65	8	45	150	30	
	In fresh rock	15	70	8	48.1			
SU-E	4565 – 4445	15	65	8	45	150	30	
	In fresh rock	15	70	8	48.1			
SU-S	4565 - 4475	15	65	8	45	150	30	
	In fresh rock	15	70	8	48.1			
SU-W	4565 – 4505	15	65	8	45	150	30	
	In fresh rock	15	70	8	48.1			
<ul style="list-style-type: none"> <li>▪ An update of the Ferrobamba Geotechnical Model is in progress through 2023 with information available for 2024 Ore Reserve slope design guidance. At Chalcobamba a drill program for 2024 is in budget to improve confidence in the slope design guidance of the deposit at North and west sector and to incorporate additional information on new pit extension identified by exploration, the bulk of the findings from the data collection and analysis will be available for inclusion in the 2024- 2025 Ore Reserve slope design guidance.</li> <li>▪ The 2023 Mineral Resources models for Ferrobamba and Chalcobamba, which incorporated the additional ore loss variable, have been used for the updated 2023 Ore Reserves. The Mineral Resources model for Sulfobamba remained the same as 2019 except for an update of the ore loss variable and incorporation of ore loss due to the artisanal mining. All models were regularised to 20m x 20m x 15m.</li> <li>▪ The pit optimisation was developed for the three open pits based on the 2023 Mineral Resource block models. The strategy for the final pit selection was based on the NPV by pit shell at revenue factor (RF) of 1.0. Final pit designs that incorporate more practical mining considerations were carried out using those optimisation shells.</li> <li>▪ Dilution has been accounted for in the regularised block model used for the Ore Reserves estimate. In addition, the ore loss block model variable has been populated with the following modifying factors:                         <ul style="list-style-type: none"> <li>– 3% ore loss for all ore types for all pits.</li> </ul> </li> </ul>								

**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary																																																																		
	<p>– An additional 2% ore loss for Ferrobamba Phase 03 which provides around 20% of ore source for 2023.</p> <p>This is supported by the reconciliation results below.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Block Model</th> <th>Factor</th> <th>Cu Grade</th> <th>Tonnes</th> <th>Cu Metal</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Year to June 2023</td> <td rowspan="3">2023</td> <td>F1</td> <td>0.98</td> <td>0.95</td> <td>0.93</td> </tr> <tr> <td>F2</td> <td>0.93</td> <td>1.03</td> <td>0.95</td> </tr> <tr> <td>F3</td> <td>0.91</td> <td>0.97</td> <td>0.89</td> </tr> <tr> <td rowspan="3">1 July 2022 to 30 June 2023</td> <td rowspan="3">2023</td> <td>F1</td> <td>1.01</td> <td>0.97</td> <td>0.97</td> </tr> <tr> <td>F2</td> <td>0.92</td> <td>1.04</td> <td>0.96</td> </tr> <tr> <td>F3</td> <td>0.93</td> <td>1.00</td> <td>0.93</td> </tr> <tr> <td rowspan="3">1 July 2021 to 30 June 2022</td> <td rowspan="3">2023</td> <td>F1</td> <td>1.02</td> <td>0.99</td> <td>1.01</td> </tr> <tr> <td>F2</td> <td>0.92</td> <td>1.04</td> <td>0.96</td> </tr> <tr> <td>F3</td> <td>0.94</td> <td>1.03</td> <td>0.97</td> </tr> <tr> <td rowspan="3">All (since commercial production start)</td> <td rowspan="3">2023</td> <td>F1</td> <td>1.03</td> <td>1.02</td> <td>1.05</td> </tr> <tr> <td>F2</td> <td>0.94</td> <td>0.97</td> <td>0.92</td> </tr> <tr> <td>F3</td> <td>0.97</td> <td>0.99</td> <td>0.96</td> </tr> </tbody> </table> <p style="margin-left: 40px;">F1     Ore Control / Ore Reserve F2     Mill / Ore Control F3     Mill / Ore Reserve</p> <ul style="list-style-type: none"> <li>▪ In early June 2019, Las Bambas convened technical stakeholders to develop and agree to a scheme to apply a modifying mining factor to support construction of mine plans more closely aligned with reconciliation outcomes. These modifying factors were introduced to the Resources Models under the additional ore loss variable.</li> <li>▪ A program was established to address these issues, and significant progress has been achieved in the areas of resource estimation, grade control practices, blasting designs and practices, monitoring blast movement, accurate positioning of shovels, improved design of ore polygons, and other remedial measures. The continuous improvement program is ongoing.</li> <li>▪ The 2023 model shows a significant improvement in terms of global tonnage and grade variability, though it might still present some local variations caused by uncertainty in geological contacts which could affect the high- and low-grade proportion assessment, notwithstanding that these variations are inside the expected range for Measured and Indicated. Infill drilling is particularly insightful in zones with high geological variation, or high sensitivity to ore/waste limit in low-grade zones however it is frequently affected by the lack of compliance of the planned drilling campaigns due to operational restrictions, for which it is recommendable to double the efforts to keep-up the plan as closely as possible.</li> <li>▪ 2023 reconciliation results support the continuing application of the ore loss factors as outlined above. The Competent Person considers this to be appropriate for the 2023 Ore Reserve estimation based on the current information.</li> <li>▪ After an internal review that was carried out in 2019 on reconciliation, involving all the key areas including: geological modelling, ore control, operations, mine planning, and operational excellence, differences were explained, and now monthly meetings are held to address issues encountered.</li> <li>▪ A midterm model was introduced to inform the ore control process, among other initiatives, including now a cross-functional committee to optimize F2 performance.</li> </ul>						Block Model	Factor	Cu Grade	Tonnes	Cu Metal	Year to June 2023	2023	F1	0.98	0.95	0.93	F2	0.93	1.03	0.95	F3	0.91	0.97	0.89	1 July 2022 to 30 June 2023	2023	F1	1.01	0.97	0.97	F2	0.92	1.04	0.96	F3	0.93	1.00	0.93	1 July 2021 to 30 June 2022	2023	F1	1.02	0.99	1.01	F2	0.92	1.04	0.96	F3	0.94	1.03	0.97	All (since commercial production start)	2023	F1	1.03	1.02	1.05	F2	0.94	0.97	0.92	F3	0.97	0.99	0.96
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<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Additional studies for mining dilution and recovery will be undertaken when more reconciliation data is available, and the current improvement programs are implemented in the mining operation.</li> <li>▪ In the pit, the minimum mining width is 70m; the Selective Mining Unit (SMU) has been set at 20m x 20m x 15m.</li> <li>▪ Inferred Mineral Resource material has not been included in the pit optimisation or in the Ore Reserves estimates.</li> <li>▪ The main mining infrastructure includes crusher, overland conveyor, tailings and waste storage facilities, stockpiles, roadways/ramps, workshops and so forth.</li> <li>▪ All infrastructure requirements are established for Ferrobamba. Further capital investment is required for infrastructure to support the needs of Chalcobamba and Sulfobamba.</li> <li>▪ The required infrastructure for Chalcobamba pit has been identified and included in the current and approved Environment Impact Assessment (EIA), with 50% of the north waste dump not located within the property boundary. Another location that is fully within the property boundary has been identified and used in the Asset Business Plan (ABP); however, it is yet to be evaluated by environmental, legal and exploration teams. In the 3rd EIA amendment, approval drilling for studies has been included and the 4th EIA amendment will include principal components for Chalcobamba (crushing and conveyor), with waste dump fully within the property boundary.</li> <li>▪ The planned Sulfobamba infrastructure has been identified within the Las Bambas mining concession, however, the infrastructure and deposit are not located within the area of MMG land ownership.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ Metallurgical copper concentration process comprises the following activities: crushing, grinding and flotation, producing copper and molybdenum concentrates. Copper concentrates contain gold and silver as by-products. Las Bambas Project commenced commercial production on 1 July 2016.</li> <li>▪ Extensive comminution and flotation test work has been conducted and metallurgical recoveries determined for different rock types and different mining areas.</li> <li>▪ Bulk samples and pilot-scale tests have been conducted on representative samples of the deposits. For the Ferrobamba deposit, nearly all the tests were completed by G&amp;T laboratory in Canada as part of Feasibility Study, though additional confirmatory tests were included from more recent testing by ALS in Peru. For Chalcobamba, all the tests were completed by G&amp;T and reported in the Feasibility Study. For Sulfobamba, the data analysed were those from testing at G&amp;T in 2015. Metallurgical test work continues as ore body knowledge increases.</li> <li>▪ Arsenic minerals identified in the orebody are being mapped and monitored in the mining process. The level of arsenic in Las Bambas concentrates remains low by market standards, and concentrate quality continues to be very acceptable for processing by smelters internationally.</li> <li>▪ The recovery equations have been provided by the metallurgical team at Las Bambas in coordination with MMG Operations and Technical Excellence.</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves																					
Criteria	Commentary																				
	<ul style="list-style-type: none"> <li>The equations were generated based on metallurgical test work, from diamond drilling sample data in each pit. It should be noted that the copper recovery is a function of the ratio of acid soluble copper (CuAS) to total copper (Cu), which is a determining factor for the recovery. The copper recovery is determined by the following equations. All assumptions are validated annually with plant performance data. <ul style="list-style-type: none"> <li><b>Ferrobamba:</b> For all the materials except marble: <math display="block">Cu\ Recovery\ (\%) = (96.0 - 94.0 * (CuAS/Cu)) + 1.6</math>For Marble: <math display="block">Cu\ Recovery\ (\%) = (96.0 - 94.0 * (CuAS/Cu)) - 13 + 1.6</math></li> <li><b>Chalcobamba:</b> <math display="block">Cu\ Recovery\ (\%) = 94.4 - 90.0 * (CuAS/Cu) + 1.6</math></li> <li><b>Sulfobamba:</b> <math display="block">Cu\ Recovery\ (\%) = 89.2 - 80.4 * (CuAS/Cu) + 1.6</math></li> </ul> </li> <li>An improvement in recovery of 1.6% has been added to account for ongoing metallurgical improvement work since the start of operation.</li> <li>The recovery of Mo, Ag, Au, has been provided by Metallurgical Group at Las Bambas. <table border="1" data-bbox="598 1093 1273 1243"> <thead> <tr> <th>Metal</th> <th></th> <th>Ferrobamba</th> <th>Chalcobamba</th> <th>Sulfobamba</th> </tr> </thead> <tbody> <tr> <td>Mo</td> <td>%</td> <td>55.5</td> <td>55.5</td> <td>55.5</td> </tr> <tr> <td>Ag</td> <td>%</td> <td>75.0</td> <td>75.0</td> <td>75.0</td> </tr> <tr> <td>Au</td> <td>%</td> <td>71.0</td> <td>71.0</td> <td>71.0</td> </tr> </tbody> </table> </li> <li>Benchmarking of data from four other mines in South America has been completed and the recovery algorithms that describe performance at these mines compared with those used for the three Las Bambas deposits. The four other mines were Tintaya, Toquepala, Cerro Verde and Antamina.</li> </ul>	Metal		Ferrobamba	Chalcobamba	Sulfobamba	Mo	%	55.5	55.5	55.5	Ag	%	75.0	75.0	75.0	Au	%	71.0	71.0	71.0
Metal		Ferrobamba	Chalcobamba	Sulfobamba																	
Mo	%	55.5	55.5	55.5																	
Ag	%	75.0	75.0	75.0																	
Au	%	71.0	71.0	71.0																	
Environmental and Legal Permits	<ul style="list-style-type: none"> <li>The Environmental Impact Study for the Las Bambas Project was approved on 7 March 2011 by the Peruvian Government with directorial resolution N°073-2011-MEM/AAM.</li> <li>The construction of the project processing facilities, including the Tailings Storage Facility at Las Bambas was approved 31 May 2012 by the General Directorate of Mining through Resolution N°178-2012-MEM-DGM/V.</li> <li>The Mine Closure Plan for the Las Bambas Project was approved 11 June 2013 through Directorial Resolution N°187-2013-MEM-AAM. As per the Peruvian regulatory requirements, an update of the Mine Closure Plan was approved 22 March 2023, through Directorial Resolution N°0044-2023-MEM-DGAAM. A first amendment to the Environmental Impact Study was approved 14 August 2013 through Directorial Resolution N°305-2013-MEM-AAM, whereby amendments to the Capacity of the Chuspiri water reservoir and changes to the environmental monitoring program were approved.</li> <li>On 26 August 2013 the relocation of the molybdenum circuit (molybdenum plant, filter plant and concentrate storage shed) from the Antapaccay region to the Las Bambas project area was approved by the environmental regulator through Directorial Resolution N°319-2013-MEM-AAM, after assessment of the</li> </ul>																				

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>technical report showed that the environmental impacts of the proposed changes were not significant.</p> <ul style="list-style-type: none"> <li>▪ On 6 November 2013, through Directorial Resolution N°419-2013-MEM-DGM/V, the General Directorate of Mining approved the amendment of the construction permit for the processing facilities to allow the construction of the molybdenum circuit at the Las Bambas project area.</li> <li>▪ Minor changes to the project layout were approved 13 February 2014 through Directorial Resolution N°078-2014-MEM-DGAAM and 26 February 2015, through Directorial Resolution N°113-2015-MEM-DGAAM.</li> <li>▪ On 17 November 2014, the second modification of the Study of Environmental Impact was approved with Directorial Resolution N° 559-2014-EM/DGAAM, whereby changes to the water management infrastructure and changes in the transport system from concentrate slurry pipeline to bimodal transport (by truck and train) were approved.</li> <li>▪ On 28 April 2015 through Directorial Resolution RD169-2015-MEM-DGM/V allowed changes to the design of the tailings storage facility and changes to the water management system and auxiliary infrastructure.</li> <li>▪ Environmental approval for minor changes to project layout was approved 1 June 2016 through Directorial Resolution N°177-2016-MEM-DGAAM.</li> <li>▪ On 6 October 2018, the third amendment to the Environmental Impact Study was approved through Directorial Resolution 00016-2018-SENACE-PE-DEAR, to allow changes to the molybdenum plant, included haul road Ferrobamba to Chalcobamba, impacts and measure management in public transport, other ancillary infrastructure and changes to the environmental management plan.</li> <li>▪ Environmental changes to include the third ball mill and drilling at Jatun Charqui and others were approved on 11 February 2019 through Directorial Resolution N°00030-2019-SENACE-PE-DEAR.</li> <li>▪ The permit to discharge treated water to Ferrobamba River was approved in 2016 through Directorial Resolution N°200-2016-ANA-DGCRH by Water National Authority and modified by R.D N° 055-2022-ANA-DCERH. On 16th October 2020, the environmental technical report was submitted to SENACE that included: Ferrobamba Phase 7A, drilling, processing facilities, truck shop relocation and ancillary components for Ferrobamba and Chalcobamba.</li> <li>▪ On 18 February 2022, the environmental technical report was approved that includes: Ferrobamba Phase 6A, Chalcobamba SW, increased concentrator plant throughput capacity by 5% (from 145,000 to 152,230 tpd.), relocation of overland conveyor (#4) and other components.</li> <li>▪ On 8 March 2022 was approved by MINEM the authorization to start activities for the Chalcobamba pit through R.D. N° 0182-2022-MINEM/DGM.</li> <li>▪ On 22 September 2022 was approved by SENACE, the environmental technical report through Directorial Resolution N°00132-2022-SENACE-PE-DEAR that included TSF1 expansion (67MTn) and other components.</li> <li>▪ Las Bambas submitted the 4th modification of EIA on 12 July 2023 for evaluation by SENACE. This study included Ferrobamba Pit expansion (Phase 6 and 8), TSF 1 expansion (4200 level), drilling, conveyor relocation (Chalcobamba and Ferrobamba), selenium treatment plant, water</li> </ul>



<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>management, new alternative concentrate transport routes and other components.</p> <ul style="list-style-type: none"> <li>▪ Geochemical characterisation studies on waste rock samples were conducted in 2007 and 2009/2010 as part of the Feasibility and Environmental Impact Studies, conclusions from these studies indicate that it should be expected that less than 2% of the waste rock from the Ferrobamba and Chalcobamba pits should be Potentially Acid Forming (PAF). No acid rock drainage from the waste rock dumps from these two pits should be expected. Waste rock samples from SulfoBamba were found to contain a higher concentration of sulphur and that 30% to 40% of waste rock could be PAF.</li> <li>▪ Further geochemical characterisation studies on waste rock and tailings samples are currently underway to support the Environmental Impact Study Modification.</li> <li>▪ The operation of the Ferrobamba waste rock dump was approved on 29 September 2015 by the General Directorate of Mining through Directorial Resolution N°1780-2015-MEM/DGM.</li> <li>▪ The Completion of the works for the construction of the Tailings Deposit Dam at an elevation of 4,096 was approved and its operation has been authorized with Directorial Resolution No. 0558-2022-MEM-DGM/V. Mining Technical Report was approved for the modification of the mining plan, Ferrobamba Pit expansion, Ferrobamba waste dump and low-grade ore pile (Directorial Resolution No 0220-2022- MINEM-DGM/V).Approval of the start of activities of the Chalcobamba pit ( Directorial Resolution No. 0182-2022- MINEM-DGM) in March 2022.</li> <li>▪ Currently, Las Bambas has four water use licenses:                         <ul style="list-style-type: none"> <li>– License for underground water obtained with Directorial Resolution 0519-2015-ANA / AAA.XI.PA, for a volume up to 9,460.800 m<sup>3</sup> / year modified by R.D. 393-2017-ANA-AAA.PA, R.D. 663-2018-ANA-AAA.PA, la R.D. 879-2019-ANA-AAA.PA y R.D. 0789-2022-ANA-AAA.PA.</li> <li>– License for non-contact water obtained with Directorial Resolution 0518-2015-ANA / AAA.XI.PA, for a volume up to 933.993 m<sup>3</sup> / year, modified by Directorial Resolution 0856-2018-ANA - AAA.PA.</li> <li>– License for contact water obtained with Directorial Resolution 0520-2015-ANA / AAA.XI.PA, for a volume up to 4,730,400 m<sup>3</sup> / year, modified by License for contact water obtained with Directorial Resolution 0957-2016-ANA / AAA.XI.PA, for a volume up to 4,730,400 m<sup>3</sup> / year and Directorial Resolution 0861-2018-ANA.</li> </ul> </li> <li>▪ License for fresh water obtained with Directorial Resolution 0778-2016-ANA / AAA.XI.PA, for a volume up to 23,501,664 m<sup>3</sup> / year.</li> </ul>
Infrastructure	<p>Las Bambas has the following infrastructure established on site:</p> <ul style="list-style-type: none"> <li>▪ Concentrator currently in operation.</li> <li>▪ Based on the current TSF design and the design assumptions for dry settled density and beach angle, the TSF currently under construction at Las Bambas has a final capacity of 1,240Mt of tailings from processing 1,260Mt. Four studies have been conducted &amp; updated looking at increasing tailings storage capacity at Las Bambas:</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>- Tailings characterization test work to assess final settled density and beach slope in current TSF.</li> <li>- Feasibility Study (FS) for TSF stage 6+ @4160masl.</li> <li>- Options assessment to increase capacity at TSF currently under construction.</li> <li>- Additional Tailings Storage Prefeasibility B, which includes TSF1 expansion up to RL 4230 masl.</li> <li>▪ Camp accommodation for staff, workers and critical contractors.</li> <li>▪ Water supply is sufficient for site and processing, sourced from the following: rainfall and runoff into Chuspiri dam, groundwater wells, contact waters, recirculating water in the process plant and from the tailings dam, pump station from Challhuahuacho River off-take structure.</li> <li>▪ Concentrate Storage and loading facilities exist at site. Transport of the copper concentrate is performed by trucks, covering 380km, to the Imata Village, then it is transported by train, covering 330km, up to Matarani Port in Arequipa region. Transport of the molybdenum concentrate is being performed by trucks from Las Bambas site to Matarani Port, covering 710Km. This method is also used temporarily for some of the copper concentrate.</li> <li>▪ There are main access roads that connect Las Bambas and national roads, Cotabambas to Cusco and Cotabambas to Arequipa.</li> <li>▪ High voltage (220kV) electrical power is sourced from the national grid from the Cotaruse substation to Las Bambas, with two redundant power lines with a capacity of 185MW each. Capacity can be increase to 230 MW maintaining full redundancy with minor investment from the transport service provider under its BOO contract.</li> <li>▪ Most unskilled workers at the operation are from the region immediately surrounding the project.</li> <li>▪ Technical personnel are mostly sourced from within Peru. The operation has a limited number of expatriate workers. Additional support is provided by Las Bambas office in Lima and MMG Melbourne Head Office personnel.</li> <li>▪ Chalcobamba pit operation was planned to require additional purchase of land to the North side of the lease (Waste dump 2). However, an alternative location is already evaluated, it does not require land purchase as it is inside Las Bambas Property Limit, included in ITS8 Permits; this is what the ABP planning is based on currently. Sulfobamba pit operation requires access to additional land for the pit and other infrastructure.</li> <li>▪ Ferrobamba pit expansion beyond 2023 ABP's pit limit considers the land purchased in 2022 at the North side "Buffer Antuyo" (82 ha), as this expansion impacts Antuyo hamlet.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>▪ Las Bambas began commercial production on July 1, 2016.</li> <li>▪ Future additional capital costs, such as TSF1 expansion are based on pre-feasibility studies, taking into account the new information that has become available over the past seven years of operation.</li> <li>▪ According to the "MMG Las Bambas Open Pit Cut-Off Grade Report", the operating costs used for Ore Reserves estimation are based on the 2023</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>Budget (2023-2025) and 2022 Asset Business Plan (ABP) (2026 onwards).. Specifically:</p> <ul style="list-style-type: none"> <li>– The costs are calculated as the average of the first three budgetary years and the remaining years (fourth year and beyond) of the ABP;</li> <li>– The budget and ABP are connected by making the necessary changes for the input prices and consumption rates that were updated during the budgeting process; and</li> <li>– Identified initiatives for improvements that will be implemented over the course of the mine's life are integrated with approved cost savings.</li> </ul> <ul style="list-style-type: none"> <li>▪ The concentrates are not expected to include any deleterious elements that would result in smelter penalties.</li> <li>▪ Exchange rates and metal costs are the same as those listed in the section describing cut-off grade parameters. These rates and prices, which have been approved by the Board, are provided by MMG Corporate and based on the opinion of external corporate brokers and internal MMG strategy.</li> <li>▪ Costs associated with concentrate logistics are based on terms of current contracts.</li> <li>▪ Treatment and refining charges (TC/RC's) are based on marketing actuals and projections. Royalties payable are based on information provided by the Finance and Commercial Group at Las Bambas.</li> <li>▪ Sustaining capital costs, together with mining costs and processing costs have been included in the pit optimisation. The sustaining capital costs are mainly related to TSF construction and equipment replacement. The inclusion or exclusion of these costs in the Ore Reserves estimation process followed MMG guidelines according to the purpose of each capital expenditure in the operation.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>▪ All mining input parameters are based on the Ore Reserves estimate ABP Reserve Case production schedule. All cost inputs are based on tenders and estimates from contracts in place, as with net smelter returns (NSR) and freight charges. These costs are comparable with the regional averages.</li> <li>▪ The gold and silver revenue is via a refinery credit.</li> <li>▪ TC/RC's have been included in the revenue calculation for the project.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>▪ MMG considers that the outlook for the copper price over the medium and longer term is positive, supported by further steady demand growth and supply constraints.</li> <li>▪ Global copper consumption growth will continue to be underpinned by rising consumption in China and the developing countries in Asia. 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.</li> <li>▪ Global copper demand will also rise as efforts are made to reduce greenhouse gas emissions worldwide through increased adoption of renewable energy sources for electricity generation and electric vehicles for transportation.</li> <li>▪ Supply growth is expected to be constrained by a lack of new mining projects ready for development and the requirement for significant investment to maintain existing production levels at some operations.</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Las Bambas has Life of Mine agreements in place with MMG South America and CITIC covering 100% of copper concentrate production which is sold to these parties at arms' length international terms. These agreements ensure ongoing sales of Las Bambas concentrate.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>▪ The costs are based on the 2022 ABP Reserve Case projections which are based on actual costs and 2022 Budget information.</li> <li>▪ The financial model of the Ore Reserves mine plan shows that the mine has a substantially positive NPV. The discount rate is in line with MMG's corporate economic assumptions.</li> <li>▪ Various sensitivity analyses on the key input assumptions were undertaken during mine optimisations and financial modelling. All produce robust positive NPVs.</li> </ul>
Social	<ul style="list-style-type: none"> <li>▪ Las Bambas project is situated in the Apurimac region that has a population of approximately 456,000 inhabitants (Census 2014). The region has a university located in the city of Abancay, with mining programs that provide professionals to the operation. The project straddles two provinces of the Apurimac region, Grau and Cotabambas. Transportation of copper concentrate is through Heavy Houl Road (Apurímac, Cusco y Arequipa regions)</li> <li>▪ Las Bambas Project contributes to a fund - "FOSBAM" - that promotes activities for the sustainable development of the disadvantaged population within the project's area of influence, comprising the provinces Grau and Cotabambas – Apurimac.</li> <li>▪ Las Bambas Project and the local community entered into an agreement for the resettlement of the rural community of Fuerabamba, Convenio Marco. The construction of the township of Nuevo Fuerabamba was completed in 2014 and the resettlement of all community families were completed in 2016. Currently, in joint work with the community, MMG are executing the commitments described in the framework agreement - Convenio Marco.</li> <li>▪ During the extraordinary general meeting in January 2010, Fuerabamba community approved the agreements contained in the so-called "compendium of negotiating resettlement agreements between the central negotiating committee of the community of the same name and representatives of Las Bambas mining project" that considers 13 thematic areas.</li> <li>▪ Las Bambas Project provides important support to the community in the areas of agriculture, livestock and health, education, and other social projects, which is well received.</li> <li>▪ Las Bambas has had periodic social conflict with communities along the public road used for concentrate transport and logistics. In response to these concerns Las Bambas has promoted a dialogue process in which the government, civil society and communities along the road participate. Besides, Las Bambas is also working to systematically improve the road conditions and reduce the impacts, while also maximising the social development opportunities available to these communities.</li> <li>▪ Las Bambas, for social management, complies with the national regulations of Peru and applies the corporate standards of MMG and ICMM.</li> <li>▪ The health emergency generated by COVID-19 has impacted the management of relations with communities from 2020 to 2022, causing difficulties in</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>accessing activities such as meetings, monitoring and compliance with commitments, among others.</p> <ul style="list-style-type: none"> <li>▪ Violence and Social conflicts have occurred due to invasions to Las Bambas property; however, Las Bambas is currently in a dialogue process with six communities (Pumamarca, Huancuire, Fuerabamba, Huancuire, Chila and Choaquere).</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ Las Bambas owns 7,863 ha of land within the mining project.</li> <li>▪ The mining concession totals an area of 35,000 hectares, which includes the area containing the three mineral deposits and their corresponding infrastructures. According to Directorial Resolution N°187-2013-MEM-DGM/V, dated May 2nd, 2013, the Pit Mining Plan and the waste dump was approved for the Las Bambas project.</li> <li>▪ Approval for the exploitation of the Ferrobamba pit was granted on 30th September 2015 through Directorial Resolution N° 1780-2015-MEM/DGM.</li> <li>▪ The title for the Beneficiation Concession and approval for the operation of the concentrator plant was granted on 30th November 2015, through Directorial Resolution N° 2536-2015-MEM/DGM.</li> <li>▪ It is reasonable to expect that the future land acquisition and community issues will be materially resolved, and government approvals will be granted.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ The classification of Ore Reserves is based on the requirements set out in the JORC code 2012, based on the classification of Mineral Resources and the cut-off grade. The material classified as Measured and Indicated Mineral Resources within the final pits and is above the breakeven cut-off (BCoG Cu%) grade is classified as Proved and Probable Ore Reserves, respectively.</li> <li>▪ The Competent Person considers this appropriate for the Las Bambas Ore Reserves estimate.</li> <li>▪ No Probable Ore Reserves have been derived from Measured Mineral Resources.</li> </ul>
Audit or Reviews	<ul style="list-style-type: none"> <li>▪ The 2014 Ore Reserves were reviewed by Runge Pincock Minarco for the MMG Competent Person's Report as part of the MMG due diligence process.</li> <li>▪ An external third-party audit was undertaken in 2018 on the 2017 Ore Reserves by AMC Consultants Pty Ltd. The audit concluded that the 30 June 2017 Ore Reserve was prepared to an acceptable standard at the time it was completed. The recommendations of the review have been implemented since the completion of the 2019 Ore Reserve.</li> <li>▪ AMC Consultants Pty Ltd completed the second external review on the 2020 Ore Reserve in 2021 and no material issues were found.</li> <li>▪ The 2023 Ore Reserve estimates have been reviewed and validated by José Calle, Las Bambas Long Term Planning Superintendent.</li> </ul>
Discussion of relative accuracy / confidence	<ul style="list-style-type: none"> <li>▪ The principal factors that can affect the confidence on the Ore Reserves are:                             <ul style="list-style-type: none"> <li>– Proved Ore Reserves are considered to have a relative accuracy of +/- 15% with 90% confidence level over a volume equivalent to 3 months of production while Probable Ore Reserves are considered to have a relative accuracy of +/- 15% with 90% confidence over a volume equivalent to 12 months of production.</li> </ul> </li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>- Geotechnical risk related to slope stability (due to uncertainties in the geo-mechanical domains/hydrology models) or excessive rock mass blast damage that could increase the mining rate.</li> <li>- Metallurgical recovery model uncertainty due to operational variability. In the best-case scenario, this would represent variability of +/- 2% and in the worst scenario +/- 5% to metal recovery.</li> <li>- Increases in rising operating costs for mining and processing.</li> <li>- Increase in selling cost due to the transportation (truck and rail) cost increases.</li> <li>- Capital costs variation for the new or expansion of current TSF. Also land acquisition and/permitting delays for additional TSF needs. The social-political context impacts the schedule of the approvals of studies and requires good relationship with the communities and an ongoing requirement for investment in delivering on social commitments.</li> <li>- Future changes in environmental legislation could be more demanding.</li> <li>- Current artisanal mining activities at Sulfobamba targeting high -grade mineralisation above the water table and social access may impact the timing of mining this pit due to delay in obtaining permitting and securing surface rights. It is recognised that the cost of accessing this resource will need to account for some form of economic resettlement for those community members engaged in the artisanal mining activities. An assessment has been conducted of the ore extracted by artisanal mining since it started in 2010 to 30 June 2023, as a result it is estimated that 1.1Mt of ore with an assumed grade of 2.0% have been extracted and are accounted as a loss to the Ore Reserve.</li> </ul>

**3.3.3 Expert Input Table**

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 7.

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.

**Table 7: Contributing experts – Las Bambas Ore Reserves**

<b>EXPERT PERSON / COMPANY</b>	<b>AREA OF EXPERTISE</b>
Hugo Rios, Resource Geologist Superintendent, MMG Ltd (Lima) Rex Berthelsen, Head of Geology, MMG Ltd (Melbourne)	Mineral Resource models
Erika Torres, Principal Metallurgist, MMG Ltd (Lima). Andrew Goulsbra, Head of Processing, MMG Ltd (Melbourne)	Updated processing parameters and production record
Maximiliano Adrove, Principal Geotechnical, MMG Ltd (Lima) Jeff Price, Head of Geotech, MMG Ltd (Melbourne)	Geotechnical parameters
José Calle, Superintendent Long Term Planning/Studies, MMG Ltd (Lima)	Cut-off grade calculations Whittle / MineSight optimisation and pit designs
Jaime Trillo, Technical Services Manager, MMG Ltd (Las Bambas)	Production reconciliation
Pablo Gomez (Manager Area Tailings), Erik Medina (Principal Tailings), MMG Ltd (Lima),	Tailings Management
Giovanna Huaney, Environmental Permitting Lead, MMG Ltd (Lima)	Environmental / Social / Permitting
Oscar Zamalloa, Business Evaluation Lead, MMG Ltd (Lima)	Economics Assumptions
Hong Yu, Head of Marketing, MMG Ltd (Melbourne)	Marketing

### 3.3.4 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").

#### 3.3.4.1 Competent Person Statement

I, Xiaolin Wu, confirm that I am the Competent Person for the Las Bambas Ore Reserve 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 Registered Member of the Society for Mining, Metallurgy and Exploration (SME) and have sufficient 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 have reviewed the relevant Las Bambas Ore Reserve section of this Report to which this Consent Statement applies.

I am a full-time employee of MMG Ltd. 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 matters that could be perceived by investors as a conflict of interest.

I verify that the Las Bambas Ore Reserve 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 Las Bambas Ore Reserves.

#### 3.3.4.2 Competent Person Consent

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

Regarding the sections of this report for which I am responsible – the Las Bambas Ore Reserves - I hereby consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023, including the Executive Summary and Technical Appendix Report, along with this Consent Statement by the directors of MMG Limited:

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

XIAOLIN WU, SME REGISTERED MEMBER  
(#4046216RM)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

José Calle (Lima, Peru)

Witness Name and Residents:  
(eg, town/suburb)



## 4. Kinsevere Operation

### 4.1 Introduction and setting

Kinsevere is located in the Haut-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 4-1), at latitude S 11° 21' 30" and longitude E 27° 34' 00".

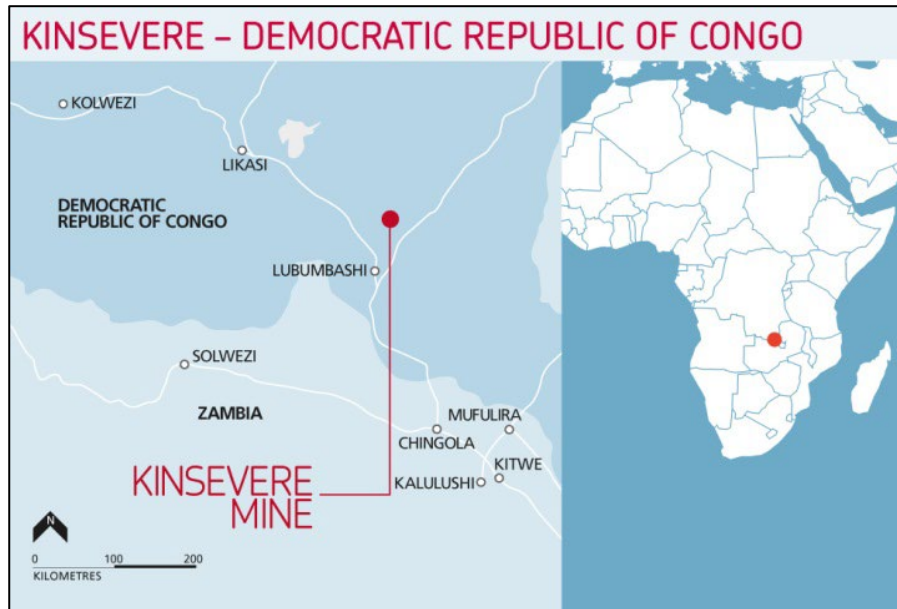


Figure 4-1: Kinsevere Mine location

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 SX-EW plant was commissioned.

Kinsevere is entering an expansion phase to allow the beneficiation of elemental Cobalt and ability to process Sulphide minerals. The Cobalt plant is planned to be commissioned later this year and the Sulphide plant will supplement copper production in quarter four 2024.

**4.1.1 Results**

The 2023 Kinsevere Mineral Resources are summarised in Table 8. The Kinsevere Mineral Resources are inclusive of the Ore Reserves.

The reporting cut-off grade applied to report the copper Mineral Resource is 0.5% acid soluble copper (CuAS%) for the Oxide Mineral Resource, 0.7% total copper (Cu%) for the Transitional Mixed (TMO) Mineral Resource and 0.7% total copper (Cu%) for the Primary Sulphide Mineral Resource. The Oxide Mineral Resource is defined as having a Ratio (CuAS%/Cu%) greater than 0.5. The TMO Mineral Resource is defined as having a Ratio greater than or equal to 0.2 and less than 0.5. The Primary Sulphide Mineral Resource is defined as having a Ratio less than 0.2.

The Kinsevere cobalt Oxide-Transitional Mixed Ore (TMO) and cobalt Primary Resource cut-off is 0.2% cobalt. The cobalt Oxide-TMO Mineral Resource is defined as having a Ratio greater than or equal to 0.2. The cobalt Primary Mineral resource is defined having a Ratio less than 0.2. Cobalt Mineral Resources are exclusive of copper Mineral Resources.

Table 8: Kinsevere Mineral Resources tonnage and grade (as at 30 June 2023)

Kinsevere Mineral Resource							
	Tonnes (Mt)	Copper (% Cu)	Copper AS <sup>1</sup> (% Cu)	Cobalt (% Co)	Contained Metal		
					Copper ('000)	Copper AS <sup>1</sup> ('000)	Cobalt ('000)
<b>Oxide Copper<sup>2</sup></b>							
Measured	1.4	2.7	2.2	0.09	38	31	1.3
Indicated	4.3	2.5	2.0	0.10	110	86	4.1
Inferred	2.2	2.0	1.6	0.08	45	36	1.8
<b>Total</b>	<b>8.0</b>	<b>2.4</b>	<b>1.9</b>	<b>0.09</b>	<b>190</b>	<b>150</b>	<b>7.1</b>
<b>Transition Mixed Ore (TMO) Copper<sup>3</sup></b>							
Measured	0.7	2.0	0.68	0.11	14	5	0.7
Indicated	2.1	2.0	0.63	0.11	44	14	2.3
Inferred	1.0	1.6	0.51	0.09	15	5	0.8
<b>Total</b>	<b>3.8</b>	<b>1.9</b>	<b>0.61</b>	<b>0.10</b>	<b>73</b>	<b>23</b>	<b>3.8</b>
<b>Primary Copper<sup>4</sup></b>							
Measured	1.2	2.0	0.19	0.17	25	2	2.0
Indicated	17	2.3	0.15	0.09	380	25	15
Inferred	8.0	1.7	0.13	0.06	140	10	5.0
<b>Total</b>	<b>26</b>	<b>2.1</b>	<b>0.15</b>	<b>0.09</b>	<b>540</b>	<b>38</b>	<b>22</b>
<b>Stockpiles</b>							
Indicated	18	1.6	0.73		280	130	
<b>Total</b>	<b>18</b>	<b>1.6</b>	<b>0.73</b>		<b>280</b>	<b>130</b>	
<b>Kinsevere Copper Total</b>	<b>55</b>	<b>2.0</b>	<b>0.62</b>	<b>0.06</b>	<b>1,100</b>	<b>340</b>	<b>33</b>
<b>Oxide-TMO Cobalt<sup>5</sup></b>							
Measured	0.01	0.54	0.23	0.28	0.06	0.02	0.03
Indicated	0.31	0.24	0.14	0.30	0.73	0.42	0.93
Inferred	0.40	0.16	0.08	0.31	0.64	0.34	1.3
<b>Total</b>	<b>0.72</b>	<b>0.2</b>	<b>0.1</b>	<b>0.31</b>	<b>1.40</b>	<b>0.78</b>	<b>2.2</b>
<b>Primary Cobalt<sup>6</sup></b>							
Measured							
Indicated	0.06	0.53	0.06	0.30	0.30	0.03	0.17
Inferred	0.10	0.29	0.03	0.30	0.28	0.03	0.30
<b>Total</b>	<b>0.16</b>	<b>0.4</b>	<b>0.04</b>	<b>0.30</b>	<b>0.59</b>	<b>0.06</b>	<b>0.47</b>
<b>Kinsevere Cobalt Total</b>	<b>0.9</b>	<b>0.23</b>	<b>0.10</b>	<b>0.31</b>	<b>2.0</b>	<b>0.8</b>	<b>2.7</b>

<sup>1</sup> AS stands for Acid Soluble

<sup>2</sup> 0.5% Acid soluble Cu cut-off grade

<sup>3</sup> 0.7% Total Cu cut-off grade

<sup>4</sup> 0.7% Total Cu cut-off grade

<sup>5</sup> 0.2% Co cut-off grade

<sup>6</sup> 0.2% Co cut-off grade

All Mineral Resources except stockpiles are contained within a US\$4.71/lb Cu and \$32.72/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.

4.1.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 9 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 9: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Kinsevere Mineral Resource 2023

Section 1 Sampling Techniques and Data	
Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>▪ The Mineral Resource uses a combination of reverse circulation (RC) drilling and diamond drilling (DD). The RC drilling is predominately collected for Grade Control (GC) purposes. GC is also included in the Mineral Resource model to better delineate the grade / chemistry envelopes, but not for lithological / stratigraphic modelling due to challenges with the RC material for detailed lithology determination. The DD is used for lithology / stratigraphy modelling as well as exploration and resource delineation work in the areas below and outside of current mining.</li> <li>▪ DD core is sampled mostly in 1m intervals while samples in un-mineralised zones are generally sampled over 4m lengths. Sampling is predominantly performed by cutting the core longitudinally in half, with one half retained on site for future reference. For PQ drilling undertaken from 2015 onwards, quarter core was submitted for sampling.</li> <li>▪ Grade control drilling (RC) samples are collected directly from the cyclone after every 2m of drilling. A subsample is taken using a riffle splitter of approximately 2kg weight. The rods are “blown” by the RC Rig after each 3m rod addition.</li> <li>▪ For grade control each sample is crushed and pulverised to produce a pulp (&gt;85% passing 75µm) prior to analysis at the Kinsevere SGS laboratory. The exploration DD samples are prepared at commercial laboratories to produce a pulp (&gt;85% passing 75µm) for analysis.</li> <li>▪ 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 are also collected and analysed as part of the QAQC insertion for both RC coarse duplicates at the rig and DD coarse duplicates prepared at the core yard.</li> <li>▪ 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.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>▪ At the RC drilling site, samples are collected for a 2m drilled interval, while DD is sampled at nominal 1m intervals for mineralised core and up to 4m for visually unmineralized core. A total of 475,572m or 81% of the sample data within the database was from RC samples (5.5-inch hammer), of that approximately 78% was from Grade Control drilling.</li> <li>▪ PQ and HQ sized DD core were used to obtain nominal 1m sample lengths. From 2015 onwards DD core was not routinely oriented. 110,872 m or 19% of the sample data within the database was from DD samples.</li> <li>▪ 7,570m of RC Grade Control drilling was completed since the previous Mineral Resource estimate (2022) and utilised in the 2023 estimate.</li> <li>▪ No DD holes were drilled since the previous 2022 estimate</li> <li>▪ In the view of the Competent Person, the drilling techniques are appropriate for providing samples with which to estimate the Kinsevere Mineral Resource.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Drill sample recovery	<ul style="list-style-type: none"> <li>▪ 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 is less 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 into the Geobank® database.</li> <li>▪ RC drilling has been observed for sample recovery with adequate sample volume being returned. However, no quantitative measurements of recovery have been recorded.</li> <li>▪ There is no discernible relationship between core loss and mineralisation or grade, therefore no preferential bias has occurred due to core loss.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>▪ RC chips were logged by geologists directly into an Excel logging template, however recent practice is directly into Geobank® Mobile using ruggedised laptops. Geological information captured includes lithology, stratigraphy, weathering, oxidation, colour, texture, grain size, mineralogy and alteration. This data is then imported into the database.</li> <li>▪ For DD core samples, both geological and geotechnical information is logged directly into Geobank® Mobile using ruggedised laptops. The information includes lithology, stratigraphy, mineralisation, weathering, alteration and geotechnical parameters (strength, RQD, structure measurement, roughness and infill material).</li> <li>▪ All RC chip and DD core samples (100%) have been geologically logged to an appropriate level to support Mineral Resource estimation.</li> <li>▪ Logging captures both qualitative descriptions such as geological details (e.g., rock type, stratigraphy) with some semi-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 was photographed.</li> <li>▪ 100% of all intersections were logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>▪ DD core was split longitudinally in half (NQ) or quarter (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.</li> <li>▪ RC samples were collected from a cyclone by a trained driller's assistant. The procedure is that if the sample is dry, the sample is passed through a riffle splitter and 2kg is collected into a pre-numbered calico bag. A sample of the residual material is sieved for collection into chip trays for logging. The splitter is cleaned using compressed air or a clean brush and tapped using a rubber mallet. If the sample is wet, then the sample is dried in the laboratory oven before being split according to the procedure for dry samples.</li> <li>▪ Samples from individual drill holes were sent in the same batch to the relevant preparation laboratory. For RC drilling, field duplicates were collected at a rate of approximately 2% by riffle split to ensure that the sampling was representative of the in-situ material collected.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ RC Grade Control samples were prepared mainly on-site by the Kinsevere Geology Department's Sample Processing Facility prior to dispatch to the relevant analytical laboratory. The procedure is for samples to be checked and weighed on receipt, oven dried at approximately 110°C, weighed dry, crushed to 85% passing 2mm using a jaw crusher, passed twice through a riffle splitter to obtain a sample of approximately 1kg that is milled to 85% passing 75µm using one of three single sample LM2 vibratory pulverising mills. 50g of the milled material is packaged for analysis as well as a 30g sample for rapid Niton XRF analysis when required. The pulp reject material is stored.</li> <li>▪ Since 2015, all exploration and near-mine DD drilling core and RC chips were processed at the ALS managed Containerised Preparation Laboratory (CPL). Pulp samples were then sent to ALS Johannesburg for analysis. Since the closure of Near Mine Drilling Project at the end of May 2019, all the DD samples were prepared by the SSM Laboratory in Likasi (milled to 85% passing 75µm) and analysed at SSM in Kolwezi.</li> <li>▪ The sample size for both RC and DD is considered appropriate for the grain size of the material being sampled. The RC field duplicates typically show precision of 85% better than ±20% indicating that the sample size is appropriate and the sub-sampling is of acceptable quality.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ RC GC samples are routinely assayed at the on-site SGS Laboratory. Some samples are assayed at ALS laboratory (JHB) and SSM at Kolwezi if there are capacity constraints on-site. The process is as follows: <ul style="list-style-type: none"> <li>– Following preparation, 50g pulp samples are routinely analysed for total and acid soluble copper, cobalt and manganese.</li> <li>– A 3-acid digest with AAS finish is used to analyse for total values.</li> <li>– A sulphuric acid digest with AAS finish is used to analyse for acid soluble copper.</li> </ul> </li> <li>▪ All DD core samples prior to 2011 were assayed at either ALS Chemex Laboratory in Johannesburg, McPhar Laboratory in Philippines or ACT Labs Laboratory in 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.</li> <li>▪ From 2011 to 2015, prepared samples were submitted to the ISO 17025 accredited SGS Laboratory in Johannesburg with the following assay scheme: <ul style="list-style-type: none"> <li>– ICP-OES method with a 4-acid digest analysing 32 elements including copper from 0.5ppm to 1%.</li> <li>– ICP-OES method using alkali fusion is applied to over-range copper results.</li> <li>– ICP-AES with a 4-acid digest was used for calcium and sulphur analysis</li> <li>– XRF was used for uranium analysis.</li> <li>– Acid soluble copper using a sulphuric acid digest and AAS finish</li> </ul> </li> <li>▪ Since 2015, prepared samples were submitted to the ALS Laboratory in Johannesburg with the following assay scheme: <ul style="list-style-type: none"> <li>– ICP-OES (ME-ICP61) method with a 4-acid digest analysing 33 elements plus OG triggers when Cu greater than 1% (OG62)</li> <li>– LECO analysed Total Carbon (C-IR07), Organic Carbon (C-IR17), Total Sulphur (S-IR08) and Sulphide Sulphur (S-IR07)</li> </ul> </li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Acid soluble copper using a Sequential Leach (Cu-PKGPH06) finish.</li> <li>▪ The analysis methods used are appropriate for the style and type of mineralisation at Kinsevere.</li> <li>▪ No geophysical tools, spectrometers or handheld XRF instruments external to the laboratory have been used in the analysis of samples for the estimation of Mineral Resources.</li> <li>▪ 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 to check repeatability of the assay result. If control samples do not meet an acceptable level the entire batch is re-analysed. GC samples are subjected to the same assay QAQC as the exploration RC and DD samples.</li> <li>▪ Approximately 5% of the samples were sent to second laboratories for check assay. These were ISO 17025 accredited commercial facilities, previously Intertek Genalysis (Perth) and currently ALS (Johannesburg).</li> <li>▪ The QAQC results demonstrate that the sample assays are both accurate and precise and minimal contamination was introduced during the process. The sample assays are considered by the CP to be suitable for Mineral Resource estimation.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Significant intersections are verified by alternate company personnel following receipt of assay results and during the geological modelling process.</li> <li>▪ Twinned holes were used to confirm and check specific geological intervals and/or assay intervals. Twin drill holes are not used in the Mineral Resource estimate.</li> <li>▪ Data is collected in Excel spreadsheets and imported into industry standard databases that have built in validation systems and QAQC reporting systems. Raw electronic assay data is imported directly into the database as received by the laboratory, using import scripts, and is checked by the DB manager.</li> <li>▪ Where data was deemed invalid or unverifiable it was excluded from use in Mineral Resource estimation.</li> <li>▪ Individual acid soluble copper assays greater than total copper assays are adjusted to the total copper assay value.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ Prior to 2011, all drill hole collars were located using a hand-held GPS. Accuracy is approximately ±5m for X and Y coordinates and poorer accuracy for the Z (elevation) coordinates. Elevations of these holes were later projected to a LiDAR survey surface.</li> <li>▪ 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.</li> <li>▪ Coordinates are in Kinsevere Mine Grid, which is related to WGS84 by the following translation: -8,000,000 m in northing and -22.3 m in elevation.</li> <li>▪ 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 is considered to be of high quality and accuracy for topographic control.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ Majority of the GC drilling is on a 5m by 15m grid, however in 2018 the GC grid was 10m by 10m. Since 2019, the standard has been revised back to 5m by 15m. The RC GC drilling is sufficient to provide high confidence in the definition of grade and material type boundaries for the operation.</li> <li>▪ The overall DD spacing is between 25m and 75m, which is sufficient to establish the required degree of geological and grade continuity for Mineral Resource estimation. Between 2015 and 2019, diamond drilling aimed to infill target areas to 40m by 40m spacing and 20m by 20m in places.</li> <li>▪ 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. Compositing to 2 m is completed for the Mineral Resource estimation process.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ The mineralisation strikes between north and north-west at Mashi and Central pits, and from east-southeast to west-northwest 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. Drill holes are generally either oriented east or west with dips of 60° to sub-vertical.</li> <li>▪ The combination of both east and west orientations likely minimises sampling bias, which, if present, is not considered material.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Measures to provide sample security include:                             <ul style="list-style-type: none"> <li>– Adequately trained and supervised sampling personnel.</li> <li>– Shipping containers used for the storage of samples are kept locked with keys held by the security department.</li> <li>– Assay laboratory checks of sample dispatch numbers against submission documents.</li> </ul> </li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>▪ An external independent audit was performed on the grade control sampling techniques in July 2019 by OBK Consultants. Recommendations for improvements were provided and no material issues were identified.</li> <li>▪ Internal visits by MMG Group Office geologists to the SGS, ALS and SSM Lubumbashi laboratories. From the most recent audit by the MMG Senior Geochemist (February 2020), there were no material risks identified.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The Kinsevere Mining Licence (PE 528) is located approximately 27km north of Lubumbashi, the provincial capital of the Haut-Katanga Province, in the southeast of the Democratic Republic of the Congo (DRC). The PE 528 permit covers the three major deposits of Tshifufiamashi, Tshifufia and Kinsevere Hill/Kilongo.</li> <li>▪ 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 was submitted to DRC regulatory in 2022 (as per the requirement that it should be submitted at least 1 year and no more than 5 years before the expiry date).</li> </ul>

Section 2 Reporting of Exploration Results																																														
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	<ul style="list-style-type: none"> <li>A Contrat d'Amodiation is provided for under the DRC Mining Code, enacted by law No 007/2002 of July 11, 2002.</li> <li>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.</li> <li>There are no known regulatory impediments to operating at Kinsevere.</li> </ul>																																													
Exploration done by other parties	<ul style="list-style-type: none"> <li>Summary of Previous Exploration Work by Gécamines and EXACO: <table border="1" data-bbox="440 607 1262 1014"> <thead> <tr> <th rowspan="2">Deposit</th> <th colspan="2">Pitting</th> <th colspan="2">Trenching</th> <th colspan="2">Drilling</th> </tr> <tr> <th>No (m depth)</th> <th>No. (metres)</th> <th colspan="2">Significant Grades</th> <th>No. holes (metres)</th> <th>Significant Grades</th> </tr> </thead> <tbody> <tr> <td>Tshifufiamashi</td> <td>11</td> <td>16 (1,304 m)</td> <td colspan="2">5.8% Cu 0.2% Co over 50 m</td> <td>37 (846 m)</td> <td>10.5% Cu 0.72% Co over 22.2 m</td> </tr> <tr> <td>Tshifufia Central</td> <td>-</td> <td>17 (1,106 m)</td> <td colspan="2">7.6% Cu 0.3% Co over 15 m</td> <td>19 (950 m)</td> <td>6.3% Cu 0.6% Co over 23 m</td> </tr> <tr> <td>Tshifufia South</td> <td>-</td> <td>39 (278 m)</td> <td colspan="2">7.2% Cu 0.3% Co over 40 m</td> <td>11 (497 m)</td> <td></td> </tr> <tr> <td>Kinsevere Hill</td> <td>7 (44 m max.)</td> <td>11 (625 m)</td> <td colspan="2">6.6% Cu 0.2% Co over 20 m</td> <td>10 (1,021 m)</td> <td>3.99% Cu 0.22% Co over 14.6 m</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>In 2004 Anvil Mining carried out intensive exploration drilling to define the deposits at Kinsevere.</li> <li>In 2012 MMG continued exploration aimed at identifying additional mineralisation beyond the Anvil Mining Mineral Resource.</li> <li>In 2013/2014 MMG Exploration conducted works around the Mine Lease within a 50km radius of the known deposit to explore for additional high-grade oxide material.</li> <li>In 2015 MMG conducted a Scoping Study on the potential to process the copper sulphide ore at Kinsevere located beneath the current oxide Ore Reserves. As part of this study, 5 DD holes were drilled in early 2015. In August 2015, DD drilling re-commenced as part of a follow up on Pre-Feasibility Study to increase confidence in the copper sulphide Mineral Resource. This drilling was completed at the end of 2016 and included in the 2017 Resource Estimate.</li> <li>Drilling commenced in May 2017 to inform the Sulphide Feasibility Study. This drilling was used to update the 2018 Mineral Resource model.</li> <li>Drilling commenced in Jan 2018 to test the geological continuity between Mashi and Central Pit. This was completed in September 2018. Drilling then continued in 2018 in the south of Kinsevere Hill (south of Kinsevere copper deposit). This drilling tested the copper mineralisation at depth. These two drilling programs were used to update the 2020 Mineral Resource model.</li> <li>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.</li> <li>In early 2021, 31 holes were drilled to test the continuity of the mineralisation at Kinsevere Hill South.</li> </ul> </li> </ul>					Deposit	Pitting		Trenching		Drilling		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
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<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Geology	<ul style="list-style-type: none"> <li>▪ The Kinsevere deposit is a sediment hosted copper deposit with low-grade cobalt association.</li> <li>▪ The deposit is comprised of the R1, R2 and R3 Subgroups of the Neoproterozoic Roan Group (Refer to stratigraphic column in this section.). 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.</li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ Copper oxide mineralisation is defined as material that has CuAS:CuT ratio from 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-intergrowths) are also present in minor quantities (&lt;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.</li> <li>▪ “Transitional and Mixed Ores” (TMO) are copper ores that have a 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</li> <li>▪ Sulphide mineralisation at Kinsevere is defined by all material that has an CuAS:CuT ratio &lt; 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.</li> </ul>

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Drill hole information	<ul style="list-style-type: none"> <li>Within the database used for estimation, there are 2,533 exploration drill holes (528 DD, 32 RC with DD tail and 1,973 RC) and 12,551 grade control drill holes (all RC).</li> <li>The details of the individual drillholes are not material to the report. Exploration results are not being reported.</li> </ul>																																																																	
Data aggregation methods	<ul style="list-style-type: none"> <li>Exploration Results not being reported.</li> <li>No metal equivalents were used in the reporting.</li> </ul>																																																																	
Relationship between mineralisation width and intercepts lengths	<ul style="list-style-type: none"> <li>Exploration Results not being reported.</li> <li>Most drilling was at 50° to 60° dip angles close to perpendicular to the strike in order to drill close to true width intersections with the sub-vertically dipping mineralisation.</li> </ul>																																																																	

Section 2 Reporting of Exploration Results

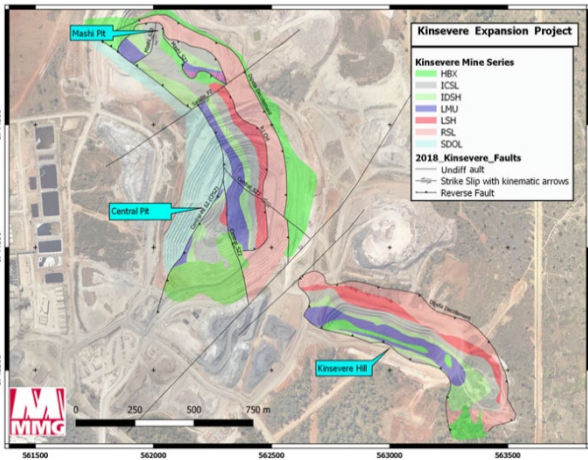

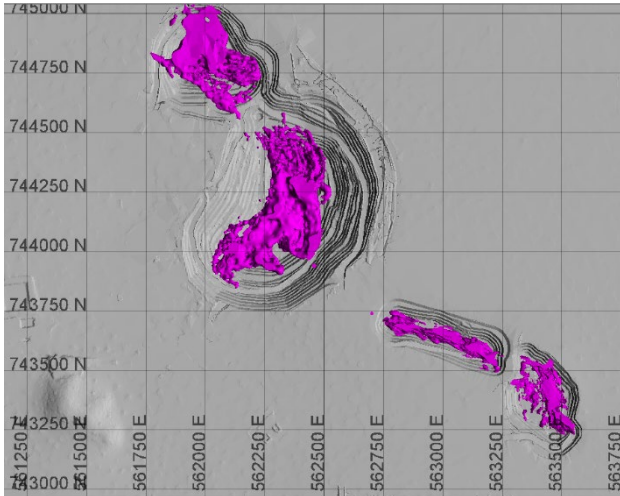
Criteria	Commentary
Diagrams	<p style="text-align: center;">Plan view geology map of the Kinsevere deposit</p> <p style="text-align: center;">Cu Shell coded by Oxidation state (Green – Oxide / Red – TMO / Blue – Primary)- 744250N Cross Section</p>
Balanced reporting	<ul style="list-style-type: none"> <li>Exploration Results not being reported.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>There is no other substantive exploration data of relevance.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Further work	<ul style="list-style-type: none"> <li>▪ Brownfields RC and DD drilling is carried out, as when required.</li> <li>▪ The mine has a detailed Grade Control drilling programme that is ongoing.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The following measures are in place to ensure database integrity:                             <ul style="list-style-type: none"> <li>– Drillhole data (RC and DD) is stored in two SQL databases with front end access provided by Geobank® software.</li> <li>– The grade control logging and assay data (RC) is managed by the on-site Geology team with support from the Operations and Technical Excellence database team in Melbourne.</li> <li>– The exploration/resource logging data (RC and DD) is managed by the on-site Resource team with assay loading and support provided by the Operations and Technical Excellence database team in Melbourne.</li> <li>– Assay data is provided by the laboratory as .csv files in a prescribed format and loaded directly into the dataset using a script. The data is then checked to ensure there are no errors, such as column swaps.</li> <li>– 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.</li> <li>– The databases offer secure storage and consistent data which is exposed to validation processes, standard logging and data recording lookup codes.</li> </ul> </li> <li>▪ The measures described above ensure that transcription or data entry errors are minimised.</li> <li>▪ Data validation procedures include:                             <ul style="list-style-type: none"> <li>– Internal database validation systems and checks.</li> <li>– Visual checks of exported drill holes in section and plan view, checking for accuracy of collar location against topography, and downhole trace de-surveying.</li> <li>– External checks in Vulcan software prior to the data used for Mineral Resources.</li> <li>– Checks on statistics, such as negative and unrealistic assay values.</li> </ul> </li> <li>▪ Any data errors were communicated to the Database team to be fixed in Geobank.</li> <li>▪ 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.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person (Jeremy Witley) visited the Kinsevere site from 24 to 29 July 2022.</li> <li>▪ During the site visit, data collection methods were demonstrated and the open pits were inspected. The CP considers that the procedures used at Kinsevere are appropriate.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ 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). 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).</li> <li>▪ Detailed 3D geological modelling was completed using the Kinsevere Mine Series framework and updated annually using diamond drilling. Diamond drilling, mapping/structural observations, photogrammetry and litho-geochemistry were integrated into the model. The model was last updated in Q1 2022. The resulting model is considered robust and reliable for mineralisation modelling and grade/estimation domaining.</li> <li>▪ 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%), Organic Carbon (0.25% and 1.5%) and S (1.5%).</li> <li>▪ Cobalt was domained using a numeric indicator interpolant approach. A 0.07% Co threshold was used to guide the interpolation.</li> <li>▪ Copper was domained using a numeric indicator interpolant approach aligned with geological and mineralisation trends and boundaries. Copper volumes were generated using a 0.4% total Cu threshold to guide the interpolation.</li> <li>▪ The magnitude of the acid soluble copper/total copper (CuAS /CuT) 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: <ul style="list-style-type: none"> <li>– Oxide &gt; 0.8</li> <li>– Transition and mixed (TMO) between 0.2 and 0.8</li> <li>– Primary &lt; 0.2</li> </ul> </li> <li>▪ An Indicator Kriging approach was used to construct oxide domains (within the mineralised zone) based on specific CuAS:CuT ratio thresholds.</li> <li>▪ The oxide, lithology, fault and mineralisation domains were combined to code the drill hole data and the block model used for grade estimation.</li> <li>▪ Structural features (faults/fractures) provide an important control on the mineralisation and grade continuity. The structural model last updated in 2018 was used to inform the 2023 block model, which has been used to report the 2023 Mineral Resource estimate.</li> <li>▪ All geological modelling was completed using Leapfrog Geo software.</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources

Criteria	Commentary
	  <p>Plan View of Kinsevere Lithology (top) and Fault Domains (bottom)</p>  <p>Plan View of Kinsevere Cu domain on 30 June 2023 Topography</p>
Dimensions	<ul style="list-style-type: none"> <li>The mineralisation strike length is approximately 1.3km for the Tshifufia (Central) and Tshifufiamashi (Mashi) deposits combined, while Kinsevere Hill has a 1km strike length. The mineralisation dips sub-vertically. Mineralisation extends to</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	400m at depth, and it can be up to 300m in width. The mineralisation outcropped prior to mining.
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ Estimation applied mostly kriging interpolation within domains as outlined further in this section and is considered appropriate for this style of mineralisation.</li> <li>▪ Mineral Resource estimation was conducted using Vulcan software (version 2023.1).</li> <li>▪ Variograms were modelled for major elements including CuT, CuAS, CuAS/CuT, Ca, Fe, Mn, Mg and S. Estimation was based on a combination of weathering, lithology and fault domains. Variogram models were not updated for the 2023 Mineral Resource as it was considered that the small amounts of additional drilling would have no influence on variogram models.</li> <li>▪ The key estimation assumptions and parameters are as follows: <ul style="list-style-type: none"> <li>– Cu, CuAS, CuAS/Cu, Co, CoAS, Ca, Fe, Mg, Mn and S were estimated using Ordinary Kriging (OK). Uranium (U) was estimated by using Inverse Distance to the power of 2 (ID2).</li> <li>– Locally Varying Anisotropy (LVA) grade modelling was applied to capture the local varying directional grade and geology trends. The LVA outputs (Bearing, plunge and dip) were applied to both the search ellipse orientations and the variogram directions</li> <li>– Oxide, mixed and primary sulphide domains were based on the CuAS/Cu ratio. This formed domains for Cu, Co, Fe, Mn, Ca and Total Carbon. Individual elements were estimated with their respective domains as modelled in Leapfrog Geo: Cu (0.4%), Co (0.07%), Mg (6%), Ca (9%), Al (2.5%), Organic Carbon (0.25% and 1.5%) and S (1.5%). Lithology wireframes were used as domains for the major elements. Uranium was domained by the total copper envelope.</li> <li>– Wireframes and surfaces of the topography, mineralised domains, lithology and fault domains, together with oxide domain were used to code the drill hole samples.</li> <li>– The samples were composited to 2 m by length weighting for statistical analysis and grade estimation. Any residual intervals less than half the composite interval were appended to the previous sample interval.</li> <li>– 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.</li> <li>– Grade estimation was completed using a hard boundaries for each domain.</li> <li>– No assumptions have been made about the correlation between variables. All variables are independently estimated, with the exception of certain domaining assumptions as described above.</li> <li>– Search parameters for CuT, CuAS, CuAS/Cu, Co, CoAS, Ca, Fe, Mg and Mn estimation were derived from mineralisation and waste domain variography and on Quantitative Kriging Neighbourhood Analysis (QKNA). U search parameters were based on a generic search of 400m x 400m x 400m, U grades higher than 250ppm were distance limited to 20m.</li> <li>– Three estimation passes were used to estimate the block model. The first and second estimation pass search radii used 100% of the variogram range and the third pass estimation search radius used 200% of the variogram range. Over 80% of the blocks are informed in the first pass. The second and third passes required less sample composites to estimate a block.</li> </ul> </li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– A minimum of 6 sample composites were required for the first pass and 4 for the second pass. A maximum of 10 sample composites was used for each estimate. The third pass generally required less samples, with the number modified according to the individual element. The search neighbourhood was also limited to a maximum of 3 samples per drill hole.</li> <li>– The matrix of discretisation points was set to 4 x 8 x 2 (X, Y, Z) to provide for block estimates.</li> <li>– Kriging variance (KV), kriging efficiency (KE) and kriging regression slope (RS) of the Cu estimate were calculated during the estimation.</li> <li>▪ The 2022 and 2023 in-situ Mineral Resource models were compared and show no material difference for copper estimations. Some adjustments were applied to the Ca and Mg grade shells which resulted in minor changes. A stronger search restriction was applied to “high” cobalt grades for blocks and samples outside of the cobalt grade shell resulting in a reduction in cobalt grades overall.</li> <li>▪ The comparison between the Mineral Resource and the mill feed grade is complicated by the operational strategy of treating high-grade ore and stockpiling lower-grade ore for later treatment. The Mineral Resource model and Grade Control model are compared annually.</li> <li>▪ Kinsevere does not currently produce any by-products hence no assumptions regarding the recovery of by-products are made in the estimate or cut-off and reporting. Cobalt is planned to be produced in future.</li> <li>▪ Parent block size of the Kinsevere block model is 10mX x 20mY x 5mZ with sub-blocking down to 2.5m in the X, Y and Z. Estimation was into the parent block. The size of the blocks is appropriate to the spacing of drill holes.</li> <li>▪ No further assumptions have been made regarding modelling of selective mining units.</li> <li>▪ The block model and estimate has been validated in the following ways:               <ul style="list-style-type: none"> <li>– Visual checks in section and plan view against the drill holes.</li> <li>– Grade trend plots comparing the model against the drill holes.</li> <li>– Summary statistics comparing the model to the sample.</li> </ul> </li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ Tonnes in the model have been estimated on a dry basis.</li> </ul>



Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
Cut-off parameters	<ul style="list-style-type: none"> <li>The Oxide Mineral Resource has been reported above an acid soluble copper cut-off grade of 0.5% and an acid soluble to total copper ratio greater than or equal to 0.5.</li> <li>The transitional and mixed ore (TMO) Mineral Resource has been reported above a total copper cut-off grade of 0.7% and a CuAS/CuT ratio between 0.2 and 0.5.</li> <li>The sulphide Mineral Resource has been reported above a total copper cut-off grade of 0.7% and a CuAS/CuT ratio of less than 0.2.</li> <li>Cut-off grades have increased slightly from the 2022 Mineral Resource, in response to higher costs.</li> <li>The reported Mineral Resources have been constrained within a US\$4.71/lb Cu and US\$32.72/lb Co Whittle optimised pit shell. The reported cut-off grade and the pit-shell price assumptions are in line with MMG's policy for reporting of Mineral Resources based on reasonable prospects for eventual economic extraction.</li> </ul> <p><b>N744100 Cross-section of Copper Mineral Resource model contained within the US\$4.71/lb pit shell</b></p>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Mining of the Kinsevere deposits is undertaken by the open pit method, which is expected to continue throughout the life of mine.</li> <li>Mining selection has been considered in the calculation of cut-off grade parameters and in the constraint of Mineral Resources within the US\$4.71/lb Cu pit shell.</li> <li>No mining factors have been applied to the Mineral Resource.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The metallurgical process applied at the current Kinsevere Operation includes <math>H_2SO_4</math> acid leaching followed by solvent extraction and electro-winning (SXEW) to produce copper cathode. This enables processing of oxide ores only.</li> <li>The Kinsevere Expansion Project (KEP) is approved and TMO and sulphide ores will be processed using flotation, roasting fed into the SXEW plant to produce copper cathode.</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources																																																																																																																				
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	<ul style="list-style-type: none"> <li>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. This is managed by stockpiles and blending.</li> <li>No metallurgical factors have been applied to the Mineral Resource aside from oxide state.</li> </ul>																																																																																																																			
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Environmental factors are considered in the Kinsevere life of asset work, which is updated annually and includes provisions for mine closure.</li> <li>There are no known environmental impediments to operating in the area.</li> </ul>																																																																																																																			
Bulk density	<ul style="list-style-type: none"> <li>In-situ dry bulk density values are determined from 6,676 diamond core density measurements, 4 in-pit bulk sample measurements and 12 in-pit measurements from specific lithologies.</li> <li>Bulk sample and in-pit measurements account for void spaces.</li> <li>Bulk density was calculated using the wet and dry method:               <ul style="list-style-type: none"> <li>Bulk Density = Dry Sample Weight / (Dry Sample Weight – Wet Sample Weight)</li> </ul> </li> <li>Average in-situ bulk density values were assigned to the blocks within each lithology-weathering domain.</li> </ul> <table border="1" data-bbox="416 1003 1291 1944"> <thead> <tr> <th>Oxidisation State</th> <th>Minz Code (Block Model)</th> <th>Lithology Code</th> <th>rocktype code (Block Model)</th> <th>Assigned Bulk Density (t/m3)</th> </tr> </thead> <tbody> <tr> <td>Air</td> <td>—</td> <td>—</td> <td>—</td> <td>0.00</td> </tr> <tr> <td colspan="3" rowspan="4">Weathered Rock</td> <td>rock_weath</td> <td>1.90</td> </tr> <tr> <td>rock_soil</td> <td>1.65</td> </tr> <tr> <td>cavity</td> <td>0.00</td> </tr> <tr> <td>air</td> <td>0.00</td> </tr> <tr> <td>Oxide</td> <td>ALL</td> <td>ALL</td> <td>ALL</td> <td>2.00</td> </tr> <tr> <td rowspan="12"></td> <td>waste</td> <td>Breccia</td> <td></td> <td>2.30</td> </tr> <tr> <td>waste</td> <td>Laminated Dolomite</td> <td></td> <td>2.30</td> </tr> <tr> <td>waste</td> <td>Upper CMN</td> <td></td> <td>2.30</td> </tr> <tr> <td>waste</td> <td>Dipeta</td> <td></td> <td>2.30</td> </tr> <tr> <td>ore</td> <td>KH RAT Siltstone</td> <td></td> <td>2.20</td> </tr> <tr> <td>ore</td> <td>Breccia</td> <td></td> <td>2.10</td> </tr> <tr> <td>ore</td> <td>Lower Shale</td> <td></td> <td>2.10</td> </tr> <tr> <td>ore</td> <td>Intercalated Shale SD</td> <td></td> <td>2.10</td> </tr> <tr> <td>ore</td> <td>Interbedded Dolomite Shale</td> <td></td> <td>2.20</td> </tr> <tr> <td>ore</td> <td>Laminated Dolomite</td> <td></td> <td>2.30</td> </tr> <tr> <td>ore</td> <td>Upper CMN</td> <td></td> <td>2.20</td> </tr> <tr> <td rowspan="9">Primary (Fresh)</td> <td>ALL</td> <td>ALL</td> <td>ALL</td> <td>2.50</td> </tr> <tr> <td>waste</td> <td>KH RAT Siltstone</td> <td></td> <td>2.40</td> </tr> <tr> <td>waste</td> <td>Breccia</td> <td></td> <td>2.40</td> </tr> <tr> <td>ore</td> <td>KH RAT Siltstone</td> <td></td> <td>2.65</td> </tr> <tr> <td>ore</td> <td>Breccia</td> <td></td> <td>2.55</td> </tr> <tr> <td>ore</td> <td>Lower Shale</td> <td></td> <td>2.55</td> </tr> <tr> <td>ore</td> <td>Intercalated Shale SD</td> <td></td> <td>2.55</td> </tr> <tr> <td>ore</td> <td>Interbedded Dolomite Shale</td> <td></td> <td>2.65</td> </tr> <tr> <td>ore</td> <td>Laminated Dolomite</td> <td></td> <td>2.65</td> </tr> <tr> <td>ore</td> <td>Upper CMN</td> <td></td> <td>2.65</td> </tr> </tbody> </table>				Oxidisation State	Minz Code (Block Model)	Lithology Code	rocktype code (Block Model)	Assigned Bulk Density (t/m3)	Air	—	—	—	0.00	Weathered Rock			rock_weath	1.90	rock_soil	1.65	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	Primary (Fresh)	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	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
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Classification	<ul style="list-style-type: none"> <li>Wireframes used for Mineral Resource classification are based on a combination of confidence in assayed grade, geological continuity, Kriging outputs (Kriging variance, Kriging efficiency and slope of regression) and drilling spacing.</li> </ul>																																																																																																																			

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>Measured Mineral Resources are defined by the slope of regression of the kriging estimate &gt; 0.8 and kriging efficiency &gt; 0.7, which generally results from drilling spacing less than 20m x 20m (mostly GC). Indicated Mineral Resources are defined by the slope regression of kriging estimation &gt; 0.7 and kriging efficiency &gt; 0.6, which generally results from drilling spacing of 40m x 40m (exploration drilling, mostly DD). Inferred Mineral Resources are where drilling is more widely spaced (up to 80m x 80m), with a minimum of two holes being required for an individual block estimate.</li> </ul> <p style="text-align: center;"><b>744,250mN Cross section - showing Kinsevere Mineral Resource classification and drilling density (Red-Measured, Green-Indicated, Blue-Inferred)</b></p> <ul style="list-style-type: none"> <li>Stockpiles are classified as Indicated Mineral Resources where they fulfil the cut-off grade criteria. The mineralisation was estimated based on detailed grade control drilling, with an allowance for dilution, and the volumes are accurately surveyed. The stockpiles are managed by the mines Mineral Resource Management system.</li> <li>The Mineral Resource classification reflects the Competent Person’s view on the confidence and uncertainty of the Kinsevere Mineral Resource.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The 2023 Kinsevere Mineral Resource model was completed by the Kinsevere Mineral Resource Geologist with guidance and review from the corporate Head Office expert.</li> <li>The Mineral Resource estimate was also reviewed by the Competent Person; and was found to be well constructed, considering the relevant geological features of the deposit, and is a good representation of the input data. The Competent Person is confident that the estimate is of high quality and that the Measured and Indicated portions of the model are suitable for conversion to Ore Reserves.</li> </ul>
Discussion of relative accuracy / confidence	<ul style="list-style-type: none"> <li>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.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ Estimates in the deeper primary copper mineralisation will not be as locally accurate when compared to the shallower oxide and TMO areas. This is due to wider spaced drilling. However, the geological and grade interpretations are robust due to a high level of understanding of geological controls. The level of uncertainty is captured by the Indicated / Inferred Mineral Resource category.</li> <li>▪ 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 grade. 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 defined between 0.2 and 0.8. A high variance of ratios in the TMO could potentially over-smooth the estimate and more work is needed to control this effect.</li> <li>▪ The method of assigning bulk density values is the same as the 2022 Mineral Resource model. Direct estimation of dry bulk density values needs to be evaluated where enough bulk density data is available.</li> <li>▪ Limited number of samples within some of the lithology and fault subdomains have resulted in poor quality estimates. Further analysis on the potential combination between lithology and fault domains could improve the estimation.</li> </ul>

**4.1.3 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”).

**4.1.3.1 Competent Person Statement**

I, Jeremy Charles Witley, 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 (Membership No. 60286) and I am a Registered Professional Natural Scientist (Geological Science) with the South African Council for Natural Scientific Professions (SACNASP) – Reg No 400181/05.
- 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 The MSA Group (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 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 the supporting documentation relating to the Kinsevere Mineral Resources.

**4.1.3.2 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 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Jeremy Charles Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286)

Date:

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Wony Diergaardt (Johannesburg North)

Signature of Witness:

Witness Name and Residents:  
(eg, town/suburb)

## 4.2 Ore Reserves - Kinsevere

### 4.2.1 Results

The 2023 Kinsevere Ore Reserves is based on the 2023 Mineral Resources model as describe in Section 1, 2 and 3 above.

The 2023 Kinsevere Ore Reserves are summarised in Table 10.

Table 10: Kinsevere Ore Reserves tonnage and grade (as at 30 June 2023)

Kinsevere Ore Reserve		Contained Metal					
	Tonnes (Mt)	Copper (% Cu)	Copper (AS % Cu)	Cobalt (% Co)	Copper ('000) t	Copper AS ('000) t	Cobalt ('000) t
<b>Oxide/TMO Copper</b>							
Proved	0.9	2.5	1.9	0.11	23	17	1
Probable	3.1	2.3	1.6	0.11	72	52	4
<b>Total</b>	<b>4.1</b>	<b>2.3</b>	<b>1.7</b>	<b>0.11</b>	<b>95</b>	<b>69</b>	<b>5</b>
<b>Primary Copper</b>							
Proved	1.2	2.0	0.3	0.17	25	4	2
Probable	15	2.3	0.2	0.09	339	28	14
<b>Total</b>	<b>16</b>	<b>2.2</b>	<b>0.2</b>	<b>0.10</b>	<b>363</b>	<b>32</b>	<b>16</b>
<b>Stockpiles</b>							
Probable	18	1.6	0.7	-	282	128	-
<b>Total</b>	<b>18</b>	<b>1.6</b>	<b>0.7</b>	<b>-</b>	<b>282</b>	<b>128</b>	<b>-</b>
<b>Kinsevere Copper</b>							
<b>Total</b>	<b>38</b>	<b>2.0</b>	<b>0.6</b>	<b>0.05</b>	<b>741</b>	<b>229</b>	<b>20</b>

Cut-off grades were calculated at a US\$3.92/lb copper price and \$23.37/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, 1.3% 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 2022 Ore Reserves are:

- Adopted copper price increased to US\$3.92/lb from US\$3.38/lb in 2022.
- Adopted cobalt price increased to US\$23.37/lb from US\$20.60/lb in 2022.
- Mine and stockpile depletion.
- Recent reconciliation data available since June 2022 shows a reasonable correlation between Grade Control Ore-Markups and the adopted local dilution modelling routine (within 5% on Grade and Tonnes):
  - Modelled planned Dilution:
    - Oxide 10%
    - Sulphide 5%
  - Modelled planned Ore Loss:
    - Oxide 11%

- Sulphide 7%
- 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 2023) rehabilitation liability.

**4.2.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 11 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 11: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Kinsevere Ore Reserves 2023

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
Mineral Resource estimates for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>▪ The Mineral Resources are reported inclusive of the Ore Reserves.</li> <li>▪ The Ore Reserves include Mineral Resources on stockpiles.</li> <li>▪ The sub-celled Mineral Resources block model named "KIN_GMR_2023_V4.bmf" and dated 24-04-2023 was used for dilution and ore loss modelling. The pit optimisation and designs were generated from the Diluted Mining Model "kin_gmr_2023_v4_dbm2.dm".</li> <li>▪ Mineral Resources estimates are based on Ordinary Kriging interpolation which has been applied for the estimation of all elements. The block model has a parent block size of 10m x 20m x 5m (X,Y,Z) with sub blocking down to 2.5m in the X, Y and Z. The mining model simulates a mining panel of 10m x 15m x 5m introducing localised dilution and ore loss.</li> <li>▪ All existing stockpiles have been included in the Mineral Resources and Ore Reserves tonnes and grade estimates.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person visited the site in July 2022 and a Mining One Pty Ltd representative (Louis Gyawu CP Mining 316767) visited site in August 2023. The Competent Person is in regular contact with site personnel regarding construction activities and operational performance.</li> <li>▪ The 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 visit have confirmed a common understanding of assumptions, calculation of the cut-off grades and development of the Life-of-Asset mine plan.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>▪ 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 Asset Business Planning, incorporating the Kinsevere Expansion Project (KEP), which incorporates the feasibility study of the sulphide processing plant.</li> <li>▪ 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.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ Breakeven cut-off grades (COG) were calculated at a US\$3.92/lb copper price, \$23.7/lb Co considering all known Copper and Cobalt mineral species. A variable gangue acid consumption is estimated using the equation <math>GAC (kg/t) = 33.823 \times \%Ca + 2.713 \times \%Mg + 2.8</math>. The following approximate COG's are applied:                         <ul style="list-style-type: none"> <li>– 1.1% Cu for ex-pit Oxide and Transitional material</li> </ul> </li> </ul>



<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– 1.3% for Primary material</li> <li>– 0.9% Cu for existing stockpile reclaim.</li> <li>▪ 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.</li> <li>▪ The NVS routine identifies material that is both suitable and potentially economic for processing in the Diluted Mining Model. This material is then considered for inclusion in the Ore Reserves process.</li> <li>▪ For the cost assumptions please see the “Costs” section.</li> <li>▪ For the price assumptions please see the “Revenue factors” section.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ This mining method is appropriate for the style and size of the mineralisation.</li> <li>▪ The pit optimisation was based on a mining model based on the 2023 Mineral Resources block model, and the strategy for the final pit selection was based on a revenue factor 1. The RF 1 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.</li> <li>▪ 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 5% in the 2023 Ore Reserves). The dilution and ore loss modelling were designed to reflect historic reconciliation data 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 8% compared with the Resource Model.</li> <li>▪ Minimum mining width (bench size) is typically in excess of 45m but is ~35m in some isolated areas during stage development.</li> <li>▪ No Inferred Mineral Resources material have been included in the optimisation and/or Ore Reserve reporting.</li> <li>▪ All required infrastructure is in place for processing Oxide Copper bearing minerals only, designs and costs have been forecast for tailings dam expansions. 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.</li> <li>▪ The slope guidelines used for the 2023 Kinsevere Ore Reserves are as follows:</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary							
	<b>Domain</b>	<b>Weathering Code</b>	<b>BFA (Max °)</b>	<b>Bench Height (m)</b>	<b>Berm Width (m)</b>	<b>IRA (°)</b>	<b>Stack Height (m)</b>	<b>Geotech. Berm (m)</b>
	<b>All</b>	Completely Weathered (W4)	50	10	6	35	-	-
		Highly Weathered DIP West (W3)	45	10	9.5	27	30	15
		Highly Weathered Other (W3)	50	10	9	30	30	15
	<b>RAT_HBX</b>	Moderately Weathered (W2)	70	15	7.25	50	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	<b>RAT_RSL</b>	Moderately Weathered (W2)	70	15	7.25	50	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	<b>SDOL</b>	Moderately Weathered (W2)	70	15	7.25	50	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	<b>SD</b>	Moderately Weathered (W2)	70	15	9.5	45	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	<b>DIP</b>	Moderately Weathered (W2)	70	12	7.25	50	90	17.5
		Slightly Weathered to Fresh (W1, W0)	80	20	13.25	50	120	26
	<ul style="list-style-type: none"> <li>– These guidelines consider mapping information of exposures at Central East, as well as updated logging and domain interpretation in Central Pit.</li> <li>– 2023 guidelines remain unchanged for the Kinsevere Hill North and Kinsevere Hill South pits, which consider observed performance of the current exposures. These two pits are currently depleted of any Ore Reserves.</li> <li>– Inter-ramp and overall slope design criteria have been in place since 2019 from High to Medium Consequence of Failure while further water and blast control measures are implemented i.e. inter ramp and overall slope factors of safety from limit equilibrium analysis are in excess of 1.2 and 1.3, respectively. This factor of safety was decreased from 1.3 and 1.2 in 2020, as water and blast control measures were implemented.</li> <li>▪ The design sectors highlighted in the table above can be seen in the figure below:</li> </ul>							
	<ul style="list-style-type: none"> <li>– These guidelines consider observed performance of the current exposures at Kinsevere and potential failure modes that could occur at bench, inter-ramp and overall slope scale at Kinsevere.</li> </ul>							
Metallurgical factors or assumptions	<p><b>Kinsevere Acid Leach Process</b></p> <ul style="list-style-type: none"> <li>▪ Kinsevere is an operating mine. The existing metallurgical process is a hydrometallurgical process involving grinding, tank leaching, counter-current decantation (CCD) washing, solvent extraction and electrowinning.</li> <li>▪ The acid leach process has been operating successfully since start-up in September 2011.</li> <li>▪ Copper recovery is determined by the equation:</li> </ul> $Cu_{recovery} (\%) = \frac{(0.963 \times CuAS)}{CuT}$							

**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary																	
	<p>where CuAS refers to the acid soluble copper content of the ore which is determined according to a standard test and CuT is the total digest of copper. The CuAS value has historically been around 80 to 90% of the total copper value though the exact percentage varies with the ore type. Much of the non-acid soluble copper is present in sulphides which are not effectively leached in the tank leaching stage.</p> <ul style="list-style-type: none"> <li>The reconciliation between expected and actual recovery is checked each month. The following table summarizes the outcomes for the last eight quarters.                     <table border="1" style="margin-left: 40px;"> <thead> <tr> <th rowspan="2">Period</th> <th colspan="2">Recovery of Acid Soluble Copper (%)</th> </tr> <tr> <th>Predicted</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Q3 2022</td> <td>96.3</td> <td>96.4</td> </tr> <tr> <td>Q4 2022</td> <td>96.3</td> <td>97.1</td> </tr> <tr> <td>Q1 2023</td> <td>96.3</td> <td>96.7</td> </tr> <tr> <td>Q2 2023</td> <td>96.3</td> <td>96.2</td> </tr> </tbody> </table> </li> <li>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.</li> <li>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.</li> <li>Total gangue acid consumption has been estimated based on the following equation <math>GAC (kg/t) = 33.823 \times \%Ca + 2.713 \times \%Mg + 2.8</math>.</li> <li>To prevent process issues, ore feed to the mill is blended to ensure the gangue acid consumption does not exceed 35kg/t.</li> <li>For Ore Reserves, an Oxide processing capacity of approximately 2.4Mtpa of ore (2.3Mtpa 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.</li> <li>Kinsevere mine does not currently produce any by-products.</li> </ul> <p><b>Kinsevere Expansion Project (KEP)</b></p> <ul style="list-style-type: none"> <li>The KEP study proposes to expand the current acid leach process to treat sulphide, transition and oxide ore, as well as recover cobalt. The KEP project is currently in construction with the Cobalt plant expected to be commissioned in last quarter of 2023 and the Sulphide plant planned to commence in quarter four 2024.</li> <li>The Kinsevere processing facility upgrades required for the project are:                     <ul style="list-style-type: none"> <li>Oxide pre-flotation circuit and leach tank modifications for 2.3 Mtpa ore treated</li> <li>Once Oxide Ore is exhausted, it is planned that the Oxide grinding circuit be modified (i.e. Sizer replaced with a Jaw Crusher and an additional Ball Mill be installed into the Oxide Circuit) to accommodate the processing of Sulphide Ores.</li> </ul> </li> </ul>	Period	Recovery of Acid Soluble Copper (%)		Predicted	Actual	Q3 2022	96.3	96.4	Q4 2022	96.3	97.1	Q1 2023	96.3	96.7	Q2 2023	96.3	96.2
Period	Recovery of Acid Soluble Copper (%)																	
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**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary																											
	<ul style="list-style-type: none"> <li>It has been estimated that this modified oxide circuit will be capable of processing 1.3Mtpa of Sulphide Ore.</li> <li>Oxide leach upgrades to convert to reductive leach conditions.</li> <li>Sulphide concentrator for 2.1 Mtpa ore treated.</li> <li>Roaster circuit including off-gas cleaning, acid plant and concentrate storage.</li> <li>Cobalt recovery circuit to produce high grade cobalt hydroxide.</li> <li>SX plant modifications.</li> </ul> <p>The block flowsheet is given below:</p> <ul style="list-style-type: none"> <li>MMG Board approval has been granted and construction is currently in progress.</li> <li>The estimated plant recoveries are as follows:</li> </ul> <table border="1"> <thead> <tr> <th>Recovery Description</th> <th>Unit</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>Sulphide Circuit Flot Copper Recovery (Ratio&lt;0.4 / 0.2 - plan / target)</td> <td>%</td> <td>Calc &gt;10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU &lt;10% ASCu/Tcu; the recovery = 94 - 57 * ASCu/TCU</td> </tr> <tr> <td>Sulphide Circuit Flot Cobalt Recovery (Ratio&lt;0.4 / 0.2 - plan / target)</td> <td>%</td> <td>Calc &gt;10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU - 2% &lt;10% ASCu/Tcu; the recovery = 94 - 57 * ASCu/TCU - 2%</td> </tr> <tr> <td>Oxide Circuit Flotation Copper Recovery (Ratio&lt;0.4 / 0.2 - plan / target)</td> <td>%</td> <td>Calc 72% * (CuT - ASCu)</td> </tr> <tr> <td>Oxide Circuit Flotation Cobalt Recovery (Ratio&lt;0.4 / 0.2 - plan / target)</td> <td>%</td> <td>30%</td> </tr> <tr> <td>Leach Copper Recovery (Includes Recovery Losses)</td> <td>%</td> <td>98 Less Soluble Losses</td> </tr> <tr> <td>(Oxide Feed) Leach Cobalt Recovery (Less Soluble Losses)</td> <td>%</td> <td>35 (70% Cobalt / Oxide only - i.e. 12 months prior to commissioning of the Sulphide plant)</td> </tr> <tr> <td>Roaster Recovery - Cu Conversion</td> <td>%</td> <td>95</td> </tr> <tr> <td>Roaster Recovery - Co Conversion</td> <td>%</td> <td>92.5</td> </tr> </tbody> </table>	Recovery Description	Unit	Comment	Sulphide Circuit Flot Copper Recovery (Ratio<0.4 / 0.2 - plan / target)	%	Calc >10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU <10% ASCu/Tcu; the recovery = 94 - 57 * ASCu/TCU	Sulphide Circuit Flot Cobalt Recovery (Ratio<0.4 / 0.2 - plan / target)	%	Calc >10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU - 2% <10% ASCu/Tcu; the recovery = 94 - 57 * ASCu/TCU - 2%	Oxide Circuit Flotation Copper Recovery (Ratio<0.4 / 0.2 - plan / target)	%	Calc 72% * (CuT - ASCu)	Oxide Circuit Flotation Cobalt Recovery (Ratio<0.4 / 0.2 - plan / target)	%	30%	Leach Copper Recovery (Includes Recovery Losses)	%	98 Less Soluble Losses	(Oxide Feed) Leach Cobalt Recovery (Less Soluble Losses)	%	35 (70% Cobalt / Oxide only - i.e. 12 months prior to commissioning of the Sulphide plant)	Roaster Recovery - Cu Conversion	%	95	Roaster Recovery - Co Conversion	%	92.5
Recovery Description	Unit	Comment																										
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<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Sulphide recoveries curves are supported by test work samples greater than 0.7% CuT, these curves are extended below 0.7% to cover the entire range of sulphide copper values within the sulphide Resource mineralised shells (0.3% CuT). Given that the predominant mineralisation for the sulphide ore is chalcopyrite, this recovery curve is expected to reasonably estimate recovery for all grades estimated within the shell. A campaign has been initiated to obtain metallurgical samples to further support this recovery curve, specifically in the aforementioned lower grade range (i.e. 0.3% to 0.7% CuT).</li> <li>▪ Cobalt sulphide recovery is fully supported test work samples across the considered range.</li> <li>▪ 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:                         <ul style="list-style-type: none"> <li>– Planned Misallocation Modelling:                                 <ul style="list-style-type: none"> <li>Sulphide Circuit where the Ratio CuAS / Cu &lt; 0.4</li> <li>Oxide Circuit where the Ratio CuAS / Cu &gt;= 0.4</li> </ul> </li> <li>– Operational Target:                                 <ul style="list-style-type: none"> <li>Sulphide Circuit where the Ratio CuAS / Cu &lt; 0.2</li> <li>Oxide Circuit where the Ratio CuAS / Cu &gt;= 0.2</li> </ul> </li> </ul> </li> </ul>
Environmental	<ul style="list-style-type: none"> <li>▪ Geochemical analysis of mine waste material over a period greater than 2 years (2017 onwards) has been reviewed to confirm the classification of Potential Acid Forming (PAF) material. clean waste is preserved for construction and rehabilitation requirements.</li> <li>▪ Surface water management plans for the short and medium term have been completed and are progressively being implemented. Maintenance of infrastructure will continue throughout the 2023 dry season.</li> <li>▪ The existing tailings storage facility (TSF 2) has design capacity to meet the 2023 Ore Reserve requirements. The TSF 2 is currently at RL 1290.6 it is planned to be elevated a further 14m. An additional facility (TSF4) is currently being investigated as a value optimization opportunity.</li> <li>▪ A new facility (TSF 3) is planned to accommodate tailings from the Sulphide Plant.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>▪ The Kinsevere mine site is well established with the following infrastructure in place:                         <ul style="list-style-type: none"> <li>– The Oxide processing plant is operational.</li> <li>– Labour is mostly sourced from Lubumbashi and surrounding villages with some expatriate support. There is an existing accommodation facility onsite.</li> <li>– There is sufficient water for the processing.</li> <li>– Copper cathode is transported off-site by truck.</li> <li>– Site has an access road that is partially sealed.</li> <li>– There is power supply from the national grid and from onsite generators.</li> <li>– The Ore Reserves do not require any additional land for expansion.</li> <li>– Tailings Storage Facility in place and future lifts are planned for.</li> </ul> </li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Grid power in country can be intermittent; mitigation management is through diesel-based power generation. Future grid power availability is forecast to improve.</li> <li>▪ Timely dewatering of the mining areas continues to be an important aspect of mining operations.</li> </ul> <p><b>Kinsevere Expansion Project (KEP)</b></p> <ul style="list-style-type: none"> <li>▪ Tailings storage facility (sulphide tailings) including tailings and decant pipelines</li> <li>▪ Reagents storage and utilities; power, water, air, sewerage, etc. have all been designed and in the process of being re-established.</li> <li>▪ Operational buildings and services relocations.</li> <li>▪ Roads and drainage upgrades.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>▪ Kinsevere is an operating mine, historical costs have been used to inform the 2023 Kinsevere Budget (January 2023 to December 2023), with the exception of the contract mining costs and the Sulphide Processing Plant costs.</li> <li>▪ Mining costs are based on existing contract mining costs, tendered in 2021.</li> <li>▪ The Sulphide Processing Plant costs are based on the most recent feasibility study (KEP), consisting of independent estimates from two separate engineering houses. Construction activities are underway, the most recent expenditure forecasts for the Sulphide Plant construction have been included in the Valuation process.</li> <li>▪ Transportation charges used in the valuation are based on the actual invoice costs that MMG are charged by the commodity trading company per an existing agreement.</li> <li>▪ Royalties charges have been considered, approximating 6% of the copper revenue and 10% of the cobalt revenue.</li> <li>▪ The processing costs include calculated gangue acid consumption.</li> <li>▪ The final product contains no deleterious elements.</li> <li>▪ US dollars have been used thus no exchange rates have been applied.</li> <li>▪ Weathering profiles have been used to model in-pit blasting costs.</li> <li>▪ 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.</li> <li>▪ 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(s). The inclusion or exclusion of these costs in the Ore Reserves estimation is based on accepted industry practice.</li> <li>▪ A cash flow model was produced based on the mine and processing schedule and the aforementioned costs.</li> <li>▪ The Ore Reserve estimation has been based on the aforementioned costs.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>▪ For cost assumptions see section above – “Costs”</li> <li>▪ The assumed long-term copper and cobalt price is US\$3.92/lb and \$23.37/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</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
	<p>MMG Board, and are based on external company broker consensus and internal MMG analysis.</p> <ul style="list-style-type: none"> <li>The current practise is to process Black Shale material at a maximum blend of 30% of the total feed. Internal studies are currently in progress, they identify opportunities whereby black shale is proposed to be process up to 50% of the total feed.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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 vehicle and related industries.</li> <li>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.</li> <li>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.</li> <li>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. Cobalt Hydroxide sales will be conducted by the MMG Sales and Marketing team.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>The costs are based on historic actuals and estimated Sulphide Plant feasibility study operating costs, the 2023 Kinsevere Budget and tendered contractor mining costs.</li> <li>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 (2023 to 2027) with a long-term forecast of \$3.92/lb Copper and \$23.37/lb Cobalt.</li> <li>The Ore Reserves financial model demonstrates the mine has a positive NPV, assuming existing rehabilitation liability costs are treated as sunk.</li> <li>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.</li> <li>Standard sensitivity analyses were undertaken for the Ore Reserve work and support that the Ore Reserve estimate is robust.</li> </ul>
Social	<ul style="list-style-type: none"> <li>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.</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ There were some incursions during 2023. 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.</li> <li>▪ The Social Development team, authorities and community chiefs continue to engage to address the issue of children entering site and training programs are run through the schools to educate children on the dangers and risks they could be exposed to.</li> <li>▪ 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.</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ 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 regulator...</li> <li>▪ The PE 528 permit covers the three major deposits of Tshifufiamashi, Tshifufia and Kinsevere Hill/Kilongo.</li> <li>▪ A Contrat d'Amodiation is provided for under the DRC Mining Code, enacted by law No 007/2002 of July 11, 2002.</li> <li>▪ A conversion of the adjacent PR7274 to an exploitation permit was completed in 2018. Tenement amalgamation (of PE528 and PE7274) was completed in 2019, with PE7274 incorporated into PE528.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ 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 is 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.</li> <li>▪ Existing stockpile material at Kinsevere is classified as Indicated. Indicated Mineral Resources above 0.9% Cu for Primary and 0.9% CuAS 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.</li> <li>▪ The Ore Reserves do not include any Inferred Mineral Resources (metal).</li> </ul>
Audit or Reviews	<ul style="list-style-type: none"> <li>▪ An external audit was completed in 2020 on the 2020 feasibility study. The work was carried out by AMC Consultants and subsequently by Nerin Institute of Technical Design. Whilst some minor improvements were suggested, no material issues were identified.</li> <li>▪ The next external Ore Reserves audit is planned for completion in 2024 on the 2023 Ore Reserves.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>▪ The most significant factors affecting confidence in the Ore Reserves are:                             <ul style="list-style-type: none"> <li>– Mining Dilution and Ore Loss.</li> <li>– Existence of Karst features, with respect to perched water and impacts to mining Dilution and Ore Loss.</li> <li>– Increase in operating costs for mining and processing.</li> </ul> </li> </ul>



Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>– Geotechnical risk related to slope stability.</li> <li>– Effective management of both ground and surface water.</li> <li>– The ability to increase the proportion of Black shale material in the plant feed, without negatively impacting the Plant Performance.</li> </ul>

#### 4.2.3 Expert Input Table

Several persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 12.

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.

Table 12: Contributing experts – Kinsevere Mine Ore Reserves

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Jeremy Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286), The MSA Group	Mineral Resources estimation and reporting 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 and Capacity
Jason Duffin, Superintendent Business Evaluations and Business Improvements Operations, MMG Ltd	Economic Assumptions and evaluation
Hugues Munung, Environment and Social Performance, MMG Ltd (Kinsevere)	Environment and Social
Hong Yu, Head of Marketing, MMG Ltd (Beijing)	Marketing

**4.2.4 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”).

**4.2.4.1 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.

**4.2.4.2 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 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Dean Basile MAusIMM(CP) (#301633)

Date:

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Davron Lu (Melbourne, Victoria)

Signature of Witness:

Witness Name and Residents:  
(eg, town/suburb)

## 5. Dugald River Mine

### 5.1 Introduction and Setting

The Dugald River mine is located in northwest Queensland approximately 65km northwest of Cloncurry and approximately 85km northeast of Mount Isa (Figure 5-1). It is approximately 11km (by the existing access road) from the Burke Developmental Road, which runs from Cloncurry to Normanton. It is an underground zinc-lead-silver deposit and wholly owned by a subsidiary of MMG Limited.

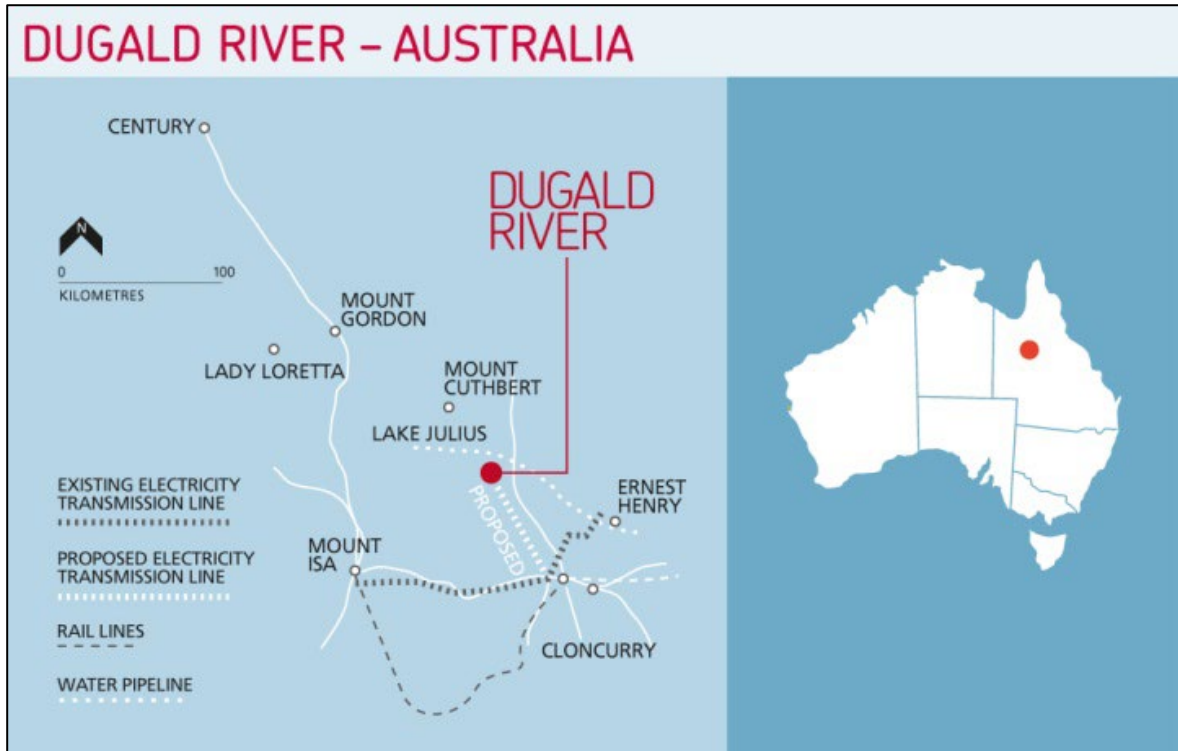


Figure 5-1: Dugald River project location

## 5.2 Mineral Resources – Dugald River

### 5.2.1 Results

The 2023 Dugald River Mineral Resources are summarised in Table 13. The Mineral Resource has been depleted to account for mining of ore by way of underground development of ore drives and stope production. The 2023 Mineral Resource has been reported above an A\$161/t NSR (*net smelter return*) cut-off.

Table 13: 2023 Dugald River Mineral Resource tonnage and grade (as at 30 June 2023)

Dugald River Mineral Resource											
2023											
	Tonnes (Mt)	Copper (% Cu)	Zinc (% Zn)	Lead (% Pb)	Silver (g/t Ag)	Gold (g/t Au)	Contained Metal				
							Copper (‘000)	Zinc (‘000)	Lead (‘000)	Silver (Moz)	Gold (Moz)
<b>Primary Zinc<sup>1</sup></b>											
Measured	16		12.8	1.9	58			2,000	300	29	
Indicated	13		11.3	1.4	16			1,500	190	6.8	
Inferred	28		11.3	1.4	5.8			3,100	400	5.2	
<b>Total</b>	<b>57</b>		<b>11.7</b>	<b>1.6</b>	<b>23</b>			<b>6,700</b>	<b>900</b>	<b>42</b>	
<b>Stockpiles</b>											
Measured	0.02		9.9	1.6	40			2.2	0.4	0.03	
<b>Total</b>	<b>0.02</b>		<b>9.9</b>	<b>1.6</b>	<b>40</b>			<b>2.2</b>	<b>0.4</b>	<b>0.03</b>	
<b>Total Primary Zinc</b>	<b>57</b>		<b>11.7</b>	<b>1.6</b>	<b>23</b>			<b>6,700</b>	<b>900</b>	<b>42</b>	
<b>Primary Copper<sup>2</sup></b>											
Inferred	4.8	1.6				0.2	76				0.03
<b>Total</b>	<b>4.8</b>	<b>1.6</b>				<b>0.2</b>	<b>76</b>				<b>0.03</b>
<b>Dugald River Total</b>							<b>76</b>	<b>6,700</b>	<b>900</b>	<b>42</b>	<b>0.03</b>

<sup>1</sup> \$161/t NSR Cut-off, in-situ (less depletion and oxide material)

<sup>2</sup> 1% Cu Cut-off, in-situ (less depletion and oxide material)

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

Contained metal does not imply recoverable metal

**5.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 14 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 14: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Dugald River Mineral Resource 2023

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Sampling techniques	<ul style="list-style-type: none"> <li>▪ Diamond drilling (DD) methods of varying hole diameter sizes comprise most of the samples collected to define the mineralisation. DD core was sampled to geological contacts with average sample lengths being 1m through the mineralisation. The DD core, dependent on core size and type of drilling, was sampled either as whole core, or cut into <math>\frac{3}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math> using a diamond core saw.</li> <li>▪ Approximately 6% of the assay dataset was sampled using reverse circulation (RC) drilling techniques although this was mostly confined to pre-collar surface drilling and generally from regions outside of the mineralised zone.</li> <li>▪ Approximately 29% of the total drilled meters were sampled.</li> <li>▪ The table below shows samples collected at Dugald River for use in the 2023 Mineral Resource (MR) by drill type, drillhole size and sample type.</li> </ul>

Section 1 Sampling Techniques and Data							
Criteria	Commentary						
		<b>Drill Type</b>	<b>Hole Size</b>	<b>Sample Type</b>	<b>Metres</b>	<b>% of Total</b>	
	Diamond Core	PQ		Whole Core	254.8	0.13%	
				Pulp	230.16	0.12%	
		PQ3		1/2 Core	53.09	0.03%	
				1/4 Core	42.13	0.02%	
		HQ		Whole Core	2,132.73	1.10%	
				3/4 Core	396.28	0.20%	
				1/2 Core	992.34	0.51%	
				Unknown	348.5	0.18%	
				1/4 Core	295.63	0.15%	
				Pulp	22	0.01%	
		HQ2		1/2 Core	5	0.00%	
		HQ3		1/2 Core	6,802.22	3.51%	
				1/4 Core	8.00	0.00%	
		NQ		Whole Core	2,967.20	1.53%	
				1/2 Core	206.2	0.11%	
				Unknown	315.8	0.16%	
				1/4 Core	42	0.02%	
		NQ2		Whole Core	95,136.35	49.13%	
				1/2 Core	61,370.16	31.69%	
				1/4 Core	82.77	0.04%	
				Pulp	188	0.10%	
		NQ3		Whole Core	6	0.00%	
				1/2 Core	1,211.57	0.63%	
				Unknown	157.8	0.08%	
		BQ/BQTK		Whole Core	200.06	0.10%	
				1/2 Core	113.65	0.06%	
		LTK60		Whole Core	3,781.89	1.95%	
				1/2 Core	2902.67	1.50%	
		UNK		Whole Core	1749.6	0.90%	
				1/2 Core	443.8	0.23%	
	<b>Total Diamond Core</b>				<b>182,458.40</b>	<b>94.23%</b>	
	Reverse Circulation	100&150		Chips	1,720.00	0.89%	
			5.75in		Chips	1,659.60	0.86%
				Unknown	Chips	7,792.30	4.02%
	<b>Total Reverse Circulation</b>				<b>11,171.90</b>	<b>5.77%</b>	
	<b>Total</b>				<b>193,630.30</b>	<b>100.00%</b>	
Drilling techniques	<ul style="list-style-type: none"> <li>The drillhole database used for the 2023 MR consists primarily of surface and underground diamond drilling (DD). A small proportion of RC drilling is used from surface.</li> <li>Drillholes used for the MR have drilling dates after 1969 and continue until present. The drillhole database contains 4,095 drill holes which includes 622 holes drilled from surface (both RC and DD) and 3,473 from underground (all DD).</li> <li>A summary of the total database drilled meters by drillhole type and size is provided in the table below. Some historical holes drilled prior to 1969, combined with other listed drill holes were not included in the data for the MR due to poor sample quality and reliability.</li> </ul>						

Section 1 Sampling Techniques and Data				
Criteria	Commentary			
	<b>Drill Type</b>	<b>DD Core/ RC diameter</b>	<b>Total Metres</b>	<b>% of Total</b>
	Diamond Core	PQ	484.96	0.07%
		PQ3	95.22	0.01%
		HQ	4,187.48	0.62%
		HQ2	5.00	0.00%
		HQ3	6,810.22	1.01%
		NQ	3,531.20	0.53%
		NQ2	156,777.28	23.32%
		NQ3	1,375.37	0.20%
		BQ	190.06	0.03%
		BQTK	123.65	0.02%
		LTK60	6,684.56	0.99%
		Unknown and Blank	2,207.10	0.33%
		<b>Diamond Core Sub Total</b>		<b>182,472.10</b>
	Reverse Circulation	100	1,580.00	0.24%
		150	140.00	0.02%
		5.75in	1,659.60	0.25%
		PQ	2.00	0.00%
		NQ2	9.30	0.00%
		UNK	7,791.00	1.16%
	<b>Reverse Circulation Sub Total</b>		<b>11,181.90</b>	<b>1.66%</b>
	Not Recorded	Unknown	225,175.49	33.50%
	<b>Not Recorded Sub Total</b>		<b>225,175.49</b>	<b>33.50%</b>
	No Sampling	5.75in	134.60	0.02%
		PQ	3.10	0.00%
		PQ3	1,080.78	0.16%
		HQ	2,311.80	0.34%
		HQ3	4,716.66	0.70%
		NQ	746.50	0.11%
		NQ2	241,136.38	35.87%
		NQ3	19.75	0.00%
		BQTK	575.22	0.09%
		LTK60	2,126.68	0.32%
		Unknown	558.40	0.08%
	<b>No Sampling Sub Total</b>		<b>253,409.87</b>	<b>37.70%</b>
	<b>Total</b>		<b>672,239.36</b>	<b>100.00%</b>
	DD = Surface diamond drilling, RC= Reverse circulation drilling			
Drill sample recovery	<ul style="list-style-type: none"> <li>Recovery recorded during drill core logging was 99.8%, with minor losses in broken / sheared and faulted ground mostly occurring in the LTK60 drilling (last used in 2017) and PQ3. At times, triple tube drilling from surface has been used to maximise core recovery, but this is not common.</li> <li>RQD (rock quality designation) data was logged and recorded in the geological database to measure the degree of jointing, fractures, or core loss in the sample.</li> <li>Shearing and broken ground zones are located at the edges of the mineralisation zones and are not associated with locations of good grade intercepts. There is no relationship between core loss and mineralisation or grade – no sample bias has occurred due to core loss within broken/sheared ground.</li> </ul>			
Logging	<ul style="list-style-type: none"> <li>All drill core samples as well as RC pre-collars have been geologically logged (lithology, stratigraphy, weathering, alteration, geotechnical characteristics) to a level that can support the MR.</li> </ul>			

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The logging captures both qualitative (e.g. rock type, alteration) and quantitative (e.g. mineral percentages (pre 2017)) characteristics. Post 2017 only primary holes have mineral percentages logged outside of sampling zones. Core photographs are available for most drill holes. All drill holes post-2008 have been photographed (wet and dry), and with a higher resolution camera in use from 2016. Representative mineralised core is stored at -4°C in refrigerated containers to minimise oxidation for metallurgical testing. Representative non mineralised core is stored on pallets in the core storage yard.</li> <li>▪ Currently, all drillholes are logged using laptop computers directly into the drillhole database. Logging has occurred in the past onto paper log-sheets and was then transcribed into the drillhole database.</li> </ul>
Sub-sampling techniques and sample preparation	<p><b>Diamond Drill Core Sampling</b></p> <ul style="list-style-type: none"> <li>▪ Prior to 2007, various sub-sample techniques and sample preparation techniques were used for DD including whole core sampling, <math>\frac{3}{4}</math> (generally restricted to metallurgical samples) and <math>\frac{1}{2}</math> and <math>\frac{1}{4}</math> (for general samples) core, where sample length is nominally 1 m.</li> <li>▪ Since 2007 DD core was halved using a circular diamond saw, with density measurements taken before being sent for analytical testing. Sample lengths were cut as close to 1 m as possible while respecting geological contacts.</li> <li>▪ From 2016 whole NQ core is sent for analysis for any in-fill drilling campaigns.</li> <li>▪ Sample lengths average 1 m while still respecting the geological contacts (but can vary from 0.2 m to 1.5 m within the mineralised zone) were determined by lithology and visible mineralisation. Sample intervals were taken up to, but not across, lithological contacts, and obvious high-grade zones were sampled separately from lower grade intervals.</li> <li>▪ This method ensured that as much information as possible was collected on the controls of the mineralisation while maintaining the standard sample length of 1 m.</li> </ul> <p><b>RC Sampling</b></p> <ul style="list-style-type: none"> <li>▪ The sample collection protocol for RC grade control drill holes has typically been as follows:               <ul style="list-style-type: none"> <li>– RC samples are collected from a cyclone at 2m intervals from pre-collar surface drilling.</li> <li>– If the sample was dry, the sample was passed through a riffle splitter and collected into a pre-numbered calico bag.</li> <li>– Residual material was sampled and sieved for chip trays and the remainder returned to the larger poly-weave bag.</li> <li>– The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet.</li> <li>– If the sample was wet, then the sample was dried before being split according to the procedure above (for dry samples).</li> <li>– Samples from individual drill holes were sent in the same dispatch to the preparation laboratory.</li> <li>– Historical RC programmes were designed to test the ‘un-mineralised’ hanging wall material in DD pre-collars. 2 m bulk composites stored at the drill site were sampled using the spear method.</li> </ul> </li> </ul>



**Section 1 Sampling Techniques and Data**

Criteria	Commentary																																																												
	<ul style="list-style-type: none"> <li>▪ The vast majority of drillhole intersections are orthogonal to the mineralisation and as such are representative.</li> </ul> <p><b>Sample Preparation – Coarse Crusher and Pulp Duplicates and Laboratory Repeats</b></p> <ul style="list-style-type: none"> <li>▪ The sample preparation of RC chips and DD core adheres to industry good practice.</li> <li>▪ Since 2010, samples were bagged, numbered, and dispatched to ALS Mt Isa laboratory:                             <ul style="list-style-type: none"> <li>– Prior to 2016, the sample was jaw crushed and 50% split.</li> <li>– Since 2016, all samples are jaw crushed, then 100% re-crushed using a Boyd crusher, 70% nominal passing 3.15mm.</li> <li>– The sample is rotary split with 500-800g subsample which is pulverised to 85% passing 75µm.</li> <li>– All reject material is retained and stored (coarse – jaw crushed product, collected 2010 to 2016).</li> <li>– Pulps are despatched to ALS Brisbane or ALS Mt Isa for base metal analysis and to ALS Townsville for gold analysis.</li> </ul> </li> <li>▪ For the 2007/2008 drilling campaigns, laboratory sample preparations involved drying, crushing (jaw and Boyd), and pulverising the ½ core sample to 85% passing 75µm.</li> <li>▪ No detailed information can be found for laboratory preparation prior to 2007 and it is assumed prevailing industry standard protocols were followed.</li> <li>▪ Different assay laboratories have been utilised over time and have been summarised in the table below (over 85% of all assays have been processed by ALS laboratories).</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="text-align: center;">Date Range</th> <th style="text-align: center;">Laboratory</th> <th style="text-align: center;">Number of Samples</th> <th style="text-align: center;">% of Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2022</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">27,917</td> <td style="text-align: center;">14.0%</td> </tr> <tr> <td style="text-align: center;">2021-2022</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">28,709</td> <td style="text-align: center;">14.3%</td> </tr> <tr> <td style="text-align: center;">2020-2021</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">22,749</td> <td style="text-align: center;">11.4%</td> </tr> <tr> <td style="text-align: center;">2019-2020</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">16,803</td> <td style="text-align: center;">8.4%</td> </tr> <tr> <td rowspan="2" style="text-align: center;">2010 - 2019</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">79,828</td> <td style="text-align: center;">39.9%</td> </tr> <tr> <td style="text-align: center;">GENALSYS</td> <td style="text-align: center;">439</td> <td style="text-align: center;">0.2%</td> </tr> <tr> <td rowspan="2" style="text-align: center;">2001 - 2009</td> <td style="text-align: center;">ALS</td> <td style="text-align: center;">13,142</td> <td style="text-align: center;">6.6%</td> </tr> <tr> <td style="text-align: center;">Unknown</td> <td style="text-align: center;">96</td> <td style="text-align: center;">0.0%</td> </tr> <tr> <td rowspan="7" style="text-align: center;">Prior to 2000</td> <td style="text-align: center;">AAL</td> <td style="text-align: center;">234</td> <td style="text-align: center;">0.1%</td> </tr> <tr> <td style="text-align: center;">AMDEL</td> <td style="text-align: center;">4,551</td> <td style="text-align: center;">2.3%</td> </tr> <tr> <td style="text-align: center;">Aminya</td> <td style="text-align: center;">224</td> <td style="text-align: center;">0.1%</td> </tr> <tr> <td style="text-align: center;">ANALABS</td> <td style="text-align: center;">1,887</td> <td style="text-align: center;">0.9%</td> </tr> <tr> <td style="text-align: center;">PILBARA</td> <td style="text-align: center;">2,175</td> <td style="text-align: center;">1.1%</td> </tr> <tr> <td style="text-align: center;">UNE</td> <td style="text-align: center;">7</td> <td style="text-align: center;">0.0%</td> </tr> <tr> <td style="text-align: center;">Unknown</td> <td style="text-align: center;">1,323</td> <td style="text-align: center;">0.7%</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>Total</b></td> <td style="text-align: center;"><b>200,084</b></td> <td style="text-align: center;"><b>100%</b></td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>▪ Prior to 2015, duplicate samples were selected and sent to the laboratory at the end of the drilling campaign after the routine results had been reviewed.</li> <li>▪ Since 2015, duplicate samples have been selected every 20<sup>th</sup> sample by the laboratory alternating between one taken at the crushing stage and the other taken at the pulverisation stage. These are then analysed at the same time as the routine samples.</li> </ul>	Date Range	Laboratory	Number of Samples	% of Total	2022	ALS	27,917	14.0%	2021-2022	ALS	28,709	14.3%	2020-2021	ALS	22,749	11.4%	2019-2020	ALS	16,803	8.4%	2010 - 2019	ALS	79,828	39.9%	GENALSYS	439	0.2%	2001 - 2009	ALS	13,142	6.6%	Unknown	96	0.0%	Prior to 2000	AAL	234	0.1%	AMDEL	4,551	2.3%	Aminya	224	0.1%	ANALABS	1,887	0.9%	PILBARA	2,175	1.1%	UNE	7	0.0%	Unknown	1,323	0.7%	<b>Total</b>		<b>200,084</b>	<b>100%</b>
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Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The assaying methods currently applied at Dugald River are ICP-MS with a 4-acid digest which is used for the analysis of Zn, Pb, Ag, Fe, S, Mn, Cu, Mo &amp; Co which are estimated in the Mineral Resource. Total carbon (TotC) is analysed by Leco furnace.</li> <li>All these analyses are considered total.</li> </ul> <p><b>Base Metals</b></p> <ul style="list-style-type: none"> <li>Since 2010, the four-acid digestion process has been used by ALS Brisbane and is as follows:                             <ul style="list-style-type: none"> <li>Approximately 0.25g of sample weighed into a Teflon test tube.</li> <li>HNO<sub>3</sub> and HClO<sub>4</sub> are added and digested at 115°C for 15 minutes.</li> <li>HF is added and digested at 115°C for 5 minutes.</li> <li>The tubes are then digested at 185°C for 145 to 180 minutes which takes the digest to incipient dryness (digest is not “baked”).</li> <li>50% HCl is added and warmed.</li> <li>Made up to 12.5ml using 9.5ml 11% HCl.</li> </ul> </li> <li>The table below summarises the analytical method and digestion used for all assays in the MRE. Most of the assays have been determined by using a four-acid digest with an ICP-AES finish.</li> </ul> <table border="1"> <thead> <tr> <th rowspan="2">Base Metal Analysis</th> <th colspan="7">Analytical Method</th> <th rowspan="2">Total</th> </tr> <tr> <th>AAS</th> <th>ICP</th> <th>ICPAES</th> <th>ICPAESMS</th> <th>ICP-MS</th> <th>XRF</th> <th>Unknown</th> </tr> </thead> <tbody> <tr> <td>Four Acid</td> <td>2,550</td> <td>1,209</td> <td>18,913</td> <td>46</td> <td></td> <td></td> <td></td> <td>186,718</td> </tr> <tr> <td>Aqua Regia</td> <td>5</td> <td></td> <td>3,982</td> <td></td> <td>6</td> <td></td> <td></td> <td>3,993</td> </tr> <tr> <td>Aqua Regia Perchloric</td> <td></td> <td></td> <td>4,251</td> <td></td> <td></td> <td></td> <td></td> <td>4,251</td> </tr> <tr> <td>Mixed Acid</td> <td></td> <td></td> <td>301</td> <td>165</td> <td></td> <td></td> <td></td> <td>466</td> </tr> <tr> <td>Perchloric</td> <td>151</td> <td></td> <td>88</td> <td></td> <td></td> <td></td> <td></td> <td>239</td> </tr> <tr> <td>Unknown</td> <td>231</td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>1,564</td> <td>1,802</td> </tr> <tr> <td><b>Total</b></td> <td><b>2,937</b></td> <td><b>1,209</b></td> <td><b>191,535</b></td> <td><b>211</b></td> <td><b>6</b></td> <td><b>7</b></td> <td><b>1,564</b></td> <td><b>197,469</b></td> </tr> </tbody> </table> <p><b>Gold</b></p> <ul style="list-style-type: none"> <li>Gold assaying at Dugald River began in 1988 when the hanging-wall copper lode was first discovered.</li> </ul>								Base Metal Analysis	Analytical Method							Total	AAS	ICP	ICPAES	ICPAESMS	ICP-MS	XRF	Unknown	Four Acid	2,550	1,209	18,913	46				186,718	Aqua Regia	5		3,982		6			3,993	Aqua Regia Perchloric			4,251					4,251	Mixed Acid			301	165				466	Perchloric	151		88					239	Unknown	231					7	1,564	1,802	<b>Total</b>	<b>2,937</b>	<b>1,209</b>	<b>191,535</b>	<b>211</b>	<b>6</b>	<b>7</b>	<b>1,564</b>	<b>197,469</b>
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	<ul style="list-style-type: none"> <li>▪ The different assay methods have been used and are summarised in the table below.</li> <li>▪ Most gold assays were undertaken by ALS (Townsville) using a fire assay method with an AAS finish from a 50g charge used since 2008.</li> <li>▪ At total of 483 gold assays were completed using Aqua Regia with an AAS read (completed between 1990 and 1996).</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Laboratory</th> <th colspan="5">Analytical Method</th> <th rowspan="2">Total</th> </tr> <tr> <th>AR-AAS</th> <th>FA-AAS 30g</th> <th>FA-AAS 40g</th> <th>FA-AAS 50g</th> <th>Unknown</th> </tr> </thead> <tbody> <tr> <td>AAL</td> <td>96</td> <td></td> <td></td> <td></td> <td></td> <td>96</td> </tr> <tr> <td>ALS</td> <td></td> <td>34,261</td> <td></td> <td>13,661</td> <td></td> <td>47,922</td> </tr> <tr> <td>AMDEL</td> <td>413</td> <td>58</td> <td>371</td> <td>57</td> <td>80</td> <td>979</td> </tr> <tr> <td>ANALABS</td> <td>70</td> <td>684</td> <td></td> <td>158</td> <td></td> <td>912</td> </tr> <tr> <td>PILBARA</td> <td></td> <td></td> <td></td> <td>174</td> <td></td> <td>174</td> </tr> <tr> <td>Unknown</td> <td></td> <td></td> <td></td> <td></td> <td>48</td> <td>48</td> </tr> <tr> <td><b>Total</b></td> <td><b>579</b></td> <td><b>35,003</b></td> <td><b>371</b></td> <td><b>14,050</b></td> <td><b>128</b></td> <td><b>50,131</b></td> </tr> <tr> <td><b>Percentage of Total (%)</b></td> <td><b>1.15%</b></td> <td><b>69.82%</b></td> <td><b>0.74%</b></td> <td><b>28.03%</b></td> <td><b>0.26%</b></td> <td><b>100%</b></td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>▪ There are no inherent sampling problems recognised.</li> <li>▪ Measures taken to ensure sample representivity include orientation of the drill holes as close as practical to perpendicular to the known mineralised structure, and the collection and analysis of field duplicates.</li> <li>▪ 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.</li> <li>▪ These assaying techniques are considered suitable for the Dugald River Mineral Resource.</li> </ul> <p><b>Quality Assurance/Quality Control (QA/QC)</b></p> <ul style="list-style-type: none"> <li>▪ Externally prepared certified reference materials (CRMs) and Blanks are submitted with every batch of samples.</li> <li>▪ The performance of the CRMs and Blanks is monitored by the Dugald River Geology team when results are loaded, and with Quarterly and Annual reports.</li> <li>▪ Prior to 2015, duplicate sampling was performed by selecting samples from the returned coarse rejects and resubmitting a subsample to ALS for analysis.</li> <li>▪ Since 2015, duplicates are taken by the laboratory at every 20<sup>th</sup> sample, alternating between a duplicate taken at the primary crushing stage or at the pulverisation stage.</li> <li>▪ Sample batches that return values outside three standard deviations (3SD) are considered to have failed and all or part of the batch is re-analysed by the Laboratory (ALS).</li> <li>▪ Insertion rates for QAQC samples in 2022 were consistent with the MMG QAQC work quality requirement (WQR). CRMs were inserted at a rate of 1:17, and blanks inserted at a rate of 1:22. These (higher than required) results are the product of</li> </ul>	Laboratory	Analytical Method					Total	AR-AAS	FA-AAS 30g	FA-AAS 40g	FA-AAS 50g	Unknown	AAL	96					96	ALS		34,261		13,661		47,922	AMDEL	413	58	371	57	80	979	ANALABS	70	684		158		912	PILBARA				174		174	Unknown					48	48	<b>Total</b>	<b>579</b>	<b>35,003</b>	<b>371</b>	<b>14,050</b>	<b>128</b>	<b>50,131</b>	<b>Percentage of Total (%)</b>	<b>1.15%</b>	<b>69.82%</b>	<b>0.74%</b>	<b>28.03%</b>	<b>0.26%</b>	<b>100%</b>
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	<p>increased sampling through copper zones requiring the insertion of an extra CRMs and blanks for this additional routine and the insertion of extra quartz flush samples because of drilling through multiple high-grade ore lenses with waste material in between.</p> <p><b>Blanks and Duplicate samples</b></p> <ul style="list-style-type: none"> <li>▪ Currently one Blank standard is used by ALS to monitor the performance of Zn, Pb, and Ag analyses. Results were acceptable during 2022 with discrepancies generally resolved as sample insertion/numbering errors.</li> <li>▪ Prior to March 2016, a non-certified Blank was submitted from material sourced from site.</li> <li>▪ Laboratory duplicates for Zn-Pb-Ag performed well during 2022. Most duplicate failures that fell outside the acceptable threshold were from within waste slate, limestone and metamorphosed calc-silicate lithologies and therefore not of concern.</li> <li>▪ Results were still pending for umpire laboratory (Intertek Genalysis, Perth) duplicate assays at the time of writing.</li> </ul> <p><b>Certified Reference Materials</b></p> <ul style="list-style-type: none"> <li>▪ Several Certified Reference Materials (CRM) are used for Zn, Pb, Ag, Cu and Au.</li> <li>▪ CRMs generally performed well over the duration of 2022. OREAS-100 series CRMs performed consistently well. Of the 45 QAQC failures, approximately 53% were associated with OREAS 600 series material (consistent under reporting of Au and subsequently discontinued). Only 11 failures (23% of total failures) were recorded for Zn, Pb or Ag. Aside from the OREAS-622 standard, there were no consistent CRM failures during 2022.</li> <li>▪ The Competent Person considers the assay QAQC performance for the reporting period is acceptable.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Verification of assay results was visually verified against logging and core photos by alternative company personnel.</li> <li>▪ No planned twinning of drillholes has occurred at Dugald River. However, close-spaced and crossing holes give comparable grade and width results.</li> <li>▪ Core logging data was recorded directly into a database (Micromine Geobank®) by experienced geologists (geological information such as lithology and mineralisation) and field technicians (geotechnical information such as core recovery and RQD).</li> <li>▪ Where data was deemed invalid or unverifiable it was excluded from the MRE.</li> <li>▪ No manual adjustments to the assay data have been performed during import into the Micromine Geobank® Database.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ All drillhole collars have been surveyed by licensed surveyors. Surface collars are surveyed in local mine grid and converted to MGA94 (pre-2020) and MGA2020 (post-2020).</li> <li>▪ Underground drillholes are marked up by surveying a collar pin at the designed collar point location which is supplied by the geologists in local mine grid. <ul style="list-style-type: none"> <li>– Currently the drillers obtain their azimuth for the drillhole by utilising an azimuth aligner which is calibrated weekly using a test bed that has a fixed azimuth.</li> </ul> </li> </ul>

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	<ul style="list-style-type: none"> <li>– Upon completion of the drill program, the collars of each drillhole are surveyed in local mine grid and saved into the drillhole register spreadsheet for the geologists.</li> <li>– The equipment used underground to perform drillhole surveys is a Leica TS-15 total station (pre-2016) and a Leica TS-16 total station (post-2016).</li> <li>▪ For surface holes a collar point is marked out with a survey peg and then two pegs at the extremities of the drill pad are surveyed for the azimuth of the hole.               <ul style="list-style-type: none"> <li>– The drill rig lines up with these two pegs to drill on correct azimuth.</li> <li>– The drillers also use a true north azimuth tool to check the bearing.</li> <li>– The equipment used on surface for drill holes is a Trimble R8 RTK GPS.</li> </ul> </li> <li>▪ Down-hole surveying has been undertaken using various methods including Eastman, Reflex and gyroscopic cameras. In general, a spacing of 30m down hole between survey readings is used.</li> <li>▪ Measurement interference due to the presence of magnetite and pyrrhotite has been an issue in past drilling programmes.               <ul style="list-style-type: none"> <li>– During the 2007/2008 drilling program routine survey checks were undertaken on the reflex survey camera using an aluminium calibration stand positioned in a known orientation.</li> <li>– Since 2008 all drill holes are gyroscopically surveyed.</li> <li>– North seeking azimuth tools are now used for all underground drilling surveys since 2018 and a calibrated fortnightly by the drill crew.</li> </ul> </li> <li>▪ The grid system used is MGA94 (Pre-2020) and MGA2020 (Post-2020), the conversion to local mine grid is rotated and scaled. The grid transformation is undertaken using a formula provided by the onsite surveyors.</li> <li>▪ A LiDAR survey flown in 2010 is used for topographic control on drillholes collared at surface. In the view of the Competent Person the LiDAR survey provides adequate topographic control.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ Drill spacing varies across the strike and dip of the mineralisation lode. 20m x 15m (horizontal x vertical) while the lowest drill density is greater than 160m x 120m (horizontal x vertical) spacing.</li> <li>▪ Locations drilled at 20m x 15m and up to 40m x 30m are adequate to establish both geological and grade continuity. Wider spaced drilling is adequate for definition of broader geological continuity but not sufficient for accurate grade continuity.</li> <li>▪ Underground mapping of faces is digitised and used in the interpretation and wire-framing process. ADAM Tech photogrammetric data complements the mapping.</li> <li>▪ Drill hole data is concentrated within the upper 700m of the Mineral Resource with broader-spaced drilling at depth, due to the access restraints, mine schedule requirements and costs involved in drilling deeper sections.</li> <li>▪ Drill spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the MRE procedure and classification applied.</li> <li>▪ Samples are not composited prior to being sent to the laboratory for analysis.</li> </ul>

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Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ Geological mapping (both underground and surface) and interpretation show that the mineralisation is striking north south and dips between 85 and 45 degrees towards the west.</li> <li>▪ Drilling is conducted on east-west and west-east directions to intersect mineralisation across-strike.</li> <li>▪ The orientation of underground drill holes is no greater than 40° from orthogonal to the mineralisation and is therefore not considered to be introducing bias to the sampling.</li> <li>▪ Drilling orientation is not considered to have introduced sampling bias. Drill holes that have been drilled down dip and sub-parallel to the mineralisation have been excluded from the estimate.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Measures to provide sample security include:               <ul style="list-style-type: none"> <li>– Data entry validation rules to prevent common errors, including duplicate and overlapping sample interval rules, sample length limit rules and unique sample ID rules.</li> <li>– Peer reviews of 1 in 5 drillholes</li> <li>– Automatically generated cut sheets</li> <li>– Stored QAQC photos of CRM's and Coarse Blanks against the numbered calico sample bags for every drill hole since 2018</li> <li>– Adequately trained and supervised sampling personnel.</li> <li>– Well maintained and ordered sampling sheds.</li> <li>– Cut core samples stored in numbered and tied calico sample bags.</li> <li>– Calico sample bags transported by courier to assay laboratory.</li> <li>– Assay laboratory checks of sample dispatch numbers against submission documents.</li> <li>– Database validation rules for loading of returned assay data.</li> </ul> </li> <li>▪ Assay data is returned as a .sif file via email and processed via the MMG assay loading software.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>▪ The Dugald River database has been housed in various SQL databases. iOGlobal managed the database until the end of 2009 when the database was transferred and migrated to an MMG database using the Micromine Geobank® software.</li> <li>▪ Internal audits and checks were performed at this time. Any spurious data was investigated and rectified or flagged and excluded.</li> <li>▪ No external independent audits have been performed on the database.</li> <li>▪ No external independent audits have been performed on the sampling techniques or the database.</li> <li>▪ Pre-Covid restrictions, both ALS Mount Isa and Brisbane laboratories were audited on an annual basis by MMG personnel. Most recently, the ALS Townsville and ALS Brisbane laboratories were audited by MMG representatives on 20 July 2023 and 21 July 2023 respectively. No issues were reported.</li> <li>▪ Regular meetings between MMG and ALS occur to discuss any issues and concerns.</li> </ul>

Section 2 Reporting of Exploration Results	
Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The Dugald River Mining Leases are wholly owned by a subsidiary of MMG Limited.</li> <li>▪ MMG holds one exploration lease (EPM12163 – MMG Australia Ltd) and one mineral development lease (MDL79 -MMG Dugald River Pty Ltd) in addition to the 40 mining leases on which the Dugald River Mineral Resource is located. EPM12163 consists of 3 sub-blocks and covers an area of 20 km<sup>2</sup> to the west of the Dugald River deposit. ML2479 overlaps the eastern area of the EPM12163. The list of leases includes: <ul style="list-style-type: none"> <li>– ML2467-ML2471</li> <li>– ML2477-ML2482</li> <li>– ML2496-ML2502</li> <li>– ML2556-ML2559</li> <li>– ML2596</li> <li>– ML2599</li> <li>– ML2601</li> <li>– ML2638</li> <li>– ML2684-ML2685</li> <li>– ML7496</li> <li>– ML90047</li> <li>– ML90049-ML90051</li> <li>– ML90211-ML90213</li> <li>– ML90218</li> <li>– ML90220</li> <li>– ML90230</li> <li>– ML90237</li> </ul> </li> <li>▪ There are no known impediments to operating in the area.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>▪ The History of the Dugald River zinc-lead deposit is summarised as follows: <ul style="list-style-type: none"> <li>– Discovered in 1881, the first drilling programme in 1936 comprised three drill holes. The maiden Mineral Resource was reported in 1953 by Zinc Corporation. Drilling continued from 1970 through 1983 totalling 28 drill holes. CRA then re-estimated the Mineral Resource in 1987. Between 1989 and 1992 a further 200 drill holes were drilled, resulting from the discovery of the high-grade, north plunging shoot. Infrastructure, metallurgical and environmental studies were undertaken during this period. Between 1993 and 1996 irregular drilling was focused on the delineation of copper mineralisation in the hanging wall. In 1997 the project was transferred to Pasminco, which had entered a joint venture with CRA in 1990. Re-compilation of the database, further delineation drilling, metallurgical test work, and the check assaying of old pulps was completed. Continued drilling between 2000 and 2009 with subsequent metallurgical studies culminated in a Feasibility Study. Structural analysis and a focused review on the northern copper zone in 2010 were completed. In 2011 the decline commenced which resulted in trial stoping. In 2014 some underground development was completed and drilling focused on confirming and extending continuity of the mineralisation within the Dugald River lode.</li> </ul> </li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Geology	<ul style="list-style-type: none"> <li>▪ The Dugald River deposit is located within a 3 to 4 km wide north-south trending high strain domain named the Mt Roseby Corridor (MRC). The MRC has experienced complex polyphase deformation and metamorphism during the Isan Orogeny, which has resulted in widespread alteration and transposition of both stratigraphy and pre-existing structural fabrics. The MRC is comprised of the Mt Roseby Schist Formation that includes the local hanging wall Calc-silicates, Dugald River Slate (DRS) and the Footwall Limestone. It is bordered to the west by the Knapdale Quartzite and the east by the Mt Rose Bee Fault. The Knapdale Quartzite forms a prominent range of hills within the local area.</li> <li>▪ The Dugald River Slates host the Dugald Lode, and are a package of carbonaceous to dolomitic siltstones, with a footwall Limestone interpreted to be part of the Lady Clayre Dolomite package.</li> <li>▪ The Dugald Lode is hosted within in a north-south shear zone that dips steeply to the west. The lode and its alteration halo transect and crosscut the strike of the slate sequence at a low angle from hanging wall (HW) to footwall (FW). A HW lens can be seen splitting from the main orebody and anastomoses due to the influence of graphitic shears.</li> <li>▪ Lithological codes used to subdivide the Dugald Lode sequence are based on the primary mineralogy and/or distinguishing features, which are most often a product of alteration.</li> <li>▪ All significant Zn-Pb-Ag mineralisation is restricted to the main lens with the HW and FW lenses being predominantly zinc mineralised. Five main mineralisation textures/types are recognised: sulphide stringer, banded ore, slaty breccia, pyrrhotite-slaty breccia and massive breccia.</li> <li>▪ Interpretations from 2019 have shown that the geometry, location and distribution of the zinc-lead-silver mineralisation is governed by boudinage (pinching and swelling thickness along strike and down dip) which explains the distribution and orientation of the hanging wall and footwall lenses.</li> <li>▪ It is recognised that the previously modelled hanging wall and footwall domains are likely to be part of the main lens which anastomoses, splits and merges. All zinc and associated lead-silver mineralisation is governed by this geometry.</li> <li>▪ The mineralogy of the Dugald Lode is typical of a slate-hosted base metal deposit. The main sulphide minerals are sphalerite, pyrite, pyrrhotite and galena, with minor arsenopyrite, chalcopyrite, tetrahedrite, pyrargyrite, marcasite and alabandite.</li> <li>▪ The gangue within the lode is composed of quartz, muscovite, carbonates, K-Feldspar, clays, graphite, carbonaceous matter and minor amounts of calcite, albite, chlorite, rutile, barite, garnet, and fluorite.</li> <li>▪ The mineralised zone extends approximately 2.4 km in strike length and up to 1.4 km down dip, while being open at depth.</li> <li>▪ Further drilling of the hanging wall copper zone since 2019 has led to an interpretation of the copper (and associated cobalt, gold and molybdenum mineralisation) being part of a later mineralising event.</li> <li>▪ A lithology model has been generated using Leapfrog software. The model is updated annually using additional drillhole data but is not directly used for the MR.</li> </ul>



Section 2 Reporting of Exploration Results	
Criteria	Commentary
Drillhole Information	<ul style="list-style-type: none"> <li>4,481 drill holes and associated data are held in the database (combination of RC and DD).</li> <li>Drillholes used for the Mineral Resource Estimate have drilling dates after 1969 and continue until present. The drillhole database for the MRE contains 4,095 drill holes which includes 260 holes drilled from surface (both RC and DD) and 3,835 from surface and underground (all DD).</li> <li>The Mineral Resource Estimate and associated vertical sections and plans provided in this report provide sufficient information to give context to the exploration results. Therefore, a tabulation of each individual hole is not considered material to the understanding of these results.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.</li> <li>No metal equivalents were used in the Mineral Resource estimation. However, the Mineral Resource has been reported above an A\$161 NSR calculated cut-off.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>Mineralisation true widths are captured by three-dimensionally modelled wireframes with drill hole intercept angles ranging from 90° to 40°.</li> <li>The true thickness of the majority of the Mineral Resource is between 3m and 30m with the thickest zones occurring to the south of the deposit.</li> </ul>
Diagrams	<p>The diagram is a schematic cross-section looking north. It shows a geological profile with various layers and features. From left to right (south to north), the layers are: mafic porphyry (green), calc-silicate (light green), limestone (light blue), and slate (grey). A zinc orebody (pink) is shown as a series of irregular shapes, primarily within the limestone and slate layers, extending from the south towards the north. Copper domains (yellow) are also shown, primarily within the limestone layer. Shear zones are indicated by dashed lines. A scale bar at the bottom left indicates 100m.</p> <p>Schematic cross section looking north – showing thickness variations and distribution</p>

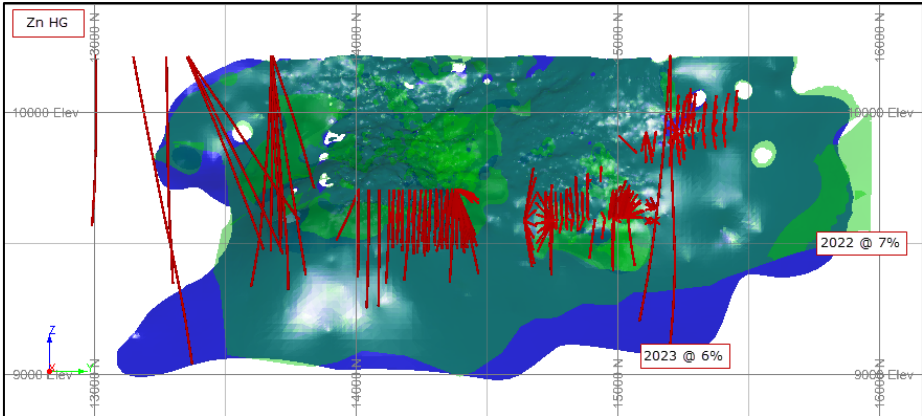
Section 2 Reporting of Exploration Results

Criteria	Commentary
	<div data-bbox="571 315 1225 1021" data-label="Figure"> </div> <p data-bbox="368 1039 1430 1122">Cross section 14110mN (South Mine) looking north – 0.5% Zn composite wireframes (green) with 6% Zn composite wireframes (red), internal waste (pink), development and reporting depletion (black), with topography (brown).</p> <div data-bbox="571 1144 1225 1850" data-label="Figure"> </div> <p data-bbox="368 1868 1430 1951">Cross section 14960mN (North Mine) looking north – 0.5% Zn composite wireframes (green) with 6% Zn composite wireframes (red), internal waste (pink), development and reporting depletion (black), with topography (brown)</p>
Balanced reporting	<ul style="list-style-type: none"> <li data-bbox="368 1984 1385 2040">This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.</li> </ul>

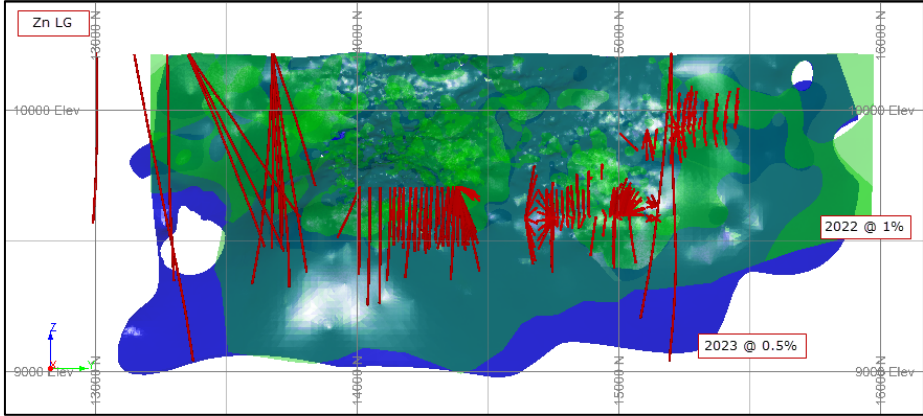
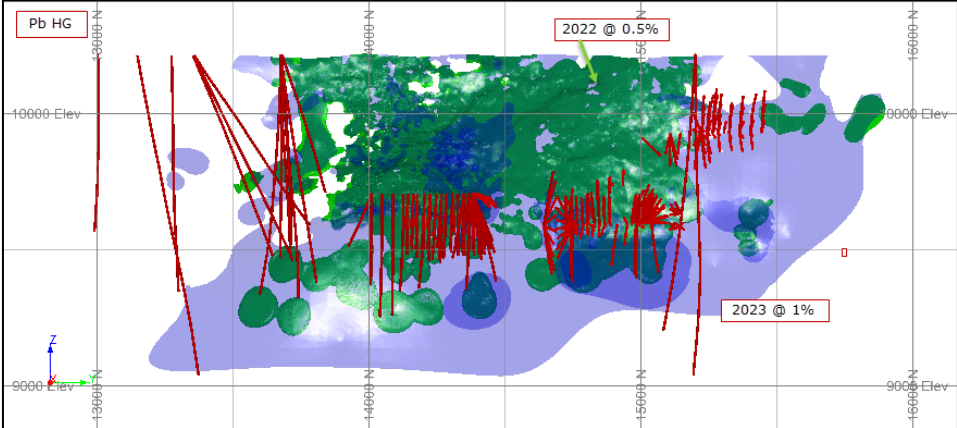
<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Other substantive exploration data	<ul style="list-style-type: none"> <li>▪ This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>▪ MMG plans to continue to improve geological confidence and Mineral Resource classification through infill drilling programmes ahead of the current mining schedule.</li> </ul>

<b>Section 3 Estimation and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The following measures are in place to ensure database integrity:                             <ul style="list-style-type: none"> <li>– All data is stored in an SQL database that is routinely backed up.</li> <li>– All logging is digital and directly entered into the onsite Micromine Geobank® database. Data integrity is managed by internal Micromine Geobank® validation checks/routines that are administered by the Database Group and/or the site Geology Team.</li> </ul> </li> <li>▪ The measures described above ensure that transcription or data entry errors are minimised. Data validation procedures include:                             <ul style="list-style-type: none"> <li>– Database validation procedures are built in the database system to manage accurate data entry during logging and collection of data.</li> <li>– Prior to use in the Mineral Resource the drillhole data was checked in Leapfrog software for inconsistencies.</li> <li>– Manual checks were carried out by reviewing the drill hole data in plan and section views.</li> </ul> </li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person visited site from the 8<sup>th</sup> to the 10<sup>th</sup> of March 2023, when a review of geological data capture, storage and validation was conducted.</li> <li>▪ Some minor recommendations were made to improve practices, however overall, the Competent Person concluded that the geological data capture, storage and validation conducted by MMG was aligned with either industry standard or best practice.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ The five main types of mineralisation style recognised at Dugald River are sulphide stringer, banded ore, slaty breccia, pyrrhotite-slaty breccia and massive breccia.</li> <li>▪ The mineralisation is interpreted as a continuous lens of zinc (Zn) mineralisation that anastomoses, splits and merges.</li> <li>▪ Globally, the Dugald River deposit follows a reasonably predictable lens of mineralisation but with short-range (10–20 m) variations associated with localised structures that are adequately defined by close-spaced (nominally 20 m × 15 m) drilling within the Measured Mineral Resources.</li> <li>▪ Confidence in the mineralisation continuity was based on the grade distribution of Zn assay data that were cross-referenced with available core photography, photogrammetry, underground mapping of both access and ore development drives, and structural geology wireframes.</li> </ul>

**Section 3 Estimation and Reporting of Mineral Resources**

Criteria	Commentary
	<ul style="list-style-type: none"> <li>▪ Entech reinterpreted and modelled major deposit-scale lithologies to further the understanding of mineralisation relationships. Lithology contacts were modelled from downhole logged geology.</li> <li>▪ The mineralisation interpretations were a collaborative process with CSA Global consultants and MMG geologists to ensure Entech’s modelling represented observations and understanding of geological and mineralisation controls.</li> <li>▪ Interpretation of all elemental mineralisation domains was undertaken using all available drillholes in Leapfrog™ Geo software.</li> <li>▪ Domain grade thresholds (cut-offs) for all modelled elements were reviewed for the 2023 MRE.</li> </ul> <p><b>Zinc domains</b></p> <ul style="list-style-type: none"> <li>▪ Prior to interpretation, raw Zn assays grades were composited in Leapfrog™ Geo software using the ‘Economic Composite’ function. Compositing cut-off grade of ≥6% Zn was applied for high-grade and ≥0.5% Zn was applied for low-grade domaining.</li> <li>▪ A total of 20 high-grade and 29 low-grade domains were modelled. Composited mineralisation intercepts were manually selected prior to creating an implicit ‘vein model’.</li> <li>▪ The high-grade and low-grade domains in each vein model were combined to create two output domain boundaries: the ‘outer’ low-grade and the ‘inner’ higher-grade Zn domains.</li> <li>▪ The high-grade zone broadly defines a continuous horizon of massive and breccia sulphide textures. The low-grade zone defines the surrounding stringer sulphide and shoots of discontinuous massive and breccia sulphide texture mineralisation.</li> <li>▪ For the purposes of geological continuity in the high-grade domains, isolated raw assay intervals were selected in areas which did not meet the high-grade (≥ 6% Zn) compositing criterion.</li> <li>▪ An Indicator numerical modelling approach on a 4% Zn grade threshold was used to create an internal waste (IW) probabilistic model in the combined high-grade domain. The resultant IW domain makes up ~9% of the high-grade domain volume.</li> <li>▪ MMG, CSA Global (an ERM Group Company) and Entech consider confidence in the geological interpretation and continuity of the zinc mineralisation is high.</li> </ul> 

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	<p data-bbox="432 320 1369 347">Long section (looking West) of the Zn high grade domains –2022 vs 2023, with new drilling</p>  <p data-bbox="432 797 1369 824">Long section (looking West) of the Zn low grade domains –2022 vs 2023, with new drilling</p> <p data-bbox="371 846 852 875"><b>Lead, silver and manganese domains</b></p> <ul data-bbox="371 887 1414 1541" style="list-style-type: none"> <li>▪ For the 2023 MRE, the lead (Pb), silver (Ag) and manganese (Mn) domaining approach was changed from Leapfrog™ Geo implicit numeric (interpolant) modelling to vein modelling.</li> <li>▪ The same raw assay ‘economic composting’ methodology used for the zinc domaining was used prior to interpretation of the Pb, Ag and Mn domains. The following cut-off grades were used: <ul data-bbox="411 1122 767 1238" style="list-style-type: none"> <li>– Pb – high grade <math>\geq 1\%</math></li> <li>– Ag – high grade <math>\geq 80</math> ppm</li> <li>– Mn – high grade <math>\geq 0.7\%</math></li> </ul> </li> <li>▪ Composited high-grade Pb, Ag and Mn intercepts were manually selected, with mineralisation domains created in separate vein models for each variable.</li> <li>▪ The Pb, Ag and Mn high-grade domains in each vein model were combined to create a singular output wireframe solid for each variable constrained within the extents of the combined Zn low-grade domain.</li> <li>▪ For the purposes of interpolation, all Pb, Ag and Mn mineralisation intercepts below the respective grade cut-offs are encompassed within the combined Zn low-grade domain.</li> </ul>  <p data-bbox="427 2004 1374 2031">Long section (looking West) of the Pb high-grade domains –2022 vs 2023, with new drilling.</p>

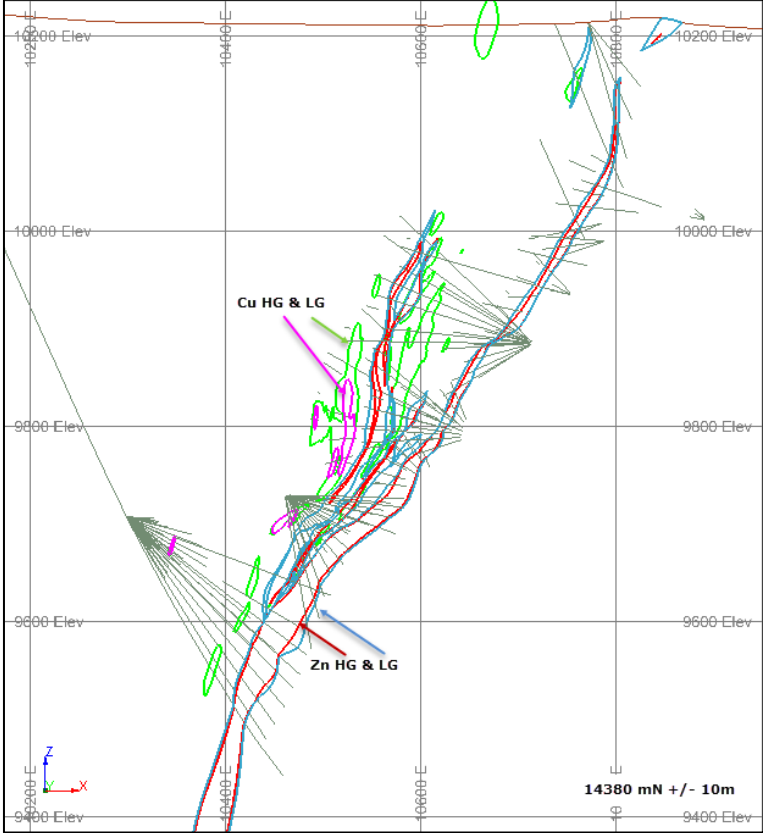
Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	<div data-bbox="421 315 1385 741" data-label="Figure"> </div> <p data-bbox="421 763 1385 792">Long section (looking West) of the Ag high-grade domains –2022 vs 2023, with new drilling.</p> <div data-bbox="421 813 1385 1238" data-label="Figure"> </div> <p data-bbox="421 1261 1385 1290">Long section (looking West) of the Mn high-grade domains –2022 vs 2023, with new drilling.</p> <p data-bbox="368 1310 1010 1339"><b>Copper, cobalt and gold domains and mineralogy</b></p> <ul data-bbox="368 1350 1430 2011" style="list-style-type: none"> <li>For the 2023 MRE, a reinterpretation of the copper (Cu) and cobalt (Co) domains using the Leapfrog™ Geo numeric modelling function was undertaken. This included approximately 2 years' worth of additional Cu and Co assay data since the last interpretation update for 2021 MRE. The domain thresholds used for the reinterpretation were 0.1% and 0.5% for low- and high-grade Cu; and 100ppm and 500ppm for low- and high-grade Co.</li> <li>Gold (Au) was not reinterpreted for the purposes of the 2023 MRE. Gold and molybdenum grades were estimated within the copper domains.</li> <li>Two types of Cu mineralisation occur. The first type occurs in the hanging wall of the South Mine area and hanging wall Zn lens position associated with Au, and is locally high in Au and Mo. The second type occurs in the South Mine area between the main lens and hanging wall lens with lower Au but associated with Co which is locally elevated (&gt;1%).</li> <li>The hanging wall Cu-Au mineralisation occurs primarily as chalcopyrite within the mica schist but can extend into the mafic porphyry and black slate lithologies.</li> <li>Chalcopyrite occurs as disseminated and massive infill textures, and sometimes at the selvedge of large quartz veins. Rare bornite is locally disseminated in the altered mica schist, mafic porphyry and calc-silicate.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	<ul style="list-style-type: none"> <li data-bbox="368 315 1380 421">Cu-Co mineralisation occurs at the margins of pervasive albite alteration that contains disseminated pyrite. The margins of the albite are brecciated with carbonate infill, with trace chalcopyrite and arsenopyrite.</li> <li data-bbox="368 427 1380 495">The department of the Co is unknown but is interpreted to occur in cobaltite, arsenopyrite and/or cobalt-rich pyrite.</li> </ul> <div data-bbox="432 506 1366 891" style="text-align: center;"> <p>Long-section (looking East) Dugald River copper wireframes, with new drilling. High-grade = red and low-grade = green</p> </div> <div data-bbox="432 981 1366 1366" style="text-align: center;"> <p>Long-section (looking East) Dugald River cobalt wireframes, with new drilling. High-grade = red and low-grade = green</p> </div>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	 <p>Cross-section (looking North) at 14380 mN showing hangingwall high-grade and low-grade Cu wireframes with high-grade and low-grade Zn wireframes.</p>
<p>Dimensions</p>	<ul style="list-style-type: none"> <li>▪ The Dugald River lode is hosted within a major N-S striking steeply west dipping shear zone which cross cuts the strike of the Dugald River Slate stratigraphy at a low angle.</li> <li>▪ The strike length of mineralisation is approximately 2,400 m. Dip varies between 85° and 40° to the west.</li> <li>▪ The true thickness of the majority of the Mineral Resource is between 3 m and 30 m with the thickest zones occurring to the south.</li> <li>▪ The mineralisation is open at depth. The deepest drill intersection of mineralised material is about 1,140 m below the surface.</li> </ul>
<p>Estimation and modelling techniques</p>	<ul style="list-style-type: none"> <li>▪ Mineral Resource modelling was completed using both Supervisor (v8.15) and Datamine (v1.13.35.0) software applying the following key assumptions and parameters: <ul style="list-style-type: none"> <li>– Ordinary Kriging (OK) interpolation has been used for the estimation of Zn, Pb, Ag, Mn, Fe, S, total carbon, Cu, Au, Mo, Co and dry bulk density (DBD). This interpolation methodology is considered appropriate for the estimation of Mineral Resources at Dugald River. The Zn domains were used for estimation of DBD, Fe, total carbon and S. The Cu domains were also used for the Au and Mo estimates.</li> <li>– Extreme grades were treated by grade capping and spatial restriction after the assays were composited to 1 m intervals. Residual retention ensured no loss of sample intervals.</li> </ul> </li> </ul>



<b>Section 3 Estimation and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Grade cap values and spatial restriction threshold values were selected using a combination of histograms and cumulative log probability plots, and consideration of spatial relationships.</li> <li>– Grade estimation was performed using dynamic anisotropy (DA), to align and optimise the search direction of the estimate to the mineralised domain trend (that is the dip and dip direction at the local block was used in the estimation of the model).</li> <li>– Hard boundary contacts were used to select samples used to estimate blocks in each of the mineralised domains. Boundary analysis plots support this decision.</li> <li>– Variograms (as correlograms within Supervisor) were modelled within each of the respective domains in transformed space to maximise continuity through the otherwise (locally) variable trends in the mineralisation. The modelled variograms were back transformed to ‘real’ space using the difference in length between slices through the low-grade zinc lens in real and transformed space to adjust the variogram ranges. This methodology was independently checked against a small area of conventionally unfolded mineralisation with reasonable results.</li> <li>– No assumptions have been made about the correlation between variables. All variables are independently estimated.</li> <li>– Search distances for each estimation pass remain largely unchanged from those used in the 2022 MRE. The pass 1 search ellipse (30 m down dip, 25 m along strike, 11 m across strike) is approximately 1.5 times the drill section spacing in the close-spaced drilling area of the deposit.</li> <li>– A maximum of 3 composites per drill holes was used for pass 1 and 2 grade estimates. A maximum of 2 composites per drillhole was used for the pass 3 and 4 grade estimates to assist with more scattered sample selection in more sparsely drilled areas.</li> <li>– The number of composite samples used per block grade estimate was restricted to a minimum of 6 and a maximum of 16 in pass 1 and 2, based on Kriging Neighbourhood Analysis (KNA). Fewer samples were used in pass 3 and 4 estimates to reduce smoothing of the grade estimates.</li> <li>– Block discretisation of 2 x 4 x 4 was applied. All grade estimates were into parent blocks. Minimum sub-block size was 0.5m(X) x 1.25m(Y) by 1.25m(Z).</li> <li>– In areas of close spaced drilling (10 x 20m), the parent block size is 2.5m(X) x 6.25m(Y) x 6.25m(Z). This smaller block size is used to better estimate local variance with the increased information available from the close spaced drilling in and around the current mining areas.</li> <li>– Away from the close-spaced drilling the parent block size is 2.5m(X) x 12.5m(Y) by 12.5m(Z)</li> <li>– Background waste has a parent block size of 12.5m(X) x 62.5m(Y) x 62.5m(Z), to reduce the total block model size.</li> <li>– No external dilution has been applied to block grades. However, parent block size has assumed mining selectivity at a stope level. No other selective mining unit size assumptions were made in the grade estimation process.</li> <li>– Validation of the 2023 block model included the following steps:</li> <li>– Comparison against the 2022 MR block model including visual comparison of plans and cross-sections, tonnes grade curves, statistical comparisons and trend plots. Improvements in grade continuity from realignment of the dynamic anisotropy surfaces were noted, as was reduced smoothing of grade</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	<p>estimates. The 2023 MR model reports higher tonnage at lower grades than the 2022 MR in the mined area (for blocks with Zn &gt;= 6%) and this expected with the reduction in the Zn domain thresholds. The lower Zn grade is desirable, given an overcall for Zn grade in the 2022 MR model.</p> <ul style="list-style-type: none"> <li>- Numerous changes occurred compared to the previous 2022 Mineral Resource estimate due to an increased understanding in the model boundary extents, improved wireframing of the Zn, Pb and Ag envelopes and additional volume from previously un-modelled hanging wall intercepts.</li> <li>- A comparison of the high- and low-grade Zn domains between 2022 and 2023 is shown below.</li> </ul> <div data-bbox="627 667 1174 1662" data-label="Figure"> </div> <p>Cross Section View (looking North, 14340 mN), comparison between 2022 and 2023 Zn domains.</p> <ul style="list-style-type: none"> <li>- In line with MMG policy, the 2023 MR model was reconciled against the total commercial production area (mined 01/01/2018 – 31/12/2022). The results for the previous two MR models are also shown for comparison.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary																																																																																								
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Moisture	<ul style="list-style-type: none"> <li>Tonnes in the model have been estimated on a dry basis.</li> </ul>																																																																																								
Cut-off parameters	<ul style="list-style-type: none"> <li>The Mineral Resource is reported above a A\$161/t NSR (net smelter return) cut-off. The selection of the A\$161/t NSR cut-off defines mineralisation, which is prospective for future economic extraction, based on annually updated exchange rates, metal pricing and costings and a long-term production rate (Commercial in Confidence). The reporting cut-off grade is in line with MMG’s policy on reporting of Mineral Resources that are prospective for future economic extraction.</li> </ul>																																																																																								

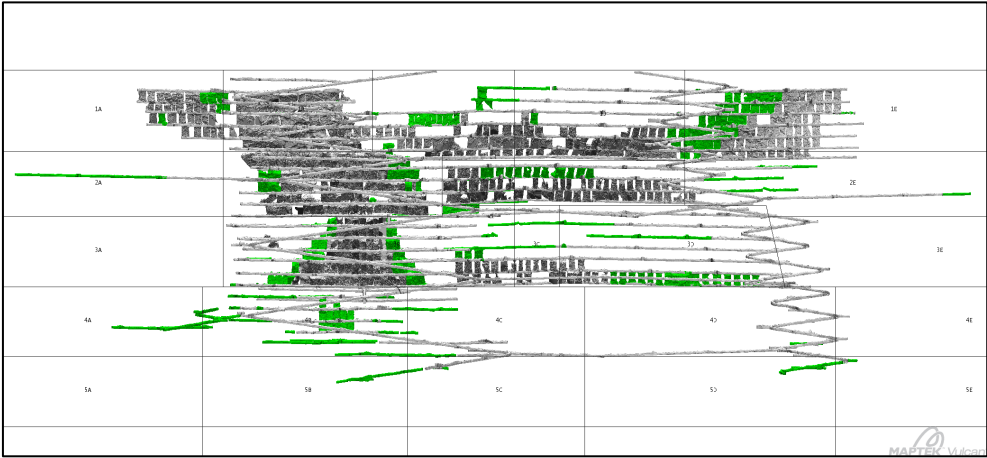
<b>Section 3 Estimation and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The NSR value is calculated using the block grade estimates for zinc, lead, silver, manganese, sulphur, iron, SiO<sub>2</sub>, and total carbon. A small portion of the MR lies within a freehold lease and this portion attracts a different royalty payment. This is also accounted for in the NSR calculation.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ Mining at Dugald River is underground with the mining methods being Sub-Level Open Stopes (SLOS), both Longitudinal and Transverse, in the South Mine and Longitudinal with rib pillars in the North Mine. Level intervals occur every 25m and stopes have a strike length of 15m. Currently the deposit is accessed by two declines.</li> <li>▪ No external dilution has been applied to block grades. However, parent block size has assumed mining selectivity at a stope level.</li> <li>▪ The Mineral Resource has been depleted to account for mining and any un-minable stope remnants.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ The metallurgy process proposed for the Dugald River deposit involves crushing and grinding followed by flotation and filtration to produce separate zinc and lead concentrates for sale.</li> <li>▪ Deleterious elements include manganese and carbon, which have been estimated in the block model.</li> <li>▪ Manganese percentage in the zinc concentrate is calculated as a post-processing step within the NSR calculation process, to allow the generation of a value that can be used for the Ore Reserve.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Dugald River operates under Environmental Authority EPML00731213 issued by the Department of Environment Heritage Protection on 12 August 2012 and amended on 21<sup>st</sup> April 2023.</li> <li>▪ Non-acid forming (NAF) and Potentially Acid Forming (PAF) waste rock are distinguished by a north-south striking Limestone and Undifferentiated Black Slate lithological boundary respectively. Volumes are estimated and managed in accordance with site procedures.</li> <li>▪ Waste rock storage space on surface is limited. The north mine area will allow for the return of waste rock as backfill and the south mine is backfilled with paste fill generated from tailings.</li> <li>▪ PAF/NAF classification is based on the work by Environmental Geochemistry International (EGI) in 2010. Subsequent follow-up test work onsite confirms EGI's conclusions.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ Dry bulk density (DBD) is measured on site using the weight in air and water method. Frequency of samples pre-2017 was at least 1 determination per core tray and based on geological domains.</li> <li>▪ Since 2017 whole sample measurements have been made through sampled intervals as well as 20 m either side of the mineralisation. The current database consists of 50,149 DBD measurements.</li> <li>▪ Dugald River rock is generally impermeable, requiring no coatings for reliable measurements.</li> <li>▪ For this MR update, the measured DBD dataset is complemented by a dataset of predicted DBD values using the XGBoost machine learning algorithm. The predicted values are based on relationships between assayed Zn, Pb, S and Fe,</li> </ul>

<b>Section 3 Estimation and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>inside and outside the Zn domains. A separate relationship was used to predict DBD inside the Cu domains. The proxy DBD dataset was compiled by Datarock Pty Ltd.</p> <ul style="list-style-type: none"> <li>▪ The use of the combined measured and predicted DBD dataset provides essentially equivalent DBD data coverage (compared to the data available for the reported metals) for the estimation.</li> <li>▪ DBD was estimated using OK within the Zn domains. A check estimate using the methodology employed in previous years was compiled for comparison. The use of the hybrid dataset has resulted in more local variability in the 2023 DBD model compared to previous years, but no material global change. This is as expected due to local variability of grades and sulphide content. Un-estimated blocks were assigned a bulk density value based on a stoichiometric formula (see below). <ul style="list-style-type: none"> <li>– <math>DBD (assigned) = (3.8 * A / 100) + (7.3 * B / 100) + (4.6 * C / 100) + (2.573 * D / 100)</math> <ul style="list-style-type: none"> <li>○ Sphalerite content A = 1.5 * Zn%</li> <li>○ Galena content B = 1.15 * Pb%</li> <li>○ Pyrrhotite/Pyrite content C = <math>(Fe\% - (0.15 * Zn\%)) * 1.5</math></li> <li>○ Gangue D = 100 - A - B - C</li> <li>○ Specific gravity (SG) of sphalerite = 3.8</li> <li>○ SG of Galena = 7.3</li> <li>○ SG of Pyrrhotite/pyrite = 4.6</li> <li>○ SG of gangue = 2.573</li> <li>○ Fe content in Sphalerite = 10%</li> </ul> </li> </ul> </li> <li>▪ A DBD of 2.76 g/cm<sup>3</sup> has been assumed for the waste host domain.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ The base metal (Zn, Pb, Ag) MR at Dugald River is classified separately to the copper MR.</li> <li>▪ An in-house (MMG) drillhole spacing study was completed in February 2023. The results confirmed historically utilised drillhole spacings of ~20m x 20m for Measured and ~60m x 60m for Indicated continue to be reasonable. These drillhole spacings have been used as the main criteria for classification of the base metal MR, with remaining estimated blocks being classified as Inferred. Consideration was also given to confidence in data quality and location, confidence in geological understanding and interpretation and confidence in the block grade estimates.</li> <li>▪ A classification model was compiled using an isotropic search for the 3 nearest drillholes to any given block as an objective 'sense check' on the chosen boundaries.</li> <li>▪ The drillhole spacing based classification criteria were applied to individual mineralisation lenses using 'cookie-cutter' strings. Mineable Stope Optimiser (MSO) shapes were then generated across the model as a check on reasonable prospects for eventual economic extraction (RPEEE). Any blocks outside the main mineralised lens that were not covered by an MSO shape (due to low grade and/or narrow lens width) were flagged as unclassified.</li> </ul>

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
	<div data-bbox="411 315 1390 725" data-label="Figure"> </div> <p data-bbox="475 745 1329 772">Long-Section view (looking west) of 2023 MR classification on main Zn-Pb,Ag lens.</p> <ul data-bbox="373 792 1394 1041" style="list-style-type: none"> <li>▪ The maximum classification for the copper MR is Inferred, primarily because of the current low level of confidence in the understanding and interpretation of mineralisation controls, particularly at the southern end of the deposit. Blocks estimated in pass 4 and those that fall outside the limiting string shown below are not classified.</li> <li>▪ The copper mineralisation is to be a focus for the exploration department over the coming months.</li> </ul> <div data-bbox="464 1055 1437 1464" data-label="Figure"> </div> <p data-bbox="571 1485 1225 1512">Long-Section view (looking west) of 2023 Cu MR classification.</p> <ul data-bbox="373 1532 1394 1597" style="list-style-type: none"> <li>▪ The MR classification reflects the Competent Person's view on the confidence and uncertainty of the Dugald River Mineral Resource.</li> </ul>
Audits or reviews	<ul data-bbox="373 1621 1394 1792" style="list-style-type: none"> <li>▪ An internal peer review by CSA Global (an ERM Group Company) has been carried out on the current 2023 MR estimate. An external audit of the 2022 MR was carried out by AMC Consultants and SRK Consulting. Several recommendations were made, and many were implemented during this model update.</li> </ul>
Discussion of relative accuracy/ confidence	<ul data-bbox="373 1818 1426 2024" style="list-style-type: none"> <li>▪ It is the Competent Person's opinion that the current block estimate provides a good estimate of tonnes and grades on a global scale.</li> <li>▪ In locations where grade control drilling of approximately 20mN x 15mRL spacing has been completed, the Competent Person has a high level of confidence in the local estimate of both tonnes and grades, which is reflected in the Mineral Resource Classification.</li> </ul>

**Section 3 Estimation and Reporting of Mineral Resources**

Criteria	Commentary																																																								
	<ul style="list-style-type: none"> <li>The interpretation at the down-dip extremities of the MR is based on limited drilling and experimentation during the modelling process has shown that an alternative, more conservative interpretation is permissible and could materially reduce the contained metal locally and globally. This is reflected in the Resource classification. It should be noted that deeper drilling during 2022 generally maintained the currently interpreted width of the mineralised zone.</li> <li>Mine void data (development pickups and stope CMS's) were collated for the period February 2014 to 31 December 2022 to reconcile the previous and current block model estimates with mine and mill production data.</li> </ul> <div style="text-align: center;">  <p>Long section view, looking west: Mined areas of Dugald River at 31 December 2022 (2022 stopes and development in green).</p> </div> <ul style="list-style-type: none"> <li>The table below compares the production data reported by MMG mine claimed and mill reconciled with the report from the 2023 MR block model for the period February 2018 to 31 December 2022. The Competent Person considers that the comparison is acceptable, given the considerable amount of over- and under-break realised during mining and the inherent differences between the stope layout and the whole of the mineralised zone. Adjustments and improvements to the modelling and estimation process will continue to be investigated prior to the next iteration of the Mineral Resource Estimate.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Mined to date</th> <th>Reported Mined Claimed</th> <th>Mill Reconciled</th> <th>Processed + stock change</th> <th>2023 MR</th> <th>F3</th> <th>F2B</th> </tr> </thead> <tbody> <tr> <td>Tonnes (kt)</td> <td>9,100</td> <td>9,047</td> <td>9,114</td> <td>9,399</td> <td>97%</td> <td>100%</td> </tr> <tr> <td>Zn %</td> <td>10.66</td> <td>10.56</td> <td>10.37</td> <td>11.16</td> <td>93%</td> <td>97%</td> </tr> <tr> <td>Zn Metal (kt)</td> <td>970</td> <td>955</td> <td>945</td> <td>1,049</td> <td>90%</td> <td>97%</td> </tr> <tr> <td>Pb %</td> <td>1.91</td> <td>1.8</td> <td>1.78</td> <td>1.78</td> <td>100%</td> <td>93%</td> </tr> <tr> <td>Pb Metal (kt)</td> <td>174</td> <td>163</td> <td>162</td> <td>167</td> <td>97%</td> <td>93%</td> </tr> <tr> <td>Ag ppm</td> <td>55.94</td> <td>53.09</td> <td>52.56</td> <td>54.11</td> <td>97%</td> <td>94%</td> </tr> <tr> <td>Ag (koz)</td> <td>16,365</td> <td>15,444</td> <td>15,399</td> <td>16,351</td> <td>94%</td> <td>94%</td> </tr> </tbody> </table> <p>Note: F3 is (Processed + stock change)/MR model; F2B is (Processed + stock change)/mine claimed  Source: DRM Annual Reconciliation report, January – December 2022.</p>	Mined to date	Reported Mined Claimed	Mill Reconciled	Processed + stock change	2023 MR	F3	F2B	Tonnes (kt)	9,100	9,047	9,114	9,399	97%	100%	Zn %	10.66	10.56	10.37	11.16	93%	97%	Zn Metal (kt)	970	955	945	1,049	90%	97%	Pb %	1.91	1.8	1.78	1.78	100%	93%	Pb Metal (kt)	174	163	162	167	97%	93%	Ag ppm	55.94	53.09	52.56	54.11	97%	94%	Ag (koz)	16,365	15,444	15,399	16,351	94%	94%
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**5.2.3 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").

**5.2.3.1 Competent Person Statement**

I, Maree Angus, confirm that I am the Competent Person for the Dugald River 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 Member and Chartered Professional in the Geology Discipline of The Australasian Institute of Mining and Metallurgy
- I have reviewed the relevant Dugald River Mineral Resource section of this Report to which this Consent Statement applies.

I am a full-time employee of ERM Consultants Australia Pty Ltd 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 Dugald River 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 Dugald River Mineral Resources.

**5.2.3.2 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 Dugald River Mineral Resources – I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

---

Maree Angus MAusIMM CP (Geo) #108282

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

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Signature of Witness:

---

Date:

Aaron Meakin (Brisbane, Australia)

---

Witness Name and Residents:  
(eg, town/suburb)



### 5.3 Ore Reserves – Dugald River

#### 5.3.1 Results

The 2023 Dugald River Ore Reserves are summarised in Table 15.

Table 15: 2023 Dugald River Ore Reserve tonnage and grade (as at 30 June 2023)

Dugald River Ore Reserves							
2023	Tonnes (Mt)	Zinc (% Zn)	Lead (% Pb)	Silver (g/t Ag)	Zinc ('000)	Contained Metal	
						Lead ('000)	Silver (Moz)
<b>Primary Zinc<sup>1</sup></b>							
Proved	12	11.3	1.9	57	1,400	230	23
Probable	8	10.0	1.4	14	770	110	3
<b>Total</b>	<b>20</b>	<b>10.8</b>	<b>1.7</b>	<b>40</b>	<b>2,200</b>	<b>340</b>	<b>26</b>
<b>Stockpiles</b>							
Proved	0.02	10.2	2.0	67	2	0.4	0.0
<b>Total</b>	<b>0.02</b>	<b>10.2</b>	<b>2.0</b>	<b>67</b>	<b>2</b>	<b>0.4</b>	<b>0.0</b>
<b>Total</b>	<b>20</b>	<b>10.8</b>	<b>1.7</b>	<b>40</b>	<b>2,200</b>	<b>340</b>	<b>26</b>

1 Cut-off grade is based on Net Smelter Return (NSR) after Royalties, expressed as a dollar value (\$A) of dependant on the area of the mine as described in Table 16 ranging from \$A147/t to \$A161/t

Contained metal does not imply recoverable metal.

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

- Resource drilling in 2022 has been dominated by infill, focusing on material conversion from Indicated to Measured categories. As a consequence, along with the depletion of 12 months of production, this has driven the change in Proved and Probable Ore Reserves.
- A change in domaining methodology and thresholds (increased continuity, especially at depth) in the revised geological block model were the main drivers for changes to Pb, Ag and Mn grades.
- A variable Stope cut off was used in conjunction with a variable Breakeven cut off to optimise ore tonnes in the supporting Ore Reserve schedule.

**5.3.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 16 complies with the 2012 JORC Code requirements specified by “Table-1 Section 4” of the Code.

Table 16: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Dugald River Ore Reserve 2023

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
Mineral Resources estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>▪ The Mineral Resources are reported inclusive of the Mineral Resources used to define the Ore Reserves.</li> <li>▪ The Mineral Resources model used the MMG March 2023 Mineral Resources model. (dr_gmr_2303_nsr23.bmf) <ul style="list-style-type: none"> <li>– Risks associated with the model are related to orebody complexity seen underground, but not reflected in the Mineral Resources model due to the spacing of the drill holes that inform the model.</li> <li>– The 2023 Geotechnical Equivalent Linear Overbreak Slough (ELOS) model was used to estimate the HW thickness, tonnes and grade of the planned dilution applied to the 2023 stope shapes.</li> </ul> </li> </ul>
Site visits	<ul style="list-style-type: none"> <li>– Peter Willcox, the Competent Person for the Dugald River Ore Reserve visited the site multiple times during the 2022/2023 reporting period. Communication with site has been via video conferencing and email as required.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>– The mine is an operating site with on-going detailed Life of Mine planning.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The breakeven cut-off grade (BcoV) and Mineral Resources cut-off grade have been calculated using 2023 Budget costs.</li> <li>▪ The BcoV has been calculated for 19 discrete areas of the mine reflecting differences in backfill methodologies, and increased costs at depth, namely ground support and haulage distances to surface and power requirements for ventilation refrigeration.</li> <li>▪ 3 year operating costs, both fixed and variable, have been attributed on a per tonne basis using the average 3 year planned mine production rate of 1.84 Mtpa</li> <li>▪ The Net Smelter Return (NSR) values are based on metal prices, exchange rates, treatment charges and refinery charges (TC’s &amp; RC’s), government royalties and a metallurgical recovery model.</li> <li>▪ The NSR value for the BcoV is to the mine gate and includes the average sustaining capital estimate for the 2023 Ore Reserves.</li> <li>▪ Infill diamond drilling has been included as part of the sustaining capital. <ul style="list-style-type: none"> <li>– For 2023 Ore Reserves (OR) and Life of Mine (LoM), the break-even cut-off values (BCoV) have been used to create stopes and for the level-by-level evaluation. In addition, Stope Cut Off Value (ScoV) has been used to identify additional incremental stoping where development has been previously established.</li> </ul> </li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ A detailed design of the 2023 OR was used to report Mineral Resources conversion to an Ore Reserve.</li> <li>▪ The 2023 Geotechnical Equivalent Linear Overbreak Slough (ELOS) model was used to estimate the HW thickness, tonnes and grade of the planned dilution which was applied to the 2023 stope shapes.</li> <li>▪ The orebody access is split into a north and south mine, due to its 2 km strike length and a low-grade zone at the extremities of the orebody.</li> </ul>

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	<ul style="list-style-type: none"> <li>▪ The north mine is narrow (average ~5 m true width) and sub-vertical. The south mine is wider than the north mine with a flexural zone in the centre. The south mine is narrow and steep in the upper zone (~top 200 m from surface) and lower zone (~below 700 m from surface). The central zone is flatter and thicker than the upper and lower zones.</li> <li>▪ Mining methods for the mine are Sub-Level Open Stopes (SLOS) both Longitudinal and Transverse in the South Mine and Longitudinal with rib pillars in the North Mine. Level intervals occur every 25m and stopes have a strike length of 15m.</li> <li>▪ The stopes are broken into the following categories: <ul style="list-style-type: none"> <li>– Longitudinal SLOS, for stopes up to 10-15m wide horizontally. (Where the orebody has thickened adjacent stopes are mined in sequence after paste filling).</li> <li>– Transverse SLOS, for stopes where the orebody thickness lends itself to sequential stope extraction retreating along cross-cuts.</li> <li>– Crown pillar SLOS, for the top level of each panel where stoping occurs directly below a previously mined area.</li> <li>– Longitudinal SLOS for the North Mine, where a rib pillar is also left.</li> </ul> </li> <li>▪ The stopes were created by applying the Mineable Shape Optimiser (MSO) plugin, within Deswik MineCAD, to the 2023 Mineral Resources model (DRM_GMR_2303_ELOS_NSR23_ENG_R23.bmf) which required conversion into a Datamine format. NSR values were written to each block via a script (validated against an excel spreadsheet). The macro and spreadsheet considered metallurgical recoveries, metal pricing, transport costs, royalties TC/RC's and exchange rate.</li> <li>▪ The parameters used to create the stope shapes were: <ul style="list-style-type: none"> <li>– All Mineral Resources categories included;</li> <li>– 25 m level interval;</li> <li>– Variable strike length;</li> <li>– Minimum mining width (MMW) of 2.5m;</li> <li>– The minimum dip of 52 degrees for Footwall (FWL) and 37 degrees for Hanging wall (HW);</li> <li>– Minimum waste pillar between parallel stopes of 7.5m; and</li> <li>– A BcoV associated with the appropriate mine zone, applied to create initial stope shapes.</li> </ul> </li> <li>▪ No Inferred Mineral Resources are included in the Ore Reserves. Inferred material was assigned a zero-metal grade and only stopes able to carry this material as waste were included in the reported tonnes.</li> <li>▪ Several aspects of dilution were considered, planned dilution, fill dilution and HW dilution. Planned dilution was included in the MSO stope shapes and covers localised variations in dip and strike as well as minimum mining width. No additional FW dilution was applied as the initial stope shapes considered minimum mining widths and dip.</li> <li>▪ The HW dilution was calculated for each stope based on the Geotechnical conditions and thicknesses of the HW materials. The site has compiled a detailed</li> </ul>

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	<p>HW dilution model as dilution varies across the orebody according to the HW conditions.</p> <ul style="list-style-type: none"> <li>▪ Fill Dilution and Stope Recovery Factors: <ul style="list-style-type: none"> <li>– Floor 0.15m, backs 0.5m and wall fill ranges from 1m to 1.5m dilution;</li> <li>– Recoveries Longitudinal 90%, Modified AVOCA / Core &amp; Shell with rib pillars 75% and crown stopes 90%;</li> <li>– Development grades were diluted by the application of a grade factor of 95% to the development grade estimated from the block model.</li> </ul> </li> <li>▪ The underground (UG) mine is accessed via two separate declines and as such the mine is split into two – north and south, although both declines are connected via a link drive approximately every 150m vertically at the base of each production Panel. As of 30 June 2023, 9,867m of decline has been mined, along with a further 77,953m m of lateral development (excluding 5,201m of paste development). A third in-mine decline in the south mine, for independent access to Block A, has commenced, that included drill platforms for resource conversion.</li> <li>▪ Currently, six raise-bored ventilation shafts have connection to the surface: <ul style="list-style-type: none"> <li>– The southern Fresh Air Raise (FAR1) – at 3.5 m diameter and 90m depth;</li> <li>– The southern Fresh Air Raise (FAR2) – at 5.0 m diameter and 190 m depth; with a 120m and 130m extensions to the 340 level and 490 level respectively.</li> <li>– The southern Return Air Raise (RAR1) – at 5.0 m diameter and 154 m depth; with a 375m extension (multiple holes) to the 565 level</li> <li>– The southern Return Air Raise (RAR2) – at 5.0 m diameter and 197 m depth; with a 270m extension (multiple holes) to the 490 level and a further 135m extension to 640 level.</li> <li>– The northern Fresh Air Raise (FAR) at 3.5 m diameter and 165 m depth with a 275m extension (multiple holes) to the 490 level and a further 130m extension to the 640 level.</li> <li>– The northern Return Air Raise (RAR) at 5.0 m diameter and 104 m depth with a 310m extension (multiple holes) to the 490 level and a further 140m extension to the 640 level.</li> <li>– On each return shaft collar there is an exhaust fan drawing approximately 270-300m<sup>3</sup>/s.</li> </ul> </li> <li>▪ There is also a secondary RAR system in the north and south mines comprising of LHW and 3.0-3.5m raise bored holes that have connections to each production level where there is access.</li> <li>▪ Secondary egress is provided by link drives between the South &amp; North declines. These link drives are positioned at the base of each production Panel. The lowest connection to date has been made at the base of Panel 4 on the 640 Level.</li> <li>▪ An internal ladderway also exists in the South mine between the 50 and 200 Levels. In addition, strategically placed refuge chambers are to be found throughout both mines.</li> <li>▪ The current mining mobile fleet is currently a mix of MMG and contractor owned and operated. This includes 4 twin-boom jumbos, 2 cable bolting rig, 7 loaders, 12 dump trucks, 3 long-hole drill rigs, 2 shotcrete rigs, 2 Transmixers, 2 charge-up vehicles, 3 integrated tool carriers, and a light vehicle fleet.</li> </ul>

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Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ The metallurgical process for treatment of Dugald River ore involves crushing, grinding followed by sequential carbon/lead/zinc flotation to produce separate lead and zinc concentrates. The carbon concentrate is a waste product and reports to final tailings. This process, and the equipment used, is conventional for this style of mineralisation and used worldwide.</li> <li>▪ The Dugald River processing facility was commissioned with production commencing in October 2017, with nameplate throughput reached after 7 months of operation (May 2018). Both lead and zinc concentrate produced at Dugald River meet saleable grade and impurity specifications.</li> <li>▪ Production performance has shown good alignment of concentrate grade and recovery performance to that derived through the project study phases.</li> <li>▪ Dugald River plant operating data has been analysed to establish the metallurgical factors used for Ore Reserve calculations These are detailed herein.</li> </ul> <p>%Zn<sub>PF Feed</sub>, %Pb<sub>PF Feed</sub>, %Fe<sub>PF Feed</sub>, %Mn<sub>PF Feed</sub>, %CP<sub>F Feed</sub> refer to the relevant assays of the plant ore feed.</p> <ul style="list-style-type: none"> <li>▪ Lead Concentrate Grade Pb% = Long Term (2026+) = 63%</li> <li>▪ Lead recovery to lead concentrate accounts for lead lost to the carbon concentrate via the following equation:</li> <li>▪ Pb recovery Pb Conc (%) = <math display="block">\frac{(100 - PF \%Pb \text{ loss}) * Pb \text{ cct } \%Pb \text{ Rec} * Pb \text{ Rec factor}}{100}</math> </li> <li>▪ Where; <ul style="list-style-type: none"> <li>Lead recovered to carbon concentrate: <math display="block">PF \%Pb \text{ Loss} = -6.686 + 1.209 * \%CPF, \text{ Feed} + 0.14096 * \%CPF \text{ Recovery}</math> </li> <li>Carbon recovered to carbon concentrate: <math display="block">\%CPF \text{ Recovery} = 100 * (35.4 / \%CPF \text{ Feed}) * (\%CPF \text{ Feed} - 2.75) / (35.4 - 2.75)</math> </li> <li>Lead recovered by the lead circuit: <math display="block">Pb \text{ Cct } \%Pb \text{ Rec} = 33.34 + 28.23 * \%PbPF \text{ Feed} - 5.309 * \%PbPF \text{ Feed}^2</math> </li> <li>Lead recovery factor: <math display="block">Pb \text{ Rec Factor} = 0.98</math> </li> <li>Silver recovery to lead concentrate accounts for the silver which is lost to the carbon concentrate, the equation being: <ul style="list-style-type: none"> <li>- Ag recovery Pb Conc (%) = <math display="block">\frac{(100 - PF \%Ag \text{ loss}) * Pb \text{ cct } \%Ag \text{ Rec (wrt PF tail)}}{100}</math> </li> </ul> </li> </ul> </li> <li>▪ Where; <ul style="list-style-type: none"> <li>Silver recovered to carbon circuit: <math display="block">PF \%Ag \text{ loss} = 1.708 + 0.3923 * PF \%Zn \text{ loss} + 0.3805 * PF \%Pb \text{ loss}</math> </li> <li>Zinc recovered to carbon concentrate: <math display="block">PF \%Zn \text{ loss} = -4.894 + 0.7548 * \%CPF \text{ Feed} + 0.10387 * \%CPF \text{ Recovery}</math> </li> <li>Lead recovered to carbon concentrate: <math display="block">PF \%Pb \text{ Loss} = -6.686 + 1.209 * \%CPF, \text{ Feed} + 0.14096 * \%CPF \text{ Recovery}</math> </li> <li>Lead circuit silver recovery</li> </ul> </li> </ul>

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	<p>Pb cct %Ag Rec (wrt PF tail) = <math>0.78 - 0.1902 \times \text{AgPF Feed} + 9.72 \times \% \text{PbPF Feed} + 0.5674 \times \text{Pb cct \%Pb Rec}</math></p> <ul style="list-style-type: none"> <li>Zinc concentrate grade is directly affected by the manganese in the ore feed due to it being substituted for zinc within the sphalerite mineral, and as such the final concentrate grade is estimated to account for this. Zinc Concentrate Grade Zn% = <math display="block">\% \text{Zn}_{\text{Zn con}} = \% \text{Zn}_{\text{Sphalerite}} \times \% \text{Sphalerite}_{\text{Zn Con}}</math></li> <li>Where; Sphalerite content of zinc concentrate: <math display="block">\% \text{Sphalerite}_{\text{Zn Con}} = 93\% \text{ (Long Term 2024+)}</math> Zinc in sphalerite: <math display="block">\% \text{Zn}_{\text{Sphalerite}} = 63.77 - 1.018 \times (\% \text{Mn}_{\text{Sphalerite}} + \% \text{Fe}_{\text{Sphalerite}})</math> Manganese in sphalerite: <math display="block">\% \text{Mn}_{\text{Sphalerite}} = \% \text{Mn}_{\text{Zn Con}} \times 98.2\% / \% \text{Sphalerite}_{\text{Zn Con}}</math> Manganese in zinc concentrate: <math display="block">\% \text{Mn}_{\text{Zn Con}} = 0.3563 + 2.5754 \times \% \text{Mn}_{\text{PF Feed}}</math> Iron in the sphalerite: <math display="block">\% \text{Fe}_{\text{Sphalerite}} = 4.865 + 1.202 \times \% \text{Mn}_{\text{Sphalerite}}</math> Zinc recovery to zinc concentrate accounts for the zinc lost in both the carbon and lead concentrates by the equation: – Zn recovery Zn Conc (%) = <math display="block">\frac{(100 - \text{PF \%Zn loss} - \text{Pb \%Zn loss}) \times \text{Zn cct \%Zn Rec} \times \text{Zn Rec factor}}{100}</math></li> <li>Where; Zinc recovered to carbon concentrate: <math display="block">\text{PF \%Zn loss} = -4.894 + 0.7548 \times \% \text{C}_{\text{PF Feed}} + 0.10387 \times \% \text{C}_{\text{PF Recovery}}</math> Zinc recovered to lead concentrate: <math display="block">\text{Pb \%Zn Loss} = -0.39 - 0.02272 \times \% \text{Pb}_{\text{Final Pb Con}} + 12.925 \times \text{Pb/ZnPF Feed} + 0.01616 \times \% \text{Pb Rec}</math> Zinc circuit stage recovery: <math display="block">\text{Zn}_{\text{cct \%ZnRec}} = \% \text{Zn}_{\text{Final Con}} / \% \text{Zn}_{\text{Rgher Feed}} \times (\% \text{Zn}_{\text{Rgher Feed}} - \text{Zn}_{\text{Comb tail}}) / (\% \text{Zn}_{\text{Zn Con}} - \text{Zn}_{\text{Comb tail}})</math> Zinc in zinc circuit rougher feed: <math display="block">\% \text{Zn}_{\text{Rgher Feed}} = -0.246 + 1.06093 \times \text{ZnPF Feed}</math> Zinc in zinc circuit combined tail: <math display="block">\text{Zn}_{\text{Combined tail}} = 0.6\% \text{ if } \% \text{Zn}_{\text{Rgher Feed}} \leq 15\% \text{ or else}</math> <math display="block">\text{Zn}_{\text{Combined tail}} = -0.0651 + 0.08202 \times \% \text{Zn}_{\text{Rgher Feed}}</math> Zinc recovery factor: <math display="block">\text{Zn Rec Factor} = 0.989</math></li> <li>A full check has been completed for possible deleterious elements, and the only two that are material to economic value are iron and manganese in the zinc concentrate. It is for this reason that the algorithms to predict these components have been developed using Dugald River operating data.</li> </ul>

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	<ul style="list-style-type: none"> <li>▪ Fluorine has been identified within the orebody and to date has resulted in isolated elevated levels in the lead concentrate however has been successfully controlled through the flotation process.</li> </ul>
Geotechnical	<ul style="list-style-type: none"> <li>▪ Ground conditions at Dugald River are generally good to fair with isolated areas of poor ground associated with shear zones and faults.</li> <li>▪ Development ground support at this stage in the mine life of Dugald River focuses on static stability requirements with surface support matched to the ground conditions, e.g. mesh for good ground/ short design life and Fibrecrete for poor ground and long-term design life (e.g. decline, level access and infrastructure).</li> <li>▪ Stope stability is strongly influenced by the presence and proximity of hanging wall shear zones which are associated with very poor ground conditions.</li> <li>▪ Historical stoping conducted at Dugald is used to calibrate the geotechnical stope dilution model from which guidance on stope dimensions (strike/ hydraulic radius) and estimates of stope dilution can be made.</li> <li>▪ Conservative stope design has been recommended after a review of previous stope performance at Dugald River highlighted a large step change in stope performance once spans had increased above a Hydraulic Radius of 5.0~5.5. Decreased stope sizing to a nominal 15m strike has improved predicted ELOS. From the most recent run of the mechanistic overbreak model, the predicted dilution for stopes contained within the 2023 Reserves is 13.2%.</li> <li>▪ The life of mine mining sequence is modelled using MAP3D (a linear-elastic method) to provide guidance on favourable sequences that will minimise the adverse effects of induced stress.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>▪ Dugald River operates under Environmental Authority EPML00731213 issued by the Department of Environment, Heritage Protection on 12 August 2012 and amended on 21 April 2023.</li> <li>▪ Non-Acid Forming (NAF) and Potentially Acid Forming (PAF) waste rock are distinguished by a north-south striking Limestone and Undifferentiated Black Slate lithological boundary respectively. Volumes are estimated and managed by site procedures. With limited stockpile space on the surface, all NAF waste rock stored on the surface has been identified for use during closure activities and PAF waste rock is used as a priority for underground rockfill.</li> <li>▪ The north mine area uses waste rock as backfill, and the south mine is backfilled with paste fill generated from tailings. Cemented Rock Fill (CRF) has also been used in discrete production areas in the upper part of the orebody.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>▪ Currently, the DR mine is operating via an electricity grid feed from Diamantina Power Station gas-fired power station and the Mica Creek Solar Farm, on the southern outskirts of Mount Isa.</li> <li>▪ Gas for the power station is supplied via the Carpentaria pipeline, with a compression station in Bellevue.</li> <li>▪ Cloncurry airport is used by commercial and charter airlines flying to and from Townsville, Cairns and Brisbane and operates as both a commercial and fly-in-fly-out (FIFO) airport.</li> <li>▪ Existing surface infrastructure includes:</li> </ul>

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	<ul style="list-style-type: none"> <li>- An 11 km sealed access road from the Burke Developmental Road, which incorporates an emergency airstrip for medical and emergency evacuation use;</li> <li>- Permanent camp &amp; recreational facilities;</li> <li>- Telstra communication tower;</li> <li>- Ore and waste stockpile pads;</li> <li>- Contaminated run-off water storage dams;</li> <li>- Change house facilities for mine and processing personnel;</li> <li>- Office buildings, including emergency medical facilities;</li> <li>- Core shed;</li> <li>- Fuel farm;</li> <li>- Bore water fields and raw water supply lines;</li> <li>- Processing plant and Assay Laboratory;</li> <li>- Paste plant;</li> <li>- Tailings storage facility;</li> <li>- Mobile equipment workshop and supply warehouse</li> <li>- UG Ventilation Exhaust Fans x 3</li> <li>- Bulk Air Cooling Air-Cooling Plant supplying chilled air to North and South Mines</li> </ul>
Costs	<ul style="list-style-type: none"> <li>▪ The estimation of capital cost for the Dugald River project was derived from first principles from the 2022 schedule and inflated by one year for 2023. The financial model captures the transition of mining operations to an owner miner model. Phase 1 (production) received board approval in 2022, and Phase 2 (development) is forecast for 2026.</li> <li>▪ The MMG commercial department estimated the mining operating costs for the OR evaluation using first principles. Costs were inclusive of Operating and Sustaining Capital. Costs are in Australian dollars and are converted to US dollars at the applicable exchange rate.</li> <li>▪ Deleterious elements Mn and to a lesser extent Fe, are to be controlled by metallurgical blending. It is expected that the feed for flotation will be blended to maintain Mn (and to a lesser extent Fe) within the contractual range for concentrate sales and thus not expected to attract additional costs and penalties.</li> <li>▪ The MMG finance department supplies the commodity price assumptions. The Dugald River Ore Reserve applied the January 2023 guidance.</li> <li>▪ The long-term exchange rate used the January 2023 Long-Term MMG guidance and assumptions supplied by the MMG Business Evaluation department.</li> <li>▪ The road freight and logistics for domestic and export sales have been updated using the costs from the 2023 budget. The additional costs for storing and ship loading of concentrate in Townsville are included. For the 2023 Ore Reserves, the storage and ship loading cost has been added to the freight and logistics cost for export. The freight and logistics costs for the domestic sale of concentrate includes the sea freight cost based on an agreement with Sun Metals. Road transportation costs to Mount Isa, for a portion of the Pb concentrate is also considered.</li> </ul>



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	<ul style="list-style-type: none"> <li>▪ Treatment and refining charges are provided in the Corporate Economic Assumptions and considers Trader Frame, Smelter Frame and Spot Price contracts.</li> <li>▪ Queensland State Government royalty's payable are prescribed by the Minerals Resources Regulation 2013 and are based on a variable ad valorem rate between 2.5% to 5.0% depending on metal prices. Freehold leases have been identified and applied to production that falls within them.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>▪ Realised Revenue Factors (Net Smelter Return after Royalty)</li> <li>▪ As part of the 2023 Ore Reserves process, the net smelter return (after royalty) (NSR) has been revised with the latest parameters and compared against the previous 2022 NSR calculation that was used for the 2022 Ore Reserve.</li> <li>▪ The NSR is used to convert the various zinc, lead and silver grades into a single number for cut-off estimation and determining if the rock is ore or waste.</li> <li>▪ Treatment and refining charges, royalties and transportation costs for different commodities were supplied by MMG Group Finance and have been included in the NSR calculation.</li> <li>▪ The MMG Group Finance department provides assumptions of commodity prices and exchange rates and are based on external company broker consensus and internal MMG analysis.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>▪ Global zinc mine production was essentially flat in 2022 compared with 2021 with strong zinc prices encouraging mines to produce at design levels.</li> <li>▪ Global refined zinc metal production in 2022 fell 2.6% compared with 2021 as a number of large European smelters were placed on care and maintenance during 2022 due to record high energy prices.</li> <li>▪ This fall in metal production saw the concentrate market move from an essentially balanced market in 2021 to a concentrate surplus in 2022. Smelters were able to adequately cover their concentrate requirements and the annual contract benchmark zinc concentrate treatment charge thus increased again in 2023.</li> <li>▪ While smelter production is forecast to increase as smelters restart production in Europe as energy prices move lower, a surplus concentrate market is expected to continue in the short to medium term as higher metal prices in 2022 encouraged new mine production and several existing mines have announced production expansions.</li> <li>▪ The concentrate surplus has encouraged zinc smelters to focus more closely on the quality of the zinc concentrates they purchase. Dugald River zinc concentrate is well accepted in the market and many zinc smelters in China, Australia, Japan and Korea have readily received Dugald River zinc concentrates throughout 2022 and into 2023.</li> <li>▪ While zinc consumption was lower in 2022 compared to 2021 as China's efforts to reduce Covid adversely disrupted economic activity, zinc demand was still greater than zinc production, which pushed the zinc metal market into a deficit during 2022. This metal deficit saw exchange zinc metal stocks reduce to historically low levels and the zinc price rose strongly in 2022 compared to 2021.</li> <li>▪ Bearish macro-economic factors and concerns about the health of the global economy has adversely impacted the price of all base metals during 2023.</li> </ul>

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	<p>Sentiment towards zinc has been relatively weaker than other base metals, pushing the zinc price down to levels not seen since 2020. Demand for zinc is weaker than forecast with construction and manufacturing activity in China, US and Europe all below expectations. The weaker demand has coincided with a time when zinc production is forecast to increase. Lower energy prices have encouraged the resumption of production at several large European zinc smelters. This has pushed the zinc metal market into a surplus and zinc inventories in LME registered warehouses have significantly increased during 2023.</p> <ul style="list-style-type: none"> <li>▪ Over the medium term, most analysts forecast that improvement in the global economy and investor sentiment, together with rising demand due to significant base metals usage in renewable energy infrastructure, will all act to drive the price of base metals higher. World zinc consumption growth is forecast to average 2.8% p.a. from 2022 to 2025, growing to 15Mtpa in 2025. (Wood Mackenzie, May 2023).</li> <li>▪ In the longer term, mine production is expected to decline from 2026 (Wood Mackenzie, March 2023) due to the forecast closure of mines as ore reserves are depleted. World zinc consumption growth is forecast to average 1.7% p.a. from 2026 to 2032, growing to 16.6Mtpa in 2032. (Wood Mackenzie, March 2023). This growth in consumption creates the need for significant investment in new zinc mine capability. While there are a few new mines at the advanced stage to replace this depletion, new zinc projects tend to be more economically and operationally challenging than existing or recently closed operations due to a range of factors including grade, size, location, ESG and permitting regulations. Financing for new projects can also become difficult if there are periods of price volatility.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>▪ Economic modelling of the total mining inventory shows positive annual operating cash flows. Applying the revised costs, metal prices and exchange rate (MMG January 2023 Long-Term economic assumptions) returns a positive NPV. MMG uses a discount rate supported by MMG's Weighted Average Cost of Capital (WACC) and adjusted for any country risk premium (as applicable) based on an internal evaluation of the country risk for the location of the deposit.</li> <li>▪ Sensitivities were run on the economic evaluation and showed a positive NPV is maintained when operating costs increase by 10% and if the Zinc grade drops by 10%.</li> <li>▪ All evaluations were done in real Australian (AU) dollars.</li> </ul>
Social	<ul style="list-style-type: none"> <li>▪ The nearest major population centre for the Mine is Cloncurry with a population of approximately 3,500, and the largest employers are mining, mining-related services, and grazing.</li> <li>▪ Regarding Native Title, the Kalkadoon # 4 People filed a claim in December 2005 covering an area which includes the project area, water pipeline corridor and part of the power line corridor. This claim over 40,000 square kilometres of land was granted in 2011.</li> <li>▪ MMG has concluded a project agreement with the Kalkadoon People dated 6 April 2009. Under this agreement, the claimant group for the Kalkadoon are contractually required to enter into an s31 Native Title Agreement under the Native Title Act 1993. The agreement sets out the compensation payments and MMG's obligations for training, employment and business development</li> </ul>

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	<p>opportunities if/when the project is commissioned. MMG has developed an excellent working relationship with the Kalkadoon claimant group. MMG has instituted the MMG/KCPL Liaison Committee, which meets at least twice yearly and addresses the Kalkadoon agreement obligations for both parties. An official 'Welcome to Country' ceremony was held for MMG in late March 2012.</p> <ul style="list-style-type: none"> <li>▪ The Mitakoodi and Mayi People filed a claim in October 1996 and covered an area that includes part of the power line corridor. While the Mitakoodi have not yet been granted Native Title, MMG continues to liaise with them as a stakeholder due to the 'last claimant standing' legal tenement.</li> <li>▪ MMG has registered an Indigenous Cultural Heritage Management Plan (CHMP) which covers the entire project area and has undertaken all necessary surveys and clearances for all disturbed groundwork undertaken on site to date without any issues or complications. The CHMP was developed in consultation with the Kalkadoon # 4 People.</li> <li>▪ Regarding Social and Community support, MMG has a commitment to align all social development programs, sponsorship and community contributions with Goals 1-6 of the United Nations Sustainable Development Goals (SDG's). Local relationships remained healthy throughout 2022.</li> <li>▪ Dugald River Mine has supported several events in the Cloncurry Community recently; examples include Movie Nights, School Stationary Fundraisers, Breakfast Clubs, Sporting Events, Formal Training with residents, Careers Days and MINEX Mount Isa. Further, there is heightened support for local businesses with additional procurement of materials and services from vendors in the NW Qld Region. Over \$20M near-mine expenditure of business services from Dugald River Mine were conducted in 2021, within \$80M spent inside the state of Queensland, within \$200M spent within Australia.</li> <li>▪ Dugald River Mine is also committed to minimising its impact. The site monitors ambient air quality around the mine daily and monitors for PM10 size particulates and arsenic, cadmium, copper and lead surrounding the residence of our nearest sensitive receptor. The site also uses tailings in its backfill to reduce the requirement for storage of tailings on surface, and also supplements its mine backfill requirements with mined waste rock to reduce the requirement for potentially acid forming waste rock to be stored on surface. It is preparing its Progressive Rehabilitation and Closure Plan for submission to the Qld Government in 2022.</li> <li>▪ The site has an office in the town of Cloncurry that is occupied by team members with dedicated roles in community and administration and maintaining a positive working relationship with the local community, the region and broader stakeholders and parties remains a very high priority.</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ There is no identified material naturally occurring risks.</li> <li>▪ The legal agreements are in place. There are no outstanding material legal agreements.</li> <li>▪ The grade of the zinc concentrate is dependent on the Fe and Mn content of the sphalerite, but this dependence is considered by the algorithms presented earlier.</li> </ul>

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Criteria	Commentary
	<ul style="list-style-type: none"> <li>The government agreements and approvals are in place. There are no unresolved material matters on which the extraction of the Ore Reserves is contingent.</li> </ul>
Tailings	<ul style="list-style-type: none"> <li>The tailings storage facility is constructed within a valley of the Knapdale Range, enclosed by a 37m high embankment dam wall constructed with rock, clay fill and an elastomeric BGM (bituminous geomembrane) liner on the upstream side. The dam was designed and constructed in accordance with ANCOLD (Australian National Committee on Large Dams) guidelines and the requirements of the site's Environmental Authority.</li> <li>The dam contains a return water system to enable recycling of the water deposited with the tailings as well as rainfall run-off back to the processing plant.</li> <li>It is proposed that the peak operational throughput of the processing plant now be 2.0 Mtpa, with an average of 40% of the tailings being sent to paste and the remaining 60% thickened to a solids density of 55% solids.</li> <li>Based on current production plans the tailings dam capacity will need to be increased by 2029, achievable by raising the embankment wall.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>Ore Reserves are reported as Proved and Probable.</li> <li>Only Measured (28.1%) and Indicated (22.8%) material of the Mineral Resources has been used to inform the Proved and Probable Ore Reserves. No Inferred Mineral Resources are included in the Ore Reserves.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>An External Review and Audit was last carried out for the 2021 Ore Reserves by AMC Consultants.</li> <li>AMC considered the 2021 ORE to be reasonable and supported by the data supplied by MMG and complies to internal MMG standards.</li> <li>An external audit is to be conducted on the 2024 ORE as per MMG standard.</li> </ul>
Discussion of relative accuracy /confidence	<ul style="list-style-type: none"> <li>The 2023 Reserve has been based on local estimates with diamond drilling assays informing tonnes and grade to define stopes and associated detailed development design. In addition, modifying factors have been based on the results of the operating mine with comparison of actual production data and reconciliations. Therefore, there is high level confidence in the accuracy of the reserve estimate to within +/- 10%. The key risks that could materially change or affect the Ore Reserve estimated for Dugald River include: <ul style="list-style-type: none"> <li>Geotechnical Parameters and Mining Dilution: <ul style="list-style-type: none"> <li>Modelled dilution, mining recovery factors are compared during stope reconciliation allowing for high confidence in factors used for ELOS, mining method and fill type used. Good understanding and high confidence of recovery factors from reconciliation data ensures dilution estimation is appropriately considered and applied to stoping areas.</li> </ul> </li> <li>Cut Off Grade: <ul style="list-style-type: none"> <li>Cut off values are calculated with consideration of ground support and haulage at depth, fill type and power requirements for refrigeration for defined mining areas. This has ensured greater confidence in the cutoff value instead of applying global value for the whole orebody and a low risk in the reserve estimation process.</li> </ul> </li> </ul> </li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Ore Reserve Classification:               <ul style="list-style-type: none"> <li>– Resource Delineation &amp; Reserve Definition drilling informs Proved and Probable tonnage and grades before mining. Ore Reserves are based on all available relevant information. Identification and confirmation through diamond drilling of potential Nexus zones, along strike, may present localised additional material. The Ore Reserve estimate confidence is high as modifying factors are compared with actual production data and historical reconciliations.</li> </ul> </li> <li>▪ Infrastructure:               <ul style="list-style-type: none"> <li>– All major infrastructure has been installed at Dugald and maintained to a high standard. A refrigeration plant was commissioned during November 2021. Future development and diamond drilling activities would have been impacted during the summer months if this piece of infrastructure were not installed. There is high confidence that further refrigeration expansions and use of ventilation on demand infrastructure will ensure airflow requirements are met in pre-production areas.</li> </ul> </li> <li>▪ Processing:               <ul style="list-style-type: none"> <li>– Increase in diluents, carbon and manganese have potential to impact recoveries and payable penalties. However, blending of high manganese parcels of zinc concentrate will mitigate any such potential.</li> </ul> </li> <li>▪ Site Operating and Capital Costs:               <ul style="list-style-type: none"> <li>– Having been in production for several years, the mine’s operating and capital costs are understood in detail. It should be noted, however, that with the transition to owner operator, capital and operating costs are projections and not aligned to historical costs.</li> <li>– Allowance for additional support requirements at depth and rehabilitation of development drives have been made to mitigate any under estimation of support costs. Significant change in costs is considered a low risk. Whilst the industry is in a high inflation environment, the net present value of the reserves remains positive within a reasonable range of movement of operating costs.</li> </ul> </li> <li>▪ Revenue Factors:               <ul style="list-style-type: none"> <li>– Metal prices are dependent on market sentiment, and it is accepted that the zinc price cycle is uncontrollable and therefore is a moderate risk. Long term forecasts are made in consultation with market analysts and the corporate finance team to establish the most likely future positions.</li> </ul> </li> <li>▪ Transition to Owner Operator:               <ul style="list-style-type: none"> <li>– Mining may be interrupted or below current rates through 2<sup>nd</sup> phase (development) (6 month period forecast for 2026).</li> <li>– A standalone transition project management team has been assembled.</li> <li>– The total forecast period of disruption is 12 months over a 11 year LOM plan, and any lost production is deferred, and not lost in its entirety.</li> </ul> </li> </ul>

**5.3.3 Expert Input Table**

In addition to the Competent Persons, the following individuals have contributed vital inputs to the Ore Reserves determination. These are listed below in Table 17.

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.

**Table 17: Contributing Experts – Dugald River Ore Reserves**

<b>EXPERT PERSON / COMPANY</b>	<b>AREA OF EXPERTISE</b>
Maree Angus, Principal Consultant, ERM Australia Consultants Pty Ltd (Brisbane)	Geological Mineral Resources
Claire Beresford Senior Analyst Business Evaluation, MMG Ltd (Melbourne)	Economic Evaluations
Simon Ashenbrenner, Manager Zinc/Lead Marketing, MMG Ltd (Melbourne)	Marketing, Sea freight and TC/RC
Cathy Martin, Senior Metallurgist, MMG Ltd (Dugald River)	Metallurgy
Michel Stevering, General Manager Commercial and Business Support, MMG Ltd (Australian Operations)	Mining capital and Operating Costs
Biswachetan Saha, Senior Geotechnical Engineer, MMG Ltd (Dugald River)	Geotechnical
Peter Willcox, Principal Mining Engineer, MMG Ltd (Dugald River)	Mining Parameters, Cut-off estimation, Mine Design and Scheduling
Jonathan Crosbie, Group Manager – Closure and Remediation, MMG Ltd (Melbourne)	Mine Closure and Remediation

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

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

**5.3.4.1 Competent Person Statement**

I, Peter James Willcox, confirm that I am the Competent Person for the Dugald River 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 more than 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 and Chartered Professional (Mining) of The Australasian Institute of Mining and Metallurgy.
- I am a Registered Professional Engineer of Queensland (RPEQ)
- I have reviewed the relevant Dugald River Ore Reserves section of this Report, to which this Consent Statement applies.

I have been employed by MMG – Dugald River since February 2014 and at the time of this estimate am the Principal Mining Engineer (Dugald River).

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 Dugald River Ore Reserves section of this Report is based on and reasonably and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to the Dugald River Ore Reserves.

**5.3.4.2 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 Dugald River Ore Reserve – I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Peter James Willcox MAusIMM (CP)  
(112608); RPEQ (28936)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Signature of Witness:

Date:

Iain Goode (Townsville, QLD)

Witness Name and Residents:  
(eg, town/suburb)

## 6. Rosebery

### 6.1 Introduction and Setting

The Rosebery base and precious metals mining operation is held by MMG Limited and is located within Lease ML 28M/1993 (4,906ha), on the West Coast of Tasmania, approximately 120km south of the port city of Burnie (Figure 6-1). The main access route to the Rosebery mine from Burnie is via the Ridgley Highway (B18) and the Murchison Highway (A10).

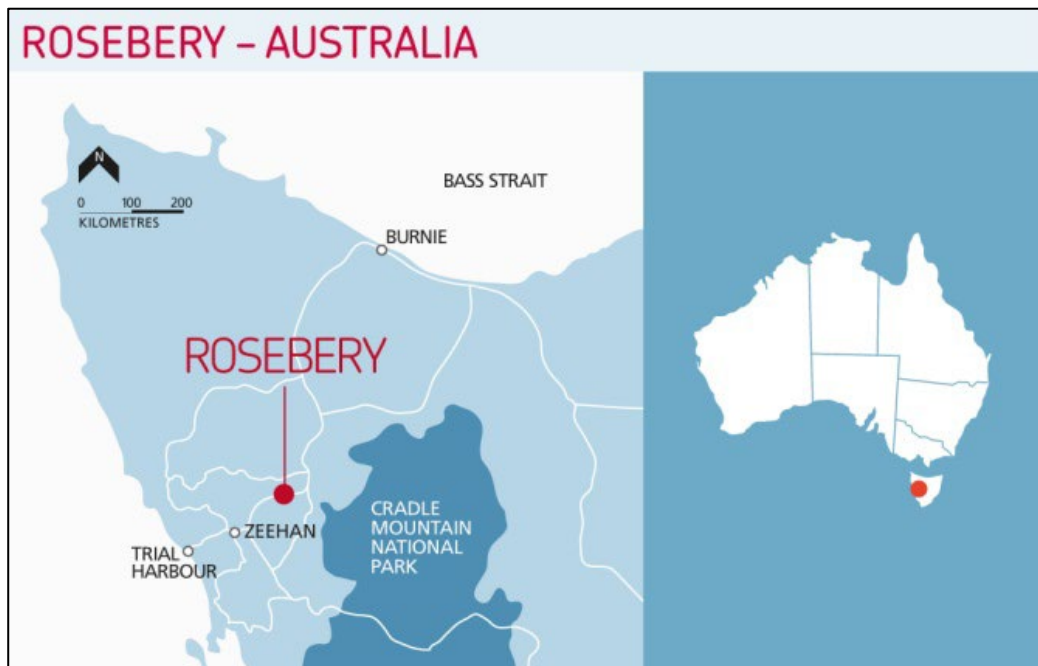


Figure 6-1 Rosebery Mine location

The Rosebery Operation consists of an underground mine and surface mineral processing plant. The mining method uses mechanised long-hole open-stoping with footwall ramp access. Mineral processing applies sequential flotation and filtration to produce separate concentrates for zinc, lead and copper. In addition, the operation produces gold/silver doré bullion. The mine has been operating continuously since 1936. Rosebery milled approximately 906 kt of ore for the year ending 30 June 2023.



## 6.2 Mineral Resources – Rosebery

### 6.2.1 Results

The 2023 Rosebery Mineral Resources are summarised in Table 18. The Rosebery Mineral Resources are inclusive of the Ore Reserves.

Table 18: 2023 Rosebery Mineral Resources tonnage and grade (as at 30 June 2023)

Rosebery Mineral Resources												
	Tonnage (Mt)	Zinc (% Zn)	Lead (% Pb)	Copper (% Cu)	Silver (g/t Ag)	Gold (g/t Au)	Zinc (‘000 t)	Contained Metal				Gold (koz)
								Lead (‘000 t)	Copper (‘000 t)	Silver (Moz)		
<b>Rosebery<sup>1</sup></b>												
Measured	7.4	7.6	2.8	0.22	120	1.3	560	200	17	28	300	
Indicated	4.7	7.1	2.0	0.21	83	1.2	330	95	9.9	12	170	
Inferred	6.5	7.5	2.3	0.19	86	1.1	480	150	12	18	230	
<b>Total</b>	<b>18.6</b>	<b>7.4</b>	<b>2.4</b>	<b>0.21</b>	<b>99</b>	<b>1.2</b>	<b>1,400</b>	<b>440</b>	<b>39</b>	<b>59</b>	<b>700</b>	
<b>Stockpiles</b>												
Measured	0.01	7.0	3.0	0.20	112	1.2	0.66	0.28	0.02	0.03	0.36	
<b>Total</b>	<b>0.01</b>	<b>7.0</b>	<b>3.0</b>	<b>0.20</b>	<b>112</b>	<b>1.2</b>	<b>0.66</b>	<b>0.28</b>	<b>0.02</b>	<b>0.03</b>	<b>0.36</b>	
<b>Total Rosebery</b>	<b>18.6</b>	<b>7.4</b>	<b>2.4</b>	<b>0.21</b>	<b>99</b>	<b>1.2</b>	<b>1,400</b>	<b>450</b>	<b>39</b>	<b>59</b>	<b>700</b>	

<sup>1</sup> Cut-off grade is based on Net Smelter Return (NSR), expressed as a dollar value of AU\$177/t. 2023 metal prices used in NSR calculation are US\$1.10/lb for Pb, US\$1.53/lb for Zn, US\$1890/oz for Au, US\$25/oz for Ag and US\$4.71/lb for Cu. Figures are rounded according to JORC Code guidelines and may show apparent addition errors. Contained metal does not imply recoverable metal.

The Rosebery Mine Mineral Resource has decreased by 1.26Mt (41.6 kt zinc equivalent (ZnEq) metal) since last reported in 2022. Changes affecting the final reporting number include the following:

- Depletion of 636 kt (85 kt ZnEq metal) against the 2022MR model for the reporting period.
- 906 kt (83 kt ZnEq metal) mining depletion in the Lower Mine between 1 July 2022 and 30 June 2023.
- Updates to the trend surfaces used in the grade estimations to achieve increased grade continuity in some areas.
- New drilling, mapping and modelling decreased the reported Mineral Resource by 0.3 Mt but is offset by increased grades resulting in an additional 52.4 kt ZnEq metal adding to the Lower Mine and U lens.
- Updates to metal prices in 2023 and increase in NSR cut-off from \$155 in 2022 to AU\$177.

**6.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 19 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 19: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Rosebery Mineral Resources 2023

Section 1 Sampling Techniques and Data	
Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>All samples included in the Rosebery Mineral Resources estimate are from diamond drill core. The standard sampling length is 1m with a minimum of 0.4m and maximum of 1.5m. Samples are half core split (&gt;90% of samples) or whole core, crushed and pulverised to produce a pulp sample (&gt;85% passing 75µm).</li> <li>Diamond drill core is selected by geologists relative to geological contacts, then marked and ID tagged for sampling. Sample details and ID's are stored in a database for correlation with laboratory assay results.</li> <li>Measures taken to ensure sample representivity include sizing analysis and insertion of field duplicates.</li> <li>There are no inherent sampling problems recognised. The sampling techniques applied to Rosebery drill core are considered appropriate for the style of mineralisation.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>The drilling type is diamond core drilling from underground using single, or in select cases double tube coring techniques.</li> <li>From 2021 all underground drill holes are orientated using a Boart Longyear TruCore orientation system. Between 2014 and 2020, drill core was oriented on an ad hoc basis.</li> <li>Drilling undertaken from 2012 is a mixture of LTK48, LTK60, NQ, NQ2, NQTK, BQTK and BQ in size with most of the drilling being NQ2 (&gt;60%).</li> <li>Historical drilling (pre-2012) is a mixture of sizes ranging from LTK, TT, BQ, NQ, HQ to PQ.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Diamond drill core recoveries average 97%. Drill crews mark and define lost core intervals with blocks. Sample recovery is measured and recorded in the drill hole database.</li> <li>The drilling process is controlled by the drill crew and geological supervision provides support for maximising sample recovery and ensuring appropriate core presentation. No other measures are taken to maximise core recovery.</li> <li>There is no demonstrative correlation between recovery and grade.</li> <li>Preferential loss/gain of fine or coarse material is not significant and does not result in sample bias. However, broken ground is typically encountered at geological contacts away from mineralisation or close to footwall/hanging wall rather than within mineralised zones.</li> <li>If more than 2% core loss occurs in a mineralised zone, the hole is re-drilled.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>All diamond drill core has been geologically logged by geologists to support Mineral Resource estimation as well as mining and metallurgy studies. Geotechnical logging is limited to RQD measurements (rock quality designation).</li> <li>Geological logging is mostly qualitative, focusing on classifying stratigraphy, lithology and alteration but quantitative data is also captured, for example mineral percentages and structural measurements.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The total length of drill holes is geologically logged and entered directly into the database using laptop computers.</li> <li>▪ •Drill core is photographed, wet and dry, prior to sampling. Photography records are comprehensive from 2013 to present but core photos for historic drilling are sporadic, incomplete or lost.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>▪ Prior to May 2016, pulps were delivered to ALS Burnie laboratory for XRF analysis. Since May 2016, core samples are delivered to ALS Burnie for sample preparation and XRF analysis only. Full suite analysis is completed at ALS Townsville laboratory from October 2016 onward. During 2021, due to congestion at ALS laboratories, 3,000 samples were sent to ALS Adelaide for preparation and forwarded to ALS Brisbane for analysis.</li> <li>▪ From 2018, samples are being processed in the following manner: Dried, primary crushed to 6mm then secondary crushed to 3.15mm, pulverised to 85% passing 75µm. Sizing analysis is carried out on 1:20 pulps. Samples are generally not split prior to pulverisation provided they weigh less than 3.5kg. The resulting pulps are bagged, labelled and boxed for despatch to ALS Brisbane and ALS Townsville.</li> <li>▪ Prior to 2018, samples were processed in the following manner: <ul style="list-style-type: none"> <li>– Between 2005 and 2010: Dried, crushed and pulverised to 80% passing 75µm. Sizing analysis is carried out on 1:20 pulps.</li> <li>– Between 2010 and 2016: Dried, crushed to 2mm; cone split to give primary and duplicate samples with the remainder rejected. Pulverised to 80% passing 75µm. Sizing analysis is carried out on 1:20 pulps. Samples despatched to ALS Burnie.</li> <li>– Between 2016 and 2018: Dried, crushed to 25mm, pulverised to 85% passing 75µm. Sizing analysis is carried out on 1:20 pulps. Samples are generally not split prior to pulverisation provided they weigh less than 3.5kg. The resulting pulps are bagged, labelled and boxed for despatch to ALS Brisbane and ALS Townsville.</li> </ul> </li> <li>▪ From late 2019, whole core was sampled for selected infill drilling (less than 30m spacing). Exploration and Resource Testing (60m spacing) drilling continued to be half core sampled, as well as drilling in areas of known complex geology. Whole core sampling is conducted with approval from Mineral Resources Tasmania (MRT) to assist with the lack of core storage space available at Rosebery.</li> <li>▪ Disposal of non-sampled sections only occurs after verification of laboratory results and after consultation with the Competent Person, Senior Resource Geologist and Senior Mine Geologist.</li> <li>▪ Sample representivity is checked by sizing analysis and field duplicates at the crush stage.</li> <li>▪ The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Rosebery mineralisation.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ From 2016 the assay methods undertaken by ALS Brisbane and ALS Townsville for Rosebery core samples were as follows: <ul style="list-style-type: none"> <li>– Analysis of Ag, Zn, Pb, Cu and Fe by four acid ore grade digests, ICPAES finish with extended upper reporting limits (ALS Brisbane). In addition to these main elements, another 29 elements are reported as a part of this method. Analysis of Au by fire assay, three acid digest and flame assay AAS (30g sub-sample charge) (ALS Townsville).</li> </ul> </li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Prior to 2016, the assay methods undertaken by ALS Burnie for Rosebery core samples were as follows:               <ul style="list-style-type: none"> <li>– Between 2005 and 2010: 3-Acid Partial Digest (considered suitable for base metal sulphides). Analysis of Pb, Zn, Cu, Ag, Fe by Atomic Absorption Spectrometry (AAS). Au values were determined by fire assay.</li> <li>– Between 2010 and 2016: Dried, crushed to 2mm; cone split to give primary and duplicate samples with the remainder rejected. Pulverised to 80% passing 75µm. Despatch to ALS Burnie. Analysis of Pb, Zn, Cu and Fe by X-Ray Fluorescence (XRF) applying a lithium borate oxidative fusion (0.2g sub-sample charge). Analysis of Ag by aqua regia digest and Atomic Absorption Spectrometry (AAS) (0.4g sub-sample charge). Analysis of Au by fire assay, three acid digest and flame assay AAS (30g sub-sample charge).</li> </ul> </li> <li>▪ The methods above are considered effectively total digestion and are suitable for Mineral Resource estimation at Rosebery.</li> <li>▪ The following items are included in all sample batches to assess the quality and precision of laboratory results:               <ul style="list-style-type: none"> <li>– Matrix-matched (CRM) or OREAS certified standards and field duplicates are inserted at a ratio of 1:20 to routine samples and dolerite blanks at a ratio of 1:50. Duplicates are taken as either coarse crush or pulp repeats.</li> <li>– CRM standards (LBM-20, MBM-20 and HBM-20) were routinely used from early 2020, with small contributions from the “18” series matrix-matched standards and the newly available LBM-22. OREAS-620 and OREAS-622 were also used.</li> <li>– All standards are photographed with their sample bags and ID’s at the time of sampling to verify laboratory results and ensure sample lists are in the correct order.</li> <li>– Quartz flushes are inserted immediately after high grade sample groups to check laboratory crush and pulverisation performance.</li> </ul> </li> <li>▪ QAQC analysis during the reporting period showed the following:               <ul style="list-style-type: none"> <li>– Insertion rates for standards and duplicates were 1:20 to routine samples and blanks were 1:50 to routine samples, conforming to MMG’s work quality requirements.</li> <li>– Standards: Determination issues continued for the low base metal standard (LBM-20) with approximately 9% failing for Au and 16% failing for Fe. One cause of the failure rate is thought to be due to differences in precision of the analytical method used by the assaying laboratory (AA method; reported to 2 decimal places), compared to the precision of the method used to certify the CRM (Peroxide fusion ICP method; reported to 3 decimal places). This means the QAQC analysis undertaken by MMG assesses the assay results compared to the CRM to a degree of precision that the AA method is unable to achieve. This difference accounts for over half of failures, and if ignored, leaves a 2% failure rate for LBM-20 Au. All failures occurring within the target mineralised zone were re-assayed.</li> <li>– Blanks: Most failures occurred in the previous MR reporting period (7 failures in Q2 2022) at the Adelaide ALS labs. The Adelaide lab was utilised as the Burnie lab was unable to cope with the throughput and this was a temporary measure initiated and managed by ALS Management as part of their load-shedding strategy.</li> </ul> </li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Sizing: A total of 1,835 samples underwent sizing tests; 4 samples failed the 85% passing 3mm primary crush test and no samples failed the secondary test (85% passing 75 microns).</li> <li>– Duplicates: Pulp duplicates have performed better than crush duplicates during the reporting period. Repeatability is consistent for all pulp and crush duplicates with all elements falling within 5% relative difference from their original samples. The average coefficient of variation (CV) of all duplicates are below the reference CV outlined in internal MMG guidelines, though the CV for the gold duplicates was relatively high (up to 28%). R2 values indicate that Au crush and pulp duplicates show the least amount of correlation and this is expected given the nuggetty nature of Au.</li> <li>– Quartz flushes: Only 1 quartz flush failure occurred in the reporting period.</li> <li>▪ ALS Brisbane and Townsville release QAQC data to MMG for analysis of internal ALS standard performance. The performance of ALS internal standards appears to be satisfactory.</li> <li>▪ Batches that fail quality control criteria (such as standards reporting outside set limits) are entirely re-assayed.</li> <li>▪ An umpire laboratory (Intertek Perth) is used to re-assay 5% of ore-grade pulps returned from the ALS laboratory. Analysis of routine sample results and control sample performance is reported quarterly.</li> <li>▪ No data from geophysical tools, spectrometers or handheld XRF instruments have been used in estimation of the Mineral Resource.</li> <li>▪ The abovementioned assay methods are considered effectively total and suitable for Mineral Resource estimation at Rosebery.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ All mineralised intersections are reviewed and verified by numerous geologists by comparing assay results to core photos and logging.</li> <li>▪ Intentional twinning of mineralised intersections has occurred only in select cases where confirmation of historical drilling results was required, for example where old drillhole traces could have been affected by magnetics. In 2020, a drill program aiming to twin 5% of historic drillholes in the Middle Mine area was completed to verify previous assay results and confirm spatial location of mineralised intersections.</li> <li>▪ Unintentional close spaced drilling can occur from underground drill patterns due to rapid changes in lithological competencies, but generally follow-up drilling is completed to achieve the appropriate drill spacing needed to support Mineral Resource estimation.</li> <li>▪ Lab results are received as batches (a batch per drillhole) and imported into the database by geologists. The performance of duplicates, blanks and standards is assessed for each batch by Project and Senior Geologists. Batches with failed standards are flagged and re-assay is requested for relevant sample sets.</li> <li>▪ Returned re-assayed data is reviewed to determine which batch is to be used for Mineral Resource data exports. Batch status is recorded in the database for audit purposes.</li> <li>▪ Database validation algorithms are run to check data integrity before being used for interpretation and Mineral Resource estimation. Unreliable data (e.g. unverifiable assay data) is permanently flagged in the database and excluded from data exports used in Mineral Resource estimation.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Since August 2014, all data below detection limit is replaced by half detection limit values. Prior to this date, the full detection limit was used.</li> <li>▪ No adjustments have been made to assay data – if there is any doubt about the data quality or location of a drillhole, it is excluded from data exports used for Mineral Resource estimation</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ Drillhole collars are surveyed by licenced Mine Surveyors. Geologists request underground drill sites to be marked up with a collar pin drilled into the wall at the drill site coordinates. After a hole is drilled, the collar point is tagged with a metal label (of its hole ID).</li> <li>▪ Collar positions of underground drillholes are picked up by surveyors using Leica TS16, TS15 and MS60 total stations. Collar positions of surface drillholes are picked up using differential GPS. Historic surface drillhole collars were surveyed using a theodolite or handheld GPS but many of those collars have been resurveyed and updated in the drillhole database.</li> <li>▪ Diamond drillers align drill rigs underground and on surface using a Downhole Surveys DeviAligner tool to setup on drillhole orientations, as directed by geologists.</li> <li>▪ Since March 2018, north seeking gyro tools (Reflex Gyro Sprint-IQ and Axis Champ Gyro) have permanently replaced all other downhole survey instruments underground, because they are unaffected by magnetics, quick to use and highly accurate. Selected historic surface exploration drillholes have been surveyed using a Stockholm Precision Tools Gyro Tracer north seeking gyro (parent holes only).</li> <li>▪ Prior to March 2018, all diamond drillholes were surveyed using a magnetic single-shot Reflex Ezi-shot tool at 30m intervals to monitor drillhole progression. A full downhole gyro survey was then completed after a drillhole reached end of hole. Where a gyro downhole survey was not practicable due to equipment limitations, a multi-shot survey was completed at 6m intervals.</li> <li>▪ The coordinate system used is referred to as the Cartesian Rosebery Mine Grid, offset from Magnetic North by 23°52'47" (as at 1 July 2020) with mine grid origin at MGA94 E=378981.981, N=5374364.125; mine grid relative level (RL) equals AHD+1.490m+3048.000m and is based on the surface datum point Z110.</li> <li>▪ Topographic data derived from LiDAR overflights have been carried out and correlated with surface field checks to confirm relativity to MGA and Rosebery Mine Grid.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ The Rosebery mineralised zones are drilled on variable spacing dependent on lens characteristics and safe access to drill platforms. Drill density ranges from 10-25m to 40-60m along strike and up and down dip of mineralised zones.</li> <li>▪ Wider spaced drilling exists in various areas of the deposit but is only adequate for establishing geological continuity, not defining grade continuity.</li> <li>▪ Core samples are not composited prior to being sent to the laboratory, however, the nominal sample length is generally 1m.</li> <li>▪ Observations of small-scale mineralisation geometry and structural characteristics were traditionally made by manual geological mapping, scanning and digitising to establish geological continuity.</li> </ul>

Section 1 Sampling Techniques and Data	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>Since 2016, high quality photogrammetry (ADAM tech) has replaced mapping in production areas of the mine. Most development faces are captured, and full coverage of walls and backs are obtained by trimming overlapping sections of adjoining captures. Geological observations are digitised, and this data is integrated into construction of the mineralisation domains (wireframes).</li> <li>Drillhole spacing in combination with level and face mapping is satisfactory to establish the degree of geological and grade continuity appropriate for Mineral Resource and Ore Reserve estimation and the classifications applied.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Drilling orientation is designed perpendicular to lens strike, typically in the form of radial fans. Mineralised lenses of the Rosebery deposit strike roughly north-south and dip east (45° on average). Fans are generally drilled from footwall drives (from west to east). Alternatively, some holes are drilled from hanging wall drives (from east to west).</li> <li>Drill fan spacing and orientation is designed to provide evenly spaced, high angle intercepts of the mineralised zones where possible, aiming to minimise sampling bias related to intersection orientation. Some drill intersections are at low angle to the dipping mineralisation due to limitations of available drill platforms.</li> <li>Where historic drillholes from surface or older holes longer than 400m exist, attempts may be made to confirm mineralised intercepts by repeat drilling from newly developed drives. Deep drill intersections are excluded from Mineral Resources modelling where duplicated by new underground drillholes.</li> <li>Drilling orientation is not considered to have introduced any sampling bias.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>Personnel cutting and organising samples are adequately trained and supervised. Samples are stored in a locked compound with restricted access during preparation and storage.</li> <li>Whole and half core samples for despatch to ALS Burnie are stored in sealed containers with security personnel at the Rosebery Mine entry gate overseeing collection by ALS couriers.</li> <li>Receipt of samples are acknowledged by ALS via email and checked against expected submission lists.</li> <li>Assay data is returned via email as .sif files for direct importation to the drillhole database and archived online as a backup.</li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>The most recent audit of the ALS Burnie facilities by MMG representatives was in June 2023 with no material issues reported.</li> <li>Pre-Covid restrictions, both ALS Mount Isa and Brisbane laboratories were audited on an annual basis by MMG personnel. Most recently, the ALS Townsville and ALS Brisbane laboratories were audited by MMG representatives on 20 July 2023 and 21 July 2023 respectively. No issues were reported.</li> <li>Teams meetings between MMG and ALS occur to discuss any issues and concerns.</li> <li>An increase in dust at the Burnie Lab where samples are prepared was noted during an audit in late 2020, posing a minor risk to sample cross contamination and to sample preparation staff. ALS Burnie have addressed this issue by building a new sample preparation shed with an appropriate dust extraction system.</li> <li>Any issues identified during audits and reviews in the past have been rectified.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ Rosebery Mine Lease ML 28M/1993 includes the Rosebery, Hercules and South Hercules polymetallic mines. It covers an area of 4,906ha.</li> <li>▪ ML28M/93 was granted to Pasminco Australia Limited by the State Government of Tasmania in May 1994. This lease represents the consolidation of 32 individual leases that previously covered the same area.</li> <li>▪ Tenure is held by MMG Australia Ltd for 30 years from 1 May 1994. The lease expiry date is 1 May 2024. A renewal process has commenced in line with MRT processes.</li> <li>▪ The consolidated current mine lease includes two leases; (consolidated mining leases 32M/89 and 33M/89). These were explored in a joint venture with AngloGold Australia under the Rosebery Extension Joint Venture Heads of Agreement. This agreement covered two areas, one at the northern and one at the southern end of the Rosebery Mine Lease, covering a total of 16.07km<sup>2</sup>.</li> <li>▪ The joint venture agreement was between EZ Corp of Australia (now MMG Rosebery Mine) and Shell Company of Australia Limited (now AngloGold Australia Metals Pty Ltd, formerly Acacia Resources (formerly Billiton)). A Heads of Agreement was signed on 16 May 1988 with initial participating interest of 50% for each party. Other partners in the joint venture are Little River Resources Ltd and Norgold Ltd. They have a combined net smelter return royalty of 2.3695%, payable on production from the Rosebery Extension Joint Venture area. AngloGold withdrew from the joint venture on the 31 December 2001.</li> <li>▪ There are no known impediments to operating in the area.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>▪ Tom McDonald discovered the first indication of mineralisation in 1893 when he traced alluvial gold and zinc-lead sulphide boulders up Rosebery Creek. Twelve months later an expedition led by Tom McDonald discovered the main lode through trenching operations, on what is now the 4 Level open cut.</li> <li>▪ The Rosebery deposit was operated by several different operations until 1921 when the Electrolytic Zinc Company purchased both the Rosebery and Hercules Mines.</li> <li>▪ Drilling from surface and underground over time by current and previous owners has supported the discovery and delineation of mineralised lenses at Rosebery.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>▪ The Rosebery volcanic-hosted massive sulphide (VHMS) deposit is hosted within the world-class Mt Read Volcanics. This Cambrian volcanic belt is an assemblage of lavas, volcanoclastics and sediments deposited in the Dundas Trough between the Proterozoic Rocky Cape Group and the Tyennan Block.</li> <li>▪ Mineralisation occurs as stacked stratabound massive to semi-massive base metal sulphide lenses. The host lithology lies between the Rosebery Thrust Fault and the Mt Black Thrust Fault which all dip approximately 45° east. Ore mineralogy consists predominantly of sphalerite, galena, chalcopyrite with electrum and minor tetrahedrite.</li> <li>▪ The orebody has experienced numerous events of folding, shearing and thrusting particularly in the late Cambrian and early Devonian. Lenses in the southern portions of the deposit have experienced metasomatism and replacement by a deep Devonian granitoid resulting in variation of the mineralogy, structure and alteration in these lenses.</li> </ul>



<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Drillhole information	<ul style="list-style-type: none"> <li>▪ The Rosebery database consists of 17,507 diamond drillholes (2,214,200 m). This MR update comprises new models for the Lower mine, Middle mine and U lens areas. As such the relevant parts of the database were extracted: Lower Mine – 5,815 drillholes (1,088,037 m) and Middle Mine and U lens – 5615 drillholes (621,317 m). No individual drillhole is material to the Mineral Resource estimate and therefore a geological database is not supplied.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>▪ This is a Mineral Resource Statement and is not a report on exploration results, therefore no additional information is provided for this section.</li> <li>▪ No metal equivalents were used in the Mineral Resource estimate.</li> </ul>
Relationship between mineralisation width and intercept lengths	<ul style="list-style-type: none"> <li>▪ Mineralisation true widths are defined by modelled 3D wireframes based on mineralised intercepts.</li> <li>▪ Typical drilling angles, relative to the geometry of mineralisation, are sub-perpendicular to perpendicular allowing true width of mineralisation to be determined. Most drillholes intersect the ore zone at angles between 40° and 90°.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>▪ No individual drillhole is material to the Mineral Resource estimate and therefore diagrams are not provided.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>▪ This is a Mineral Resources Statement and is not a report on exploration results, therefore no additional information is provided for this section.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>▪ This is a Mineral Resources Statement and is not a report on exploration results, therefore no additional information is provided for this section.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>▪ Underground diamond drilling is continually active in several areas of the mine with the intent to better define known mineralised areas (Mineral Resource to Ore Reserve conversion) as well as to further extend the Mineral Resource into areas potentially hosting additional economic mineralisation.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The following measures are in place to ensure database integrity:                             <ul style="list-style-type: none"> <li>– All drillhole data is stored in an SQL database that is backed up at regular intervals. Database integrity is managed by the Database Administration team.</li> <li>– Geological logging is entered directly into the database using laptop computers by site personnel.</li> <li>– Assays are imported directly into the database by site personnel from official data files provided by the laboratory.</li> </ul> </li> <li>▪ Data validation procedures include:                             <ul style="list-style-type: none"> <li>– Bulk data is imported into database buffer tables and validated prior to being uploaded as final records.</li> <li>– Validation routines are set up within the database to check for common data entry errors such as overlapping sample, lithological and alteration intervals.</li> </ul> </li> </ul>

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>– Unreliable data is permanently flagged in the database and excluded from data exports used in Mineral Resource estimation. 674 drillholes (4.8%) have been excluded from the Rosebery database (e.g. due to unverifiable assay data or collar survey).</li> <li>– Random comparisons of raw data to recorded database data are undertaken prior to reporting for 5% of the additional drillholes added in any one year. No fatal flaws have been observed from this random data review</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person for Mineral Resources visited the Rosebery Mine in early 2022. No site visit was completed in 2023 due to the timing of staff changeovers. The 2022 site visit included:               <ul style="list-style-type: none"> <li>– Review of the geological controls, wireframe construction and methodology as applied in the 2022 Mineral Resource estimate.</li> <li>– Review of modelling and estimation advancements.</li> <li>– Inspection of underground workings and ore deposit familiarisation.</li> <li>– Inspection of drillholes and mineralisation intercepts, density measurement and sampling techniques.</li> <li>– Inspection of geological data collection, and data management systems.</li> </ul> </li> <li>▪ Regular video meetings were held between the Competent Person and site and corporate personnel throughout the reporting period.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ Economic Zn-Pb-Cu-Ag-Au mineralisation occurs as massive, semi massive and disseminated base metal sulphide lenses within the Rosebery host sequence.</li> <li>▪ Economic and near-economic mineralisation is visually identifiable in drill core and underground mine development. Drill core is routinely sampled across zones of visible sulphide mineralisation or across zones of expected mineralisation intercepts.</li> <li>▪ The method used for defining mineralisation domains for the 2023 Mineral Resource estimate is described below:               <ul style="list-style-type: none"> <li>– Peer reviewed exploratory data analysis undertaken for each metal to determine apportionment of a low and a high-grade domain. For example, in the Lower Mine (current production area), the low-grade zinc domain ranges from 2% to 7% Zn.</li> <li>– 3D wireframe models are constructed for each metal and each grade domain individually, using an Indicator interpolation method like kriging (Radial Basis Function) in combination with vein modelling, where possible, using Leapfrog Geo software. Key data inputs include composited assay data and mineralisation guidelines digitised from geological mapping and photogrammetry of development drives.</li> <li>– Spheroidal interpolants are used with a standard sill of 1, range between 50 and 80 and a nugget of zero to ensure close snapping to data points.</li> <li>– Maximum extrapolation used to generate the domains in Leapfrog was set to an ellipsoid ratio of 7, 7, 1 (max, int, min).</li> <li>– The Radial Basis Function (RBF) interpolation method uses a model representing the spatial variability of each metal and is based on directional experimental semi-variograms and drill spacing. The interpolation search directions are determined by a structural trend model created using mineralisation trend triangulations obtained from interpretations looking down the axis of regional stress.</li> </ul> </li> </ul>

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>– Resultant wireframe models are visually compared to mapped or recorded mineralisation contacts from traditional geological mapping and photogrammetry. A close correlation between the models and points of observation is noted in most areas where data is available. Differences occur due to the 5m resolution of wireframes and when compared to more detailed mapping. Where major differences occur, guideline strings are used to modify the wireframes to reflect the mapping where appropriate.</li> <li>– The wireframe models are broadly consistent with logged and mapped observations of the main lithology units present at mine scale, namely black slate, porphyry and the hanging wall and footwall contacts within the host sequence.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>▪ The Rosebery Mineral Resource extends from -300mE to 1750mE, -800mN to 3325mN, 1650mRL to 3500mRL (Rosebery Mine Grid coordinates) and is currently open to the north, south and at depth.</li> <li>▪ Individual lenses vary in size from a few hundred metres up to 1,000m along strike and/or down-dip, with a total strike length of mineralisation reaching approximately 4,000m.</li> <li>▪ The mineralised lenses range from a minimum of 0.2-0.3m, maximum of 12-36m with an average true thickness of 3-6m.</li> <li>▪ The current deepest production drive is approximately 1,700m below surface and the deepest economic drill intersection is approximately 2,000m below surface.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ Grade estimation used Ordinary Kriging (OK) as implemented in Maptek Vulcan v2022. Geostatistical analysis used Snowden Supervisor v8 and wireframes (grade domains) were constructed in Leapfrog Geo v2022.</li> <li>▪ This MR update includes 157 new drillholes (30,774 m) in the Lower Mine, 103 new drillholes in the Middle mine (30,935 m), and 50 new drillholes in U lens (12,741 m).</li> <li>▪ The main inputs and parameters for the grade domains and block construction are as follows: <ul style="list-style-type: none"> <li>– Two grade domains (high and low) were created for each metal – Zn, Pb, Cu, Ag, Au, Fe and one domain for Cu using a combination of RBF interpolants and vein models. Two domains were also generated for dry bulk density (DBD) in the lower mine area.</li> <li>– Log probability plots and histogram distributions were used to determine the optimal grade ranges for each domain and lens.</li> <li>– Spheroidal interpolants are used with a standard sill of 1, range between 50 and 80 and a nugget of zero to ensure close snapping to data points.</li> <li>– Domain boundaries were constrained by digitised contacts from photogrammetry and mapping of mine development.</li> <li>– 1m composites were created from the drillhole database, then flagged by domain and lens variables and estimated individually:</li> <li>– Declustering was applied, typically at 20m cell size (average stope size) with 5m offsets.</li> <li>– Grade caps were applied to domains containing extreme values in the dataset. Log probability plots, histograms and cumulative frequency plots were used to determine the optimal caps for each composite.</li> </ul> </li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Variograms (with caps applied) were individually modelled from the 1m composites for each domain and lens. The resulting search parameters were used in OK grade estimation.</li> <li>– The Local Varying Anisotropy (LVA) method was used to align and optimise the search direction of the estimate to the mineralisation geometry. The mineralisation trends are based on digitised elements from photogrammetry and mapping.</li> <li>– Block discretisation was applied at 2 x 4 x 2 (x, y, z) for a total of 16 points per block.</li> <li>– Octant search methods were not used.</li> <li>– Blocks require a minimum of three drillholes to be estimated and a maximum of four samples from any drillhole.</li> <li>– The minimum/maximum sample search number is based on Kriging Neighbourhood Analysis (KNA), and was generally set to 8/20, with some domains using a maximum of 16 samples.</li> <li>– The estimation was run over two passes. A first pass estimates most blocks using the major orientation search distances determined from modelled variograms. This varies depending on the domain and variable, with first pass searches in the major direction ranging from 31m to 100m. The search distances are doubled for the second pass to ensure remaining unestimated blocks are estimated. Maximum extrapolation used to generate the domains in Leapfrog was set to an ellipsoid ratio of 7, 7, 1 (max, int, min).</li> <li>▪ All recoverable metals of economic interest (Zn, Pb, Cu, Ag, Au and Fe) were estimated. No deleterious element or other non-grade variables of economic significance have been identified or estimated.</li> <li>▪ Parent block size was set to 2m x 7.5m x 5m (x, y, z) within the grade domains. The block size approximates one half of drillhole spacing in northing and RL and is consistent with the primary sampling interval in easting (1m). Sub-blocks set to 1m x 2.5m x 1m (x, y, z) were used to define the resolution necessary to effectively represent the grade domain boundaries. Super-blocks set to 50m x 52.5m x 50m (x, y, z) were used outside of the grade domains to reduce the model file size. No rotation is applied to block models.</li> <li>▪ No external dilution or recovery factors were considered during the estimation of the Mineral Resource. These are addressed in the Ore Reserve statement.</li> <li>▪ Each variable was independently estimated and informed, and no correlation between metals was assumed or used for estimation purposes.</li> <li>▪ Grade capping was applied to Au, Ag, and Cu domains in some lenses based on individual statistical analysis. Capping was not applied to Zn, Pb and Fe domains. High yield restrictions are used to limit the influence of extreme high grade samples within the low and high grade domains. High yield restrictions were mostly applied to the Lower Mine to limit extreme Ag, Au and Zn samples.</li> <li>▪ Block model validation process is summarised as follows: <ul style="list-style-type: none"> <li>– Visual inspections for true fit with the high and low grade domains (to check for correct placement of blocks) on cross sections and plans.</li> <li>– Visual comparison of grade shells with previous block models.</li> <li>– Comparison of block model grades with composite grades and a global statistical comparison of the block model grades with the declustered composite statistics and raw length-weighted data.</li> </ul> </li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>– Visual inspection of kriging quality statistics such as kriging variance, slope of regression, kriging efficiency, sum of positive weights, number of samples average distance to samples and pass.</li> <li>– Swath and Drift plots were generated and checked for all lenses to confirm overall consistency between data and estimates with a reasonable degree of smoothing. Change of Support analysis was undertaken on all elements on a lens by lens basis. Contact plots were used to confirm hard boundaries between domain variables and tonnes/grade curves used to compare with previous block models.</li> <li>– Reconciliation of block model grade estimates with actual Mill data from active mining areas showed block model performance within <math>\pm 10\%</math> variance for Zn, Pb and Ag metal on a quarterly basis.</li> <li>– Reconciliation with Mill data was also used in the process of selecting appropriate caps and high yield restrictions to calibrate block model performance.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ Tonnes have been calculated on a dry basis, consistent with laboratory grade determinations.</li> <li>▪ No moisture calculations or assumptions are made in the modelling or estimation process.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ A Net Smelter Return (NSR) cut-off value defines the limit at which material is prospective for future economic extraction. Factors for MMG's long-term economic assumptions include metal prices, exchange rates, metallurgical recoveries, smelter terms and conditions and off-site costs, and was last updated in March 2022.</li> <li>▪ The Mineral Resource is reported above a A\$177/t NSR block grade cut-off, a increase of A\$22/t NSR from the previous year following reclassification of the Resource cut-off grade (RCOG) to align with the stope cut-off grade (SCOG) used for Ore Reserve estimation. An example of average grades across the Lower Mine at the cut-off is as follows: 7.3% Zn, 2.7% Pb, 113 g/t Ag, 1.2 g/t Au, 0.2% Cu.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ Mineral Resource block models are used as the basis for detailed mine design and scheduling and to calculate derived NPV for the life of asset (LoA). Full consideration is made of the reasonable prospect of eventual economic extraction in relation to current and future economic parameters. All assumptions including minimum mining width, dilution and proximity to surface are included in the mine design process.</li> <li>▪ Mined voids (stope and development drives) are depleted from the final Mineral Resource estimate as at 30 June 2023.</li> <li>▪ For Mineral Resources in the Lower Mine (active mining area), actual mined voids were removed including an additional 5m across strike. This is to ensure removal of near-void skins and pillars as these are considered not to have reasonable prospects for extraction.</li> <li>▪ For Mineral Resources in the Upper Mine, due to lack of confidence in completion in the void model, only resources away from outside edges of known stoping and development have been reported.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ Metallurgical processing of ore from the Rosebery deposit involves crushing and grinding followed by flotation and filtration to produce saleable concentrates of zinc, lead and copper. In addition, doré bars are produced at site from partial recovery of gold and silver by a Knelson gravity concentrator.</li> <li>▪ Metallurgical recovery parameters for all metals are included in the NSR calculation, which is used as the cut-off grade for the Mineral Resource estimate. The metallurgical recovery function is based on recorded recoveries from the Rosebery concentrator and monitored in monthly reconciliation reports.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Environmental factors are considered in the Rosebery life of asset (LoA) work, which is updated annually and include provisions for mine closure.</li> <li>▪ Potentially acid forming (PAF) studies have been completed for sulphide-rich waste at Rosebery Mine in 2014. Determination of surface treatable and untreatable waste is currently determined by visual assessment guided by geological modelling and is not estimated or included in the 2023 Mineral Resource block models.</li> <li>▪ Only mineralised material intended for processing is brought to surface.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ Bulk density is measured with a weight in air and water method using a Dynamix G-Ex Auto SG station. The machine is calibrated after every drillhole using three different standards (stainless steel 8.00g/cm<sup>3</sup>, aluminium alloy 2.85g/cm<sup>3</sup>, titanium 4.51g/cm<sup>3</sup>).</li> <li>▪ In the Lower Mine only, dry bulk density (DBD) calculations are based on an OK estimation method using a combination of actual DBD measurements and predicted values assigned by a machine learning algorithm.</li> <li>▪ Since introducing this DBD estimation method in the Lower Mine, reconciliation has improved in tonnes and metal for all elements.</li> <li>▪ The machine learning algorithm (CatBoost Regressor) was trained with over 27,700 DBD measurements using the associated multi-element assay results as predictor features. The algorithm consistently gives an average K-folds test r<sup>2</sup> results of 0.93, indicating a strong improvement over the bulk density formula used before 2018, which was based off metal/mineral percentages.</li> <li>▪ In the Upper Mine, Middle Mine and U lens areas where few actual DBD measurements are available, an empirical formula is used to determine the dry bulk density (DBD) based on Zn, Pb, Cu and Fe assays and assuming a fixed partition of the Fe species between chalcopyrite and pyrite. This formula is applied to the block model estimations after interpolation has been completed using a constant 2.65g/cm<sup>3</sup> for the non-mineralised component of the rock.                     <math display="block">DBD = 2.65g/cm^3 + 0.0560 Pb\% + 0.0181 Zn\% + 0.0005 Cu\% + 0.0504 Fe\%</math> </li> <li>▪ DBD measurements are being collected for new drilling in the Middle Mine and U Lens areas. When enough data is available, a machine learning algorithm will be implemented to predict DBD values for historic drilling.</li> <li>▪ Significant voids or porosity are not characteristic of the Rosebery ore deposit and the DBD formula does not attempt to account for porosity.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ The Mineral Resource classification at Rosebery is based on geological continuity and understanding of the mineralisation, as well as drillhole spacing. A minimum of three drillholes are required to ensure that any interpolated block</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>was informed by enough samples to establish adequate confidence in the modelled grade continuity.</p> <ul style="list-style-type: none"> <li>▪ Uncertainty guidelines determined from an internal drillhole spacing study (2017) are used for classification. Results from the study indicate the following general parameters: <ul style="list-style-type: none"> <li>– Measured Mineral Resources (90% confidence and &lt;15% uncertainty quarterly): 15m x 15m drillhole spacing.</li> <li>– Indicated Mineral Resources (90% confidence and &lt;15% uncertainty annually: 30m x 30m drillhole spacing.</li> <li>– Inferred Mineral Resources are defined as twice the spacing of Indicated Mineral Resources, provided reasonable geological continuity exists.</li> </ul> </li> <li>▪ As a final step, a set of Resource Category wireframes were constructed and used to ensure spatial continuity of the assigned classification.</li> <li>▪ The Mineral Resource classification reflects the Competent Persons view on the confidence and uncertainty of the Rosebery Mineral Resource.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>▪ A Mineral Resources audit of the 2021 Lower Mine block model was completed in November 2021 by AMC Consultants Pty Ltd (AMC). AMC acknowledges that the 2021 Mineral Resource was compiled using usual industry practices and reported in accordance with the JORC Code (2012) and endorses the processes, systems and results employed by MMG in estimation of the Rosebery Mineral Resource.</li> <li>▪ No fatal flaws were identified in the audit and eight recommendations were made for improvements. Seven of those were implemented in the 2022 and 2023 Mineral Resource estimates with the final recommendation undergoing further examination.</li> <li>▪ The 2022 Mineral Resource estimate was also peer reviewed internally with no material issues identified.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>▪ Geological confidence is high in the spatial location, continuity and estimated grades of the modelled domains that comprise the Rosebery Mineral Resource. The remaining Mineral Resource is expected to exhibit the same stacked, lensoidal mineralisation geometry that has been described to date in mined areas at the development drive and lens scale.</li> <li>▪ Minor local variations are observed at a sub-20m scale and it is recognised that the short scale variation cannot be accurately captured by drillhole data alone, even at close drill spacing. It is necessary to incorporate additional geological data to define local variations and this is achieved with the use of high-resolution digital photogrammetry (mapping).</li> <li>▪ Short scale geometry variation is often related to the preferential strain around more competent units in the mine sequence.</li> <li>▪ Twelve month rolling reconciliation figures between the Mineral Resource model and the Mill treatment reports are within 10% for all metals, indicating that the Rosebery Mineral Resource estimation process is creditable.</li> <li>▪ Mining and development images (including traditional mapping and photogrammetry) show good spatial correlation between modelled domain boundaries and actual geological observations and contacts.</li> <li>▪ The combination of the Mineral Resource model, mapping, stope commentaries and face inspections provides reasonably accurate grade estimations for the mill</li> </ul>



Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<p>feed to be tracked on a rolling weekly basis, end of month reports, as well as a quarterly and annual basis.</p> <ul style="list-style-type: none"><li>▪ Remnant mineralisation near voids in the upper and lower levels has been removed from the reported Mineral Resources.</li><li>▪ The accuracy and confidence of this Mineral Resources estimate is considered suitable for public reporting by the Competent Person.</li></ul>



**6.2.3 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”).

**6.2.3.1 Competent Person Statement**

This Mineral Resources 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”).

- 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 more than 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 hold Chartered Professional accreditation in the field of Geology.
- I have reviewed the relevant Rosebery Mineral Resources section of this Report, to which this Consent Statement applies.

I am a full-time employee of ERM Consultants Australia Pty Ltd 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 Rosebery Mineral Resources section of this Report is based on, and fairly and accurately reflects the form and context in which it appears the information in my supporting documentation relating to Mineral Resources. I confirm that I have reviewed the relevant Rosebery Mineral Resources section of this Report to which this Consent Statement applies.

**6.2.3.2 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 Rosebery Mineral Resources – I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Maree Angus MAusIMM CP (Geo) #108282

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author’s approval. Any other use is not authorised.*

Signature of Witness:

Date:

Aaron Meakin (Brisbane, Australia)

Witness Name and Residents:  
(eg, town/suburb)

## 6.3 Ore Reserves – Rosebery

### 6.3.1 Results

The 2023 Rosebery Ore Reserves are summarised in Table 20.

Table 20 - 2023 Rosebery Ore Reserve tonnage and grade (as at 30 June 2023)

Rosebery Ore Reserves											
Rosebery	Tonnes (Mt)	Zinc (% Zn)	Lead (% Pb)	Copper (% Cu)	Silver (g/t Ag)	Gold (g/t Au)	Contained Metal				
							Zinc ('000 t)	Lead ('000 t)	Copper ('000 t)	Silver (Moz)	Gold (Moz)
Proved	3.9	6.5	2.7	0.20	110	1.2	260	100	8	14	0.15
Probable	0.63	5.6	2.2	0.18	82	1.2	35	14	1.1	1.7	0.02
<b>Total</b>	<b>4.5</b>	<b>6.4</b>	<b>2.6</b>	<b>0.20</b>	110	1.2	290	120	9	16	0.18
Stockpile											
Proved	0.1	7.0	3.0	0.20	110	1.2	0.7	0.28	0.02	0.03	0.0
<b>Total</b>	<b>4.5</b>	<b>6.4</b>	<b>2.6</b>	<b>0.20</b>	110	1.2	290	120	9	16	0.18

Cut-off grade is based on Net Smelter Return (NSR) after Royalties, expressed as a dollar value of A\$177/t.

Contained metal does not imply recoverable metal.

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

The 2023 Ore Reserves have decreased in comparison to 2022 by approximately 1.0Mt which was contributed to by multiple factors, including the below:

- Rosebery's 2023 Ore Reserves are located in the Lower Mine region and a maiden Ore Reserve Estimate has been declared in the U Lens while the 2022 Ore Reserve Estimates are located in the Lower Mine region only. Mining depletion since 30 June 2022 has decreased the 2023 Ore Reserves estimate by (0.91Mt). This change is offset by an increase in Ore Reserves due to the maiden Ore Reserve estimate in U Lens of 0.171Mt and decreases predominantly in the K and P Lenses due to the increase in the Cut Off Value related to increased costs and design changes in the upper K areas.
- All other Lenses had minor changes to the Ore Reserve estimate from 2022.
- The 2023 Ore Reserve estimate is no longer constrained by the limit of the existing planned TSF capacity. This is due to the amount of material that was placed in the existing TSFs in 2022 being less than forecast and the expectations of future capacity being sufficient to contain the remaining Ore Reserve estimate. Any increase in future Ore Reserve estimates as a result of the current drilling programme will meet the TSF constraint without additional tailing disposal solutions being confirmed.
- Mineral Resource estimates in the Middle mine areas have not translated to Ore Reserve estimates due to the lower confidence in these areas. Further work will be completed in these areas during 2023. This work is primarily metallurgical testwork in the V Lens and ventilation studies for the middle mine area.

**6.3.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 21 complies with the 2012 JORC Code requirements specified by “Table-1 Section 4” of the Code.

Table 21: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Rosebery Ore Reserve 2023

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
Mineral Resources estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>▪ The Mineral Resource estimate as reported is inclusive of the Ore Reserve estimate.</li> <li>▪ The Mineral Resource estimate is based on the MMG March 2023 Mineral Resource block model, (ros_knpwxyz_dpm_2303_v3.dm, ros_ulens_gmr_2303_v3.dm).</li> <li>▪ There is high geological confidence in the spatial location, continuity and estimated grades of the modelled domains within the Rosebery Mineral Resources. The sheet-like, lenticular nature of mineralisation exhibited historically is expected to be present in the remaining Mineral Resources at a global scale.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ Andrew Robertson is the Competent Person for the Rosebery Ore Reserves, based on site in Rosebery. Andrew is currently the Technical Services Manager on site.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>▪ The mine is an operating site with an on-going detailed Life of Mine planning process. Preliminary mining studies of the Upper Mine, Middle Mine and U Lens are in progress. These areas are not included in the Ore Reserve Estimate due to the lower confidence of the Resources and modifying factors in these areas.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The 2023 Mineral Resource and Ore Reserve estimates rely on cut-off grades/values which are based on corporate guidance on metal prices and exchange rates. The site capital and operating costs, production profile, royalties and selling costs are based on MMG’s 2023 Budget. Processing recoveries are based on historical performance.</li> <li>▪ The Breakeven Cut-off Grade (BCOG) has been calculated using MMG’s 2023 Budget costs. Cost and production profiles are over a three-year mine plan period (2023-2025) to smooth any cost volatility and produce a longer-term cost basis.</li> <li>▪ The BCOG was used to evaluate the economic profitability (Level by Level) of mining during the Life of Asset planning process. The Stope Cut-off Grade (SCOG) which does not include development costs was used to define the stope shapes including estimated planned dilution as the operation is mine constrained. Resultant stope shapes that were below the BCOG value but above SCOG were evaluated for mining on an individual basis. Accordingly, some material that is below the BCOG is included in the Ore Reserve estimate, as it is considered profitable as incremental feed and/or necessary to be mined for other reasons.</li> <li>▪ The Development Cut Off Grade (DCOG) is used to separate ore and waste in planned development. Development material that is above DCOG, classified as Measured or Indicated Mineral Resource and must be moved to extract stoping ore is included in the Ore Reserve Estimate.</li> <li>▪ The operating costs, both fixed and variable, have been attributed on a per mined tonne basis using the planned mine production rate of circa 1.0mtpa</li> </ul>

**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary																
	<ul style="list-style-type: none"> <li>▪ The Net Smelter Return (NSR) values are based on forecast metal prices, exchange rates, current treatment charges and refinery charges (TCs &amp; RCs), government royalties and metallurgical recoveries.</li> <li>▪ The cut off values include costs estimated to the mine gate. All off-site operating costs including shipping, TCs and RCs and royalties are included in the NSR calculation.</li> <li>▪ Exploration drilling was classed as an operating expense and was excluded from 2023 COV calculations, in accordance with company policy as it was not related to existing Mineral Resources. The guidelines distinguish between exploration drilling, Resource delineation drilling, and Resource definition drilling.</li> <li>▪ Resource delineation drilling is classified as CAPEX and was not classified as Sustaining Capital for the development of cut off grades as it is considered Growth capital, and therefore did not influence the BCOG value. Resource Definition drilling is an operational expense and included in the COV calculation.</li> </ul> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr style="background-color: #cc0000; color: white;"> <th>Category of Cut-off</th> <th>2023-2025 Au\$/t processed</th> <th>2022-2024 Au\$/t processed</th> <th>Diff AU\$/t</th> </tr> </thead> <tbody> <tr> <td>SCOG</td> <td style="text-align: center;">177</td> <td style="text-align: center;">155</td> <td style="text-align: center;">22</td> </tr> <tr> <td>BCOG</td> <td style="text-align: center;">201</td> <td style="text-align: center;">184</td> <td style="text-align: center;">17</td> </tr> <tr> <td>DCOG</td> <td style="text-align: center;">78</td> <td style="text-align: center;">78</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>▪ The remaining Ore Reserve can be contained within the remaining approved and planned existing Tailing Storage facilities at Bobadil and 2/5. As a result, all Ore Reserve quality material is included in this Ore Reserve statement.</li> </ul>	Category of Cut-off	2023-2025 Au\$/t processed	2022-2024 Au\$/t processed	Diff AU\$/t	SCOG	177	155	22	BCOG	201	184	17	DCOG	78	78	0
Category of Cut-off	2023-2025 Au\$/t processed	2022-2024 Au\$/t processed	Diff AU\$/t														
SCOG	177	155	22														
BCOG	201	184	17														
DCOG	78	78	0														
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ Mining production is carried out by long-hole open stoping with decline access. Stoping is conducted through both longitudinal retreat and transverse methods.</li> <li>▪ Mining lenses are divided into panels and are mined using a bottom-up sequence with a number of levels being retreated simultaneously, either towards or away from level access drives. The nature of this mining sequence causes fluctuations in the grade profile in the short-term. Top down sequencing is used on occasion where circumstances such as ground conditions require this option.</li> <li>▪ Backfilling of stope voids is carried out using two methods; cemented rock fill (CRF), and rock fill (RF). Up-hole (Crown) retreat stopes are left as an open void due to lack of access for fill placement. These open voids do not result in regional instability due to the small openings and low frequency. The current mine closure plan identifies approximately 500kt of waste rock that has been stockpiled on the surface that is available for use as backfill when development material becomes insufficient to meet demands.</li> <li>▪ Long-term stope shapes are initially identified using the Stope Optimizer (SO) process within the Deswik Software package, using NSR as the optimisation field and SCOG as the cut-off grade (NSR \$177). Each scheduled stope is a combination of three or four of the 5m SO blocks giving a stope strike length of 15m or 20m. Each stope shape is then manually modified for practical extraction.</li> <li>▪ A Mining Tonnage Recovery factor of 100-123% and Grade Recovery factor of 85-93% are applied to mined ore tonnes, depending on the mining zone, based on historic reconciliations. These factors average 115% and 88% respectively for the combined mining areas based on the 2023 Ore Reserve Estimate.</li> </ul>																

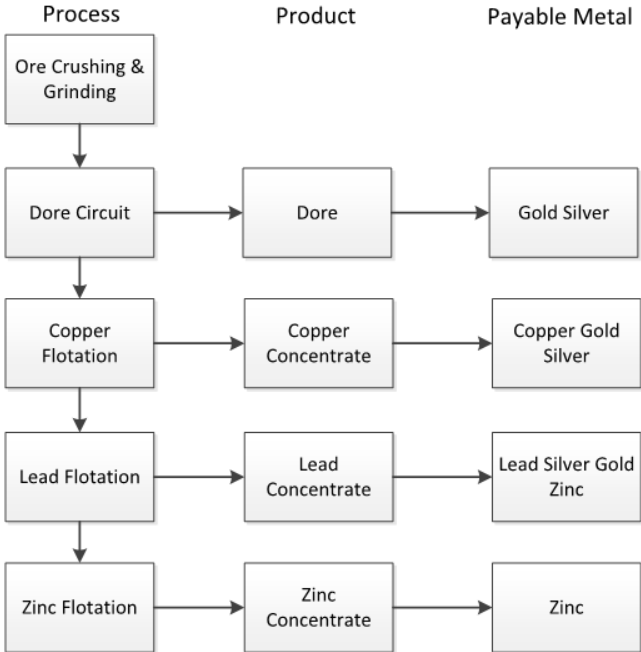
<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Rib pillars that have been left in Lower Mine lenses have only been mined in a limited manner. As a result, there is no robust historical performance to benchmark the mining factors against. An assessment of the mining performance of neighbouring stopes and the small number of pillar extractions determined that it can be assumed that the pillars will incur the same dilution as the primary stopes in each lens but only 50% of the design material will be recovered at the diluted grade. This is a conservative assumption that will be reviewed as more actual performance information becomes available.</li> <li>▪ Access to the orebody is through a decline 5.5m H x 5.5m W at a 1:7 gradient. The approximate horizontal standoff distance between the stoping footwall and major infrastructure; ie – stockpiles, vent rises, escape-ways and declines is 65-70m.</li> <li>▪ For Ore Reserve estimating, only Measured and Indicated Resource material is included. Inferred Resource material is included as unavoidable inclusion to a maximum of 10% of any stope before the stope is excluded from the Ore Reserve Estimate.</li> <li>▪ Production of ore is contained entirely within Measured and Indicated Mineral Resources. Resource definition drilling programs are scheduled to convert Indicated Mineral Resources to Measured Mineral Resources before development or stoping activities commence in those areas.</li> <li>▪ All mine development is under survey control. Geological development control is currently not implemented at Rosebery, apart from estimating the ore grades in development headings and distinguishing between ore and waste material.</li> <li>▪ The primary ventilation system supplies approximately 660 m<sup>3</sup>/s (measured at the three primary ventilation fans) of air to the underground mine, which is sufficient to allow extraction of the current mine production rate from multiple ore lenses as described in the mine plan. TARP Systems are in place to manage activities in each Lens in the event of major fan outages. Refrigeration of the mine air is considered unlikely to be required to extract the current Ore Reserves due to the average temperatures of surface intake air. As a result, no refrigeration system has been allowed for in the Ore Reserve Mine Plan.</li> <li>▪ The mine has an established dewatering circuit and other services, including electrical ring main, leaky feeder radio system, compressed air, production water and potable water. This circuit is capable of being extended as the mine expands.</li> <li>▪ Emergency egress is managed by a system of ladderways, drives and fresh air stations, which provide a means of secondary egress from all major production fronts. This network is extended as the mine expands. From 17 Level, the No.2 shaft acts as the second means of egress to duplicate the main decline. Where required, mobile self-contained rescue chambers are installed.</li> </ul>
Geotechnical	<ul style="list-style-type: none"> <li>▪ Rosebery is one of the deepest and oldest mines in Australia with challenging ground conditions that result in the closure (squeezing) of development drives and mining induced seismicity around production fronts in the lower levels.</li> <li>▪ Mining induced seismicity at Rosebery is usually related to the proximity of production to geological structures or contrasting lithological contacts. A geological structural model that includes the known major intrusions, contact</li> </ul>

**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary
	<p>zones and lithological features has been developed and is routinely updated to guide mine planning and operations.</p> <ul style="list-style-type: none"> <li>Seismicity can also be attributed to production near highly stressed abutment and close-out pillars. Permanent infrastructure (declines, stores, substations, etc.), that sit within these abutments/pillars, are managed with appropriate ground support for the possible conditions experienced.</li> <li>Seismic monitoring, seismic re-entry exclusion periods (following production firings) and seismic TARPs (mine wide and high-risk area specific) are used to control personnel access into potentially high seismic hazard locations.</li> <li>High displacement ground support (dynamic support) is selected in locations where increased seismic risk has been determined by the geotechnical department during the development design process.</li> <li>Rock fabric anisotropy results in poorer rock mass quality for drives that strike North-South compared to drives that strike East-West. As a result, North-South striking drives often require higher capacity support requirements and increased rehabilitation costs.</li> <li>Just-in-time development, preferential drive orientations and condition specific ground support capacity designs are combined with multiple stages of rehabilitation to establish and maintain serviceability of development.</li> <li>Rosebery mine uses three main extraction methods based on depth, stress and the presence of mined voids. The table below can be used to select the method of mining best suited to the expected conditions.</li> </ul>
Method	Diagram
<p><b>Benching</b> – longitudinal retreat along a single OD (Ore Drive). Ideally used in low Stress, low yielding rock masses, where there is a reduced seismic risk. In some cases, where higher than expected deformation and seismic hazard are encountered, additional ground support is applied; in this case, a change of extraction sequence may also be considered</p>	
<p><b>Transverse Slashing</b> – longitudinal retreat, extracted from the XC (Cross-cut) with minimal equipment or personnel access into the OD required. This extraction method may be selected based on drill and blast requirements (wider ore zone, requiring greater drilling ability) or to reduce seismic hazard exposure, where the seismic hazard is present in the OD. With this method, personnel and equipment are not exposed to the high seismic risk, if present in the OD, as most production activities occur in the XC and FWD (Foot Wall Drive). In the case where this method has been</p>	

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
	<p>selected and a seismic risk has later been identified in the FWD, higher capacity support is required as well as just in time development. This case, where the higher seismic hazard is present in the FWD, has occurred in several active lenses and personnel exposure to this seismic hazard is being controlled with increased ground support requirements, just in time mining and restricted personnel access ahead of the stoping front, in already mined development.</p> <p>Where a near field seismic hazard has been identified the need to reduce personnel exposure to the hazardous conditions is paramount (highest hazard conditions are determined by non-linear elastic modelling and underground observations). Various tiers of just in time mining and ground support installation requirements are available, based on the level of hazard that exists. This extraction method is typically selected in high stress, high yielding rock masses, where an increased seismic risk is present.</p>
	<p style="text-align: center;"><b>Just in time transverse slashing</b></p> <p>The diagram illustrates the 'Just in time transverse slashing' process. It shows a cross-section of a mine with several vertical pillars. From left to right: a blue pillar labeled 'SLS stope in extraction' with a yellow arrow pointing down to 'Extracted from XC'; a red dashed box around a blue pillar labeled 'Planned SLS stope in extraction'; a grey pillar labeled 'XC-planned'; and a grey pillar labeled 'OD-planned'. A yellow arrow points from the 'Planned SLS' pillar towards the 'OD-planned' pillar. At the bottom, a grey area is labeled 'FWD-planned'.</p>
	<p><b>Pillar recovery</b> – Extraction of intermediate pillars (between previously mined stopes), this method is a transverse retreat from the crosscut, slashed from the FWD. Assessment of fill material (above, below and adjacent) and surrounding open voids is required prior to extraction. This is a common method used in remnant mining; stress state and seismic risk do not dictate the mining method (the previous extraction of surrounding stope will determine mining method required).</p>
	<p>The 'Plan View' diagram shows a top-down view of a mine layout. It features a central vertical pillar labeled 'SLS' with a yellow arrow pointing down to 'Extracted from XC'. To the left and right of the SLS pillar are grey areas labeled 'Filled Stope'. To the right of the SLS pillar is another vertical pillar labeled 'OD'. At the bottom, a blue area is labeled 'FWD'.</p>
	<ul style="list-style-type: none"> <li>Linear elastic and non-linear elastic numerical modelling are conducted by MMG personnel and consultants to assess the overall mining sequence; this is used to minimise/control potential seismicity and drive closure. Where areas of concern are identified due to a damaging seismic event or unfavourable conditions, a calibrated and detailed non-linear model is created for that location to test and verify the extraction method and sequence.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>Rosebery is a poly-metallic underground mine with all ore processed through an on-site mill and concentrator. The Rosebery Concentrator operates a traditional and proven set of unit operations that are designed to target the mineralisation of the Rosebery ore. The process has been operating for many years, and the ore body is largely consistent over space and time.</li> </ul>

**Section 4 Estimation and Reporting of Ore Reserves**

Criteria	Commentary
	<ul style="list-style-type: none"> <li data-bbox="379 315 1417 622"> <p>The processing plant has been in continuous operation for over 85 years in various configurations. Traditional froth flotation has been used to float sulphur bearing minerals successfully for decades. The addition of a gravity gold recovery circuit allows for additional value to be recovered to the gold doré product. This is proven technology in the gold industry and has been operating successfully in this configuration at Rosebery for some time. The saleable products from this plant in its current configuration are doré, copper concentrate, zinc concentrate, and lead concentrate as shown in the flow chart below.</p> <div data-bbox="582 656 1225 1305" data-label="Diagram">  <pre> graph TD     A[Ore Crushing &amp; Grinding] --&gt; B[Dore Circuit]     B --&gt; C[Dore]     C --&gt; D[Gold Silver]     B --&gt; E[Copper Flotation]     E --&gt; F[Copper Concentrate]     F --&gt; G[Copper Gold Silver]     E --&gt; H[Lead Flotation]     H --&gt; I[Lead Concentrate]     I --&gt; J[Lead Silver Gold Zinc]     H --&gt; K[Zinc Flotation]     K --&gt; L[Zinc Concentrate]     L --&gt; M[Zinc]                     </pre> </div> </li> <li data-bbox="379 1346 1430 1621"> <p>The Metallurgical Model is used to predict the recovery of each payable metal to each product through a series of regression coefficients based on normal operation of the plant. The data from a selected time period is carefully cleaned and analysed. The relationships between feed grade, throughput rate and feed grade metal ratios are established, and the Metallurgical Model is generated. The output of this process is documented and circulated for review and approval. All forecasting and reporting spreadsheets reference these parameters to generate predicted processing products.</p> </li> <li data-bbox="379 1637 1422 1912"> <p>Test work has been performed at varying frequencies across the life of the Rosebery mine. The ore body that is currently being mined is defined by several discrete ore lenses. The blending of ore from these different lenses provides a robust response to processing through the Rosebery Concentrator. The ore body contains ore of varying metal grades and grade ratios, and these are all accounted for within the metallurgical model. New areas of the mine are tested metallurgically with the intent of providing assurance to the budgets that are produced from the metallurgical modelling of the feed ore.</p> </li> <li data-bbox="379 1928 1414 2063"> <p>The payability terms for each product produced by the Rosebery Concentrator are defined in the NSR model. This model accounts for the penalties for deleterious metals as well as the payability for each metal in each product. This allows for optimisation of the plant or planning for altered revenue.</p> </li> </ul>



<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The Rosebery Concentrator and orebodies are considered as well understood and established entities. Bulk Sample test work is undertaken as the process changes, capital alterations are considered for justification or new lenses with different mineralogy are assessed.</li> <li>▪ Arsenic is a penalty element in copper concentrates. This element is usually controlled by blending of processing feed but can incur penalties on occasion.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>▪ The 2/5 Dam Tailings Storage Facility (TSF) was commissioned in April 2018 for subaqueous tailings deposition. Commissioning included a new pump station, tailings pipeline and seepage collection ponds. The intention for the 2/5 Dam TSF is to be converted to subaerial tailing deposition. This would allow for additional storage of tailings within the TSF, Rosebery is in the process of obtaining regulatory approvals.</li> <li>▪ Currently, the 2/5 Dam Stage 2 Subaerial is in construction and is expected to be online in Q4 2023. Dust suppression strategies to mitigate any possible dust events to the surrounding community are in place and Rosebery has proactively been conducting dust monitoring at the 2/5 Dam TSF since the start of construction of Stage 1.</li> <li>▪ The wastewater management at Rosebery involves collecting all potentially contaminated water, including storm water, mine water and mill tailings at the Effluent Treatment Plant (ETP), where lime is added prior to pumping the whole volume of treated water to the Bobadil TSF via the Flume (an open concrete channel flowing under gravity to the TSF). After the final polishing stage, water is subsequently discharged to Lake Pieman.</li> <li>▪ The Effluent Treatment Plant hydraulic capacity is approximately 600 l/sec and the plant can receive 335 l/sec of site mine water with remaining limited spare capacity of approximately 265 l/sec to treat the site surface rain or storm water. When the inflow approaches ETP capacity, additional storage is available in an interim storage dam for later treatment and underground dewatering can be slowed.</li> <li>▪ The historic Hercules Mine is the most significant “legacy site” for Rosebery management. Smaller historic legacy features are also found on the lease including ore passes, open pits, adits, shafts, costeans etc. In 2021 MMG completed a legacy site audit on the lease and these now number 177 features.</li> <li>▪ Waste rock is characterised as either NAF, PAF or High PAF. To-date most of the waste rock produced has been retained underground and used for stope filling, either as RF or CRF. Previously, surplus waste rock was trucked to the surface and unloaded at the 3 or 4 Level waste rock dump and was treated by adding a layer of lime on top and below every layer of waste rock. Recent Life of Mine (LoM) planning suggests there will be no further requirement for waste rock to be trucked to surface and that material from the existing surface waste dumps will be used underground for additional fill requirements.</li> <li>▪ Detailed studies are currently being undertaken to complete designs for a Stage 11 embankment raise at the Bobadil TSF. This raise will ultimately require regulatory approvals and is required to provide adequate storage for the tailings produced by the reported Ore Reserves.</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Rosebery is actively working with appropriate stakeholders to confirm an additional TSF to accommodate any future extensions of the mining operation. This facility is not required for the currently declared Ore Reserve estimate.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>▪ MMG Limited holds title to the Rosebery Mine Lease (ML 28M/1993 – 4,906ha) which covers an area that includes the Rosebery, Hercules and South Hercules base and precious metal mines. This Mine Lease expires in 2024 and is in the process of renewal. A historical NSR royalty agreement covers a small section to the north of the lease which impacts the northern end of the X North and Y lenses and Z Lens. This royalty is included in the financial assessment.</li> <li>▪ Electric power to the site feeds in through No. 1 Substation located adjacent to the Mill Car Park. There is a contract for the supply to the site with the Electrical Supply Authority for the region. This system has redundancy to ensure continuity of supply and has the potential for expansion if required.</li> <li>▪ Potable water for the site is currently sourced from Lake Pieman and Stitt River, with allotments of 5,500 ML and 1,647 ML respectively.</li> <li>▪ In total, the Rosebery Mine operation employs 396 permanent staff and an additional 235 contractors, covering all aspects of the operation.</li> <li>▪ Primary communication from the Rosebery Mine site is by phone along with surface mobile phone coverage, provided by Telstra and Optus. Phones are available throughout the surface buildings. There is also an extension of the phone system underground. Along with the phone system, there is also email and internet services associated with the lines. This is available throughout the office area by a wireless system.</li> <li>▪ The main system for communication underground is through radio via a leaky feeder and fibre system. The radio system operates on multiple channels with general, extended discussion, and emergency channels.</li> <li>▪ With all mining activity taking place underground at Rosebery, access to the operating areas is by the main decline, this route is used to access the upper-mid area of K Lens. From this point, access splits between two declines to the K/N/P Lens area and the W/X/Y Lenses. Other declines are used to direct primary airflow and for cross mine access. The ore is hauled out of the mine in a fleet of 45-60 tonne haul trucks.</li> <li>▪ The Rosebery primary ventilation circuit consists of airflow circuits in series which accumulate airborne contaminants and heat as pumped air progresses deeper into the mine. At the 46K Level fresh air is introduced into the circuit via the North Downcast (NDC) shaft, diluting the contaminated air, which finally reports to the return airways and exhausts to the surface. The current primary ventilation system supplies approximately 660 m<sup>3</sup>/s of air throughout the mine.</li> <li>▪ There is a crib room and workshop facility at the 46K Level which is close to the current and ongoing production areas. This area is used for regular maintenance of machines and rest breaks. An additional crib room is located at the 17L plat for personnel working in the upper levels.</li> <li>▪ Concentrate is transported from site by Tasrail, which is the only rail service that connects the West Coast area to the port in Burnie. All other logistical support is via road on the Murchison Highway.</li> <li>▪ Until April 2018, tailings from the ore treatment were only placed into the Bobadil TSF located to the north of Rosebery. Tailings have subsequently been</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>																			
<b>Criteria</b>	<b>Commentary</b>																		
	<p>discharged into 2/5 Dam TSF, and sporadically into Bobadil TSF. The new Stage 10 raise construction at Bobadil TSF was completed in March 2022, providing Rosebery Mine with an alternative facility for the storage of tailings from May 2022.</p> <ul style="list-style-type: none"> <li>▪ The 2/5 Dam TSF, located to the south-west of the Rosebery township, was commissioned in April 2018 for subaqueous tailings deposition. The 2/5 Dam TSF Stage 1 has temporarily been converted to subaerial tailing deposition to allow for additional storage of tailings, while the construction of the Stage 2 raise takes place. This lift construction is planned to be operational in Q4 2023.</li> <li>▪ Feasibility Study of the Stage 3 raise of the 2/5 Dam was completed in 2020 with ongoing design and reviews.</li> <li>▪ The table below outlines the expected tailing storage capacities available from March 2023 at Bobadil and 2/5 Dam TSFs. The construction of the 2/5 Dam Stage 2 Raise has an expected completion date of August 2023. Bobadil TSF Stage 10 Raise construction was completed in March 2022 allowing for tailings to be distributed between the two TSFs.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e91e63; color: white;"> <th style="text-align: center;">Location</th> <th style="text-align: center;">Tailings Capacity (mt)</th> <th style="text-align: center;">Comment</th> </tr> </thead> <tbody> <tr> <td>Bobadil TSF – Stage 10</td> <td style="text-align: center;">0.48</td> <td>Operational</td> </tr> <tr> <td>Bobadil TSF – Stage 11</td> <td style="text-align: center;">1.13</td> <td>Feasibility study completed</td> </tr> <tr> <td>2/5 Dam TSF – Stage 1</td> <td style="text-align: center;">0.29</td> <td>Operational</td> </tr> <tr> <td>2/5 Dam TSF – Stage 2</td> <td style="text-align: center;">1,76</td> <td>Rise under construction</td> </tr> <tr> <td>2/5 Dam TSF – Stage 3</td> <td style="text-align: center;">1.31</td> <td>Currently in Feasibility Study</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>▪ Bobadil Stage 11 Feasibility Study (FS) was completed in 2019 for a capacity of 0.8mt. The site investigation and studies have started to complete the detail design, it is currently estimated at a total capacity of 1.13mt for this stage.</li> <li>▪ The 2/5 Dam TSF Stage 3 Raise Pre-Feasibility Study (PFS) was completed in 2020. A Feasibility study is currently in progress and scheduled for completion Q4 2024.</li> <li>▪ The current LOM is a collection of the approved, completed, PFS and FS with a total capacity of 5.0mt of tailings as at March 2023, at an estimated placement rate of 0.8 Mtpa, providing Rosebery with tailings capacity until the mid-2029. This capacity is adequate to accommodate the existing Reserve base</li> </ul>	Location	Tailings Capacity (mt)	Comment	Bobadil TSF – Stage 10	0.48	Operational	Bobadil TSF – Stage 11	1.13	Feasibility study completed	2/5 Dam TSF – Stage 1	0.29	Operational	2/5 Dam TSF – Stage 2	1,76	Rise under construction	2/5 Dam TSF – Stage 3	1.31	Currently in Feasibility Study
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2/5 Dam TSF – Stage 3	1.31	Currently in Feasibility Study																	
Costs	<ul style="list-style-type: none"> <li>▪ Costs used in determining the cut-off values for the Ore Reserves estimation were based on the 2023 Budget. Costs were inclusive of Operating Expenses and Sustaining Capital.</li> <li>▪ Costs are in Australian dollars and are converted to US dollars at the applicable exchange rate.</li> <li>▪ MMG Group Commercial supplies the long-term commodity price and exchange rate assumptions. These price assumptions are then applied to the period in which the ore is scheduled to be produced to determine the extracted NSR.</li> <li>▪ All applicable exchange rates, transportation charges, smelting and refining costs, penalties for failure to meet specification and royalties are included as</li> </ul>																		

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>part of the NSR calculations evaluated against the annually released geology block model to estimate projected value.</p> <ul style="list-style-type: none"> <li>▪ Penalties deducting from revenue may be applied where concentrates contain a higher percentage of unwanted minerals.</li> <li>▪ A cash flow model was produced based on the detailed mine schedule and the previously mentioned costs to determine the NPV.</li> <li>▪ The Ore Reserves estimation has been based on these costs.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>▪ Commodity prices and the exchange rate assumptions are as reported in the cut-off parameters section. These are provided by MMG Group Commercial, approved by the MMG Board, and are based on external company broker consensus and internal MMG analysis.</li> <li>▪ Treatment and refining charges, royalties and transportation costs for different commodities were supplied by MMG Group Commercial and have been included in the NSR calculation. These costs are based on existing agreements or market estimates.</li> <li>▪ The formulas, regression values and assumptions used in the NSR calculation are based on the historical data provided by the Rosebery Metallurgy Department.</li> <li>▪ Economic evaluations are carried out to verify that mining areas are profitable. The cost assumptions were applied to the mining physicals, and the revenue was calculated by multiplying the recovered ore tonnes by the appropriate NSR value. All economic stopes containing Measured and Indicated Resources were included in the Ore Reserves.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>▪ MMG's market assessment is developed by the internal MMG Marketing and Business Evaluation Departments and is supported by external analyst information which informs the MMG Board of Directors.</li> <li>▪ Global zinc mine production was essentially flat in 2022 compared with 2021 with strong zinc prices encouraging mines to produce at design levels.</li> <li>▪ Global refined zinc metal production in 2022 fell 2.6% compared with 2021 as a number of large European smelters were placed on care and maintenance during 2022 due to record high energy prices. While smelter production is forecast to increase as smelters restart production in Europe as energy prices move lower, a surplus concentrate market is expected to continue in the short to medium term as higher metal prices in 2022 encouraged new mine production and a number of existing mines have announced production expansions.</li> <li>▪ The concentrate surplus has encouraged zinc smelters to focus more closely on the quality of the zinc concentrates they purchase.</li> <li>▪ In the longer term, mine production is expected to decline from 2026 (Wood Mackenzie, March 2023) due to the forecast closure of mines as ore reserves are depleted. World zinc consumption growth is forecast to average 1.7% p.a. from 2026 to 2032, growing to 16.6Mtpa in 2032. (Wood Mackenzie, March 2023). This growth in consumption creates the need for significant investment in new zinc mine capability. While there are a few new mines at the advanced stage to replace this depletion, new zinc projects tend to be more economically and operationally challenging than existing or recently closed operations due to</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
	<p>a range of factors including grade, size, location, ESG and permitting regulations. Financing for new projects can also become difficult if there are periods of price volatility.</p> <ul style="list-style-type: none"> <li>▪ Bearish macro-economic factors and concerns about the health of the global economy has adversely impacted the price of all base metals during 2023. Sentiment towards zinc has been relatively weaker than other base metals, pushing the zinc price down to levels not seen since 2020. Demand for zinc is weaker than forecast with construction and manufacturing activity in China, US and Europe all below expectations. The weaker demand has coincided with a time when zinc production is forecast to increase. Lower energy prices have encouraged the resumption of production at a number of large European zinc smelters. This has pushed the zinc metal market into a surplus and zinc inventories in LME registered warehouses have significantly increased during 2023.</li> <li>▪ Rosebery has life of mine agreements in place with Nyrstar covering 100% of zinc and lead concentrate production, which is sold to them on international terms. Currently, Rosebery’s precious metals concentrate is sold to China Minmetals for use by Chinese smelters under a two-year sales contract (2022-23). Dore is sold to the Perth Mint for refining into gold and silver metal.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>▪ Rosebery is an established operating mine. Costs used in the NPV calculation are based on historical data and existing supply contracts. Revenues are calculated based on historical and contracted realisation costs and realistic long-term metal prices.</li> <li>▪ The mine is profitable, and life-of-mine economic modelling of the Ore Reserve schedule shows that the Ore Reserves are economic. The Life of Mine (LOM) financial model demonstrates the mine has a positive NPV at assumed commodity prices. MMG uses a discount rate that is appropriate to the size and nature of the organisation, deposit life and macroeconomic conditions.</li> </ul>
Social	<ul style="list-style-type: none"> <li>▪ The West Coast area of Tasmania has a long history of mining. There are a large number of people employed by the mine from the town of Rosebery and the local government area.</li> <li>▪ Community issues and feedback associated with the Rosebery mine are received through the MMG Community Liaison Office. All issues are reported on a Communication and Complaints form and forwarded to the Administration and Community Assistant for action, per the Site Complaints Procedure. The Superintendent – Environment and Community, makes direct contact with the complainant to discuss the issue and once details are understood, communicates with the department concerned to resolve the matter.</li> <li>▪ During the 2022/2023 reporting period twelve community complaints were received across a range of issues including land maintenance and noise at the 2/5 TSF construction site. In the 2021/2022 reporting period, eighteen community complaints were received across a range of issues.</li> <li>▪ MMG is currently investigating a new TSF to support further mining of the ore reserves beyond 2028. MMG has gained the necessary legal approvals to conduct intrusive investigations at two potential TSF sites. MMG has conducted extensive community &amp; stakeholder engagement during these activities. One</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>non-governmental environmental organisation is currently objecting to investigative works at one of the sites.</p> <ul style="list-style-type: none"> <li>▪ The MMG Rosebery Mine – Underground Agreement 2020 labour agreement is current until January 2024. Preparations have commenced for renegotiating this agreement.</li> <li>▪ Rosebery continues to undertake a range of social performance activities including conducting mine closure and Community Visioning workshops with the community and opening a new community information centre to improve the access with the local community.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ Ore Reserve classifications comply with the JORC Mineral Resource and Ore Reserve classifications where Proved Ore Reserves are only derived from Measured Mineral Resources, and Probable Ore Reserves are only derived from Indicated Mineral Resources or Measured Mineral Resources with increased uncertainty on modifying factors.</li> <li>▪ Portions of Inferred Mineral Resources have been included in the Ore Reserves which unavoidably reside within the stope shapes but are minor inclusions (less than 10% by mass). These may be classified as either Proved or Probable Reserves.</li> <li>▪ Portions of Indicated Mineral Resources have been included in the Proved Ore Reserves if they unavoidably reside within the same stope shapes, but only if they are minor inclusions (less than 50% by mass). The reverse of this situation also applies, with some Measured Mineral Resources being unavoidably classified as Probable Reserves.</li> <li>▪ The Competent Person deems this approach is aligned with the JORC Code and is appropriate for the classification of the Rosebery Ore Reserves.</li> <li>▪ Where stopes contain more than one Mineral Resource category, then the individual classification components have been treated and reported as outlined above.</li> </ul>
Audit or Reviews	<ul style="list-style-type: none"> <li>▪ The Processing and Mineral Resources expert persons at Rosebery reviewed the NSR script to ensure correct operation for each model. Detail has been updated to reflect current market projections and processing assumptions. The 2023 NSR script was processed in the Vulcan software. The script execution was then cross checked against an Excel version to ensure that it was correctly populating all blocks.</li> <li>▪ Mineral Resources block models were validated during the design and evaluation process.</li> <li>▪ There has been an external audit carried out on the Ore Reserves process during 2021 for the 2021 Ore Reserve estimation. (AMC Consultants 23 December 2021). AMC considered “that the methodology used to generate the 2021 Reserves follows good industry practice”.</li> <li>▪ In February 2021, Mining Plus completed a review of the Rosebery Mine reconciliation process. While areas for improvement were identified, the saleable products reconciled within acceptable ranges for the mine schedule and Resource Model.</li> </ul>
Discussion of relative	<ul style="list-style-type: none"> <li>▪ The key risks that could materially change or affect the Ore Reserves estimate for Rosebery include:</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
accuracy/confidence	<ul style="list-style-type: none"> <li>- Seismicity: The Rosebery mine has had several significant seismic events in the past. Potential exists for future seismic events to occur that may impact on the overall recovery of the Ore Reserves.</li> <li>- Induced stress: the depth of mining at Rosebery leads to drive closure and difficult mining conditions. This may impact the ability of Rosebery to extract the ore reserves contained within sill pillars.</li> <li>- Tailings storage: There is currently a clear planning and approvals process to ensure that there is sufficient tailings storage capacity for the current Ore Reserve material. If there are significant delays in this schedule, this may impact the deliverability of the remainder of the Ore Reserve in the last year of production.</li> <li>▪ Resource Delineation &amp; Reserve Definition drilling is applied to define tonnage and grade before mining locally. Ore Reserves are based on all available relevant information.               <ul style="list-style-type: none"> <li>- The Proved Ore Reserve estimate is based on local scale exploration drilling and mining exposure and is suitable as a local estimate.</li> <li>- The Probable Ore Reserve estimate is based on local and global scale exploration drilling and mining exposure.</li> </ul> </li> <li>▪ Ore Reserve estimate accuracy and confidence that may have a material change in modifying factors is as discussed throughout this table.</li> <li>▪ The Ore Reserve estimate is based on the results of the operating mine. There is confidence in the estimate compared with actual production data and historical production reconciliations.</li> </ul>

**6.3.3 Expert Input Table**

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 22.

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.

Table 22: Contributing Experts – Rosebery Ore Reserves

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Helber Holguino, Senior Resources Geologist, MMG Ltd Anna Lewin, Consulting Geologist	Mineral Resources
Maree Angus, ERM Australia Consultants Pty Ltd	Mineral Resources
Iso Harry, Senior Engineer Long Term Planning, MMG Ltd	Mining Parameters, Cut-off estimation, mine design
David Willey, Contract Scheduling Engineer – Entech Mining	Mine Scheduling
Su Wong, Superintendent Geotechnical Engineering, MMG Ltd	Geotechnical
Steven Pickford, Superintendent Metallurgy, MMG Ltd	Metallurgy
Pamela Soto, Principal Tailings & Water Engineer, MMG Ltd	Tailings Facilities
Claire Beresford, Senior Business Analyst, MMG Ltd	Financial assessment
Simon McKinnon, Senior Business Analyst, MMG Ltd	Operating costs
Jarod Esam, Group Manager Business Evaluation, MMG Ltd	Evaluation parameters and market assessment
Simon Ashenbrenner, Manager – Zinc/Lead Marketing, MMG Ltd	Marketing
Adam Pandelis, Senior SHEC Advisor, MMG Ltd	Environmental and Closure
Roscoe Sewell, Senior HR Business Partner, MMG Ltd	Human Resources
Jillian Richardson, Community Liaison, MMG Ltd	Community



**6.3.4 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").

**6.3.4.1 Competent Person Statement**

I, Andrew Robertson, confirm that I am the Competent Person for the Rosebery Ore Reserve section of this Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code, 2012 Edition, having more than 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 Australasian Institute of Mining and Metallurgy
- I have reviewed the relevant Rosebery Ore Reserve section of this Report, to which this Consent Statement applies.

I am an MMG employee 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 Rosebery Ore Reserve 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 Rosebery Ore Reserve.

**6.3.4.2 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 Rosebery Ore Reserves – I consent to the release of the 2023 Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Andrew Robertson FAusIMM (#100858)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

Elizabeth Robertson (Bridgewater SA)

Witness Name and Residents:  
(eg, town/suburb)

## 7. Sokoroshe 2

### 7.1 Introduction and Setting

The Sokoroshe 2 Project is located on the license PE538 in Democratic Republic of Congo, DRC. The PE538 tenement belongs to the DRC state owned mining company Gécamines and is part of a package of 8 tenements granted to MMG under an Amodiation agreement which became effective on 13 May 2014. The project is situated in the southeast part of the Congolese Copperbelt, located approximately 43Km northwest of Lubumbashi and is approximately 25Km west of the Kinsevere mine (See Figure 7-1).

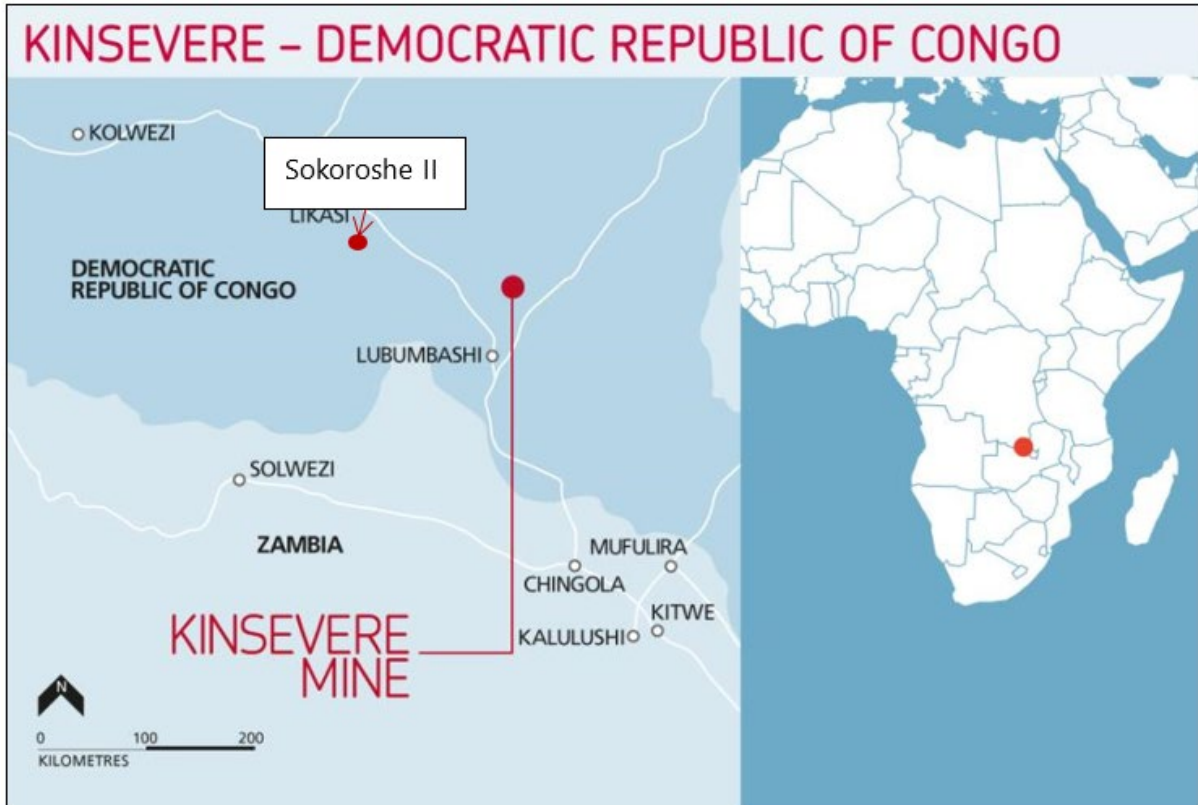


Figure 7-1: Sokoroshe 2 project location

During July 2022 MMG personnel conducting works at the Sokoroshe 2 lease were removed by armed forces who claimed Gécamines had signed two research contracts for the area with third parties and MMG were denied access to the Sokoroshe 2 lease. MMG became aware that the third party has commenced pre-stripping works at the site, which contravenes DRC law. MMG filed arbitral proceedings against Gécamines before the International Chamber of Commerce (ICC).

Following a successful preliminary ruling by the ICC Court of Arbitration, and engagement with Gécamines, the armed forces that occupied Kinsevere's Sokoroshe II lease left the site on 20 December 2022. MMG commenced Preparatory works at Sokoroshe II pit in the second quarter of 2023, with a focus on pre-stripping.

## 7.2 Mineral Resources – Sokoroshe 2

### 7.2.1 Results

The 2023 Sokoroshe 2 Mineral Resources are summarised in Table 23.

Table 23: 2023 Sokoroshe 2 Mineral Resources tonnage and grade (as at 30 June 2023)

Sokoroshe 2 Mineral Reserves							
	Tonnes (Mt)	Copper (% Cu)	Copper AS <sup>1</sup> (% Cu)	Cobalt (% Co)	Contained Metal		
					Copper (kt)	Copper AS <sup>1</sup> (kt)	Cobalt (kt)
<b>Oxide Copper<sup>1</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	2.7	2.1	1.8	0.39	58	50	10.7
Inferred	0.17	1.1	0.8	0.10	1.9	1.4	0.17
<b>Total</b>	<b>2.9</b>	<b>2.1</b>	<b>1.8</b>	<b>0.37</b>	<b>60</b>	<b>51</b>	<b>11</b>
<b>Transition Mixed Ore (TMO) Copper<sup>2</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.1	1.6	0.47	0.23	1.1	0.3	0.2
Inferred	0	1	0	0	0	0	0
<b>Total</b>	<b>0.1</b>	<b>1.6</b>	<b>0.47</b>	<b>0.23</b>	<b>1.1</b>	<b>0.3</b>	<b>0.2</b>
<b>Primary Copper<sup>2</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.62	1.5	0.16	0.48	9.5	1.0	3.0
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.62</b>	<b>1.5</b>	<b>0.16</b>	<b>0.48</b>	<b>9.5</b>	<b>1.0</b>	<b>3.0</b>
<b>Sokoroshe Copper Total</b>	<b>3.6</b>	<b>2.0</b>	<b>1.5</b>	<b>0.4</b>	<b>71</b>	<b>52</b>	<b>14</b>
<b>Oxide-TMO Cobalt<sup>3</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.63	0.24	0.14	0.51	1.5	0.85	3.2
Inferred	0.31	0.35	0.17	0.31	1.1	0.53	0.96
<b>Total</b>	<b>0.93</b>	<b>0.27</b>	<b>0.15</b>	<b>0.45</b>	<b>2.6</b>	<b>1.4</b>	<b>4.2</b>
<b>Primary Cobalt<sup>4</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.05	0.53	0.07	0.64	0.25	0.03	0.30
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.05</b>	<b>0.53</b>	<b>0.07</b>	<b>0.64</b>	<b>0.25</b>	<b>0.03</b>	<b>0.30</b>
<b>Sokoroshe Cobalt Total</b>	<b>0.98</b>	<b>0.29</b>	<b>0.14</b>	<b>0.46</b>	<b>2.8</b>	<b>1.4</b>	<b>4.5</b>
<b>Combined Total</b>	<b>4.6</b>	<b>1.6</b>	<b>1.2</b>	<b>0.40</b>	<b>74</b>	<b>54</b>	<b>18</b>

<sup>1</sup> AS stands for Acid Soluble

<sup>2</sup> 0.6% CuAS cut-off grade

<sup>3</sup> 0.8% Cu cut-off grade

<sup>4</sup> 0.2% Co cut-off grade

<sup>5</sup> 0.2% Co cut-off grade

All Mineral Resources except stockpiles are contained within a US\$4.71/lb Cu and US\$32.72/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.

**7.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 24 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 24: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Sokoroshe 2 Mineral Resource 2023

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Sampling techniques	<ul style="list-style-type: none"> <li>▪ A combination of reverse circulation drilling (RC) and diamond drilling (DD) were completed in the Project area.</li> <li>▪ Mineralised zones within the drill core were identified based on combined parameters, including lithological and alteration logging, mineralogical logging and systematic spot pXRF readings.</li> <li>▪ DD core was sampled nominally at 1m intervals within mineralised zones while unmineralised zones were sampled generally at 2m intervals and as much as 5.3m. Sampling was carried out by longitudinally cutting PQ and HQ drill core using an Almonte automatic diamond saw and sampling half-core, with half-core retained for future reference. PQ drill core was quartered and sampled, and three-quarters of the PQ core was retained for future reference.</li> <li>▪ RC drill cuttings were collected in 1m bulk samples from a rig mounted cyclone. Lithological and mineralogical logging, supported by systematic spot pXRF readings, were used to identify mineralised and unmineralised zones in the RC chips. Samples from mineralized zones were riffle split every 1m to obtain a representative (~2.5kg) sample. Samples from unmineralised zones were riffle split and composited to 2m intervals. Wet samples were sun dried in ambient air before splitting and compositing. Overall, 81% of the samples were less than 2m, with mineralised samples taken at nominal 1m intervals.</li> <li>▪ Samples were crushed (&gt;70% passing 2mm), split and pulverised (&gt;85% passing 75µm) at an on-site laboratory at the MMG core yard facility in Lubumbashi. 100 grams of pulp material was sent to the SANAS ISO 17025 accredited laboratories (ALS in Johannesburg and SSM in Kolwezi).</li> <li>▪ The sample types, nature, quality and sample preparation techniques are considered appropriate for the nature of mineralisation within the Project (sediment hosted base metal mineralisation) by the Competent Person.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>▪ Diamond drilling: PQ and HQ sizes, with triple tube to maximise recovery except for 13 holes drilled in 2021. At the end of each drilling run, the core was marked with an orientation mark by using a REFLEX ACE tool. An orientation line was then drawn along the axis of the core if two consecutive orientations marks could be aligned by docking core pieces.</li> <li>▪ Reverse circulation drilling: A hammer bit was used for drilling a 5.25-inch (133mm) diameter hole. The cyclone was manually cleaned at the start of each shift, after any wet samples, and after each hole. Compressed air from the drilling machine was used to clean/blow out material from the RC rods, hoses, and cyclone after each rod.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>▪ DD core recovery was measured using tape measure, measuring actual core recovered between the core block versus drilled interval at 1 cm precision. Overall DD core recovery averaged 85% across the Project area.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ RC chip recovery was measured by weighing each 1m sample bag immediately following collection from the cyclone. Sample returns for RC drilling has been calculated at 72%</li> <li>▪ Sample recovery during diamond drilling was maximised using the following methods:               <ul style="list-style-type: none"> <li>– Short drill runs (~50cm).</li> <li>– Using drilling additives, muds and chemicals to improve broken ground conditions.</li> <li>– Using triple tube core barrels.</li> <li>– Reducing water pressure to prevent washout of friable material.</li> </ul> </li> <li>▪ Sample recovery during RC drilling was maximized using the following methods:               <ul style="list-style-type: none"> <li>– Adjusting air pressures to the prevailing ground condition.</li> <li>– Using new hammer bits and replacing when showing signs of wear.</li> </ul> </li> <li>▪ No relationship between sample recovery and grade was demonstrated in diamond drilling drill results.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>▪ DD core and RC chips have been geologically logged and entered into the MMG database (Geobank). The level of detail supports the estimation of Mineral Resources.</li> <li>▪ Qualitative logging includes lithology, mineralisation type, oxidation type, weathering type, colour and alteration types. Quantitative logging includes mineralisation mineral percentage, alteration mineral percentage and, in the case of core, RQD and structural data have been recorded.</li> <li>▪ All core and chip samples have been photographed (wet and dry).</li> <li>▪ 100% of core and chips have been logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>▪ DD core was split in half longitudinally (HQ size) or quartered (PQ size) using an Almonte automatic diamond saw. Sample lengths were cut as close to nominal 1m intervals as possible while also respecting geological contacts. Samples were generally ~2.5kg in weight.</li> <li>▪ RC samples were collected from a cyclone every metre by a trained driller's assistant. If the sample was dry the sample was passed through a riffle splitter and a ~2.5kg split was collected into a pre-numbered clear plastic bag. Residual material was sampled and sieved for collection into chip trays for logging and the remainder returned to the larger poly-weave bag (bulk reject). The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet. If the sample was wet, the sample was sun and air dried before being split according to the above procedure. Field duplicates were inserted at a rate of approximately 5% to ensure sampling precision was measured.</li> <li>▪ Samples from individual drillholes were sent in a single dispatch to the onsite MMG laboratory at the MMG core yard facility in Lubumbashi.</li> <li>▪ The drill core and drill chip samples were received, recorded on the sample sheet, weighed, and dried at average temperature of 105°C for 8 hours (or more depending on wetness) at the sample preparation laboratory.</li> <li>▪ Samples were crushed and homogenised in a jaw crusher to &gt;70% passing 2mm. The jaw crusher was cleaned with a barren quartz blank after every crushed sample. The sample size was reduced to 1000g in a riffle splitter and pulverised</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>in an LM2 pulveriser to &gt;85% passing 75 microns. QC grind checks were carried out using wet sieving at 75µm on 1 in 10 samples.</p> <ul style="list-style-type: none"> <li>▪ 100 grams of pulp material were sent to the SANAS accredited ALS Chemex Laboratory in Johannesburg and SSM Laboratory in Kolwezi.</li> <li>▪ Crush and pulp duplicates were submitted for QAQC purposes.</li> <li>▪ Certified reference material was also inserted and submitted to ALS for analysis at a rate of 1 of each high, medium, and low copper grade per 30 samples.</li> <li>▪ The sample size is appropriate for the grain size and distribution of the minerals of interest.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ MMG preparation laboratory used the ALS Chemex Laboratory preparation protocol PREP-31B for drill core and drill chip samples.</li> <li>▪ ALS Chemex Laboratory provides 48 multi-element geochemistry by HF-HNO<sub>3</sub>-HClO<sub>4</sub> acid digestion, HCl leach followed by ICP-AES and ICP-MS analysis. SSM laboratory provided 44 multi-element geochemistry by HF-HNO<sub>3</sub>-HClO<sub>4</sub> acid digestion, HCl leach followed by ICP-OES finish. Four-acid digest is considered a total digestion. Acid soluble copper was analysed using the H<sub>2</sub>SO<sub>4</sub>-Na<sub>2</sub>SO<sub>3</sub> leach with AAS finish for samples with total copper greater than 1,000 ppm.</li> <li>▪ No geophysical tools, spectrometers (apart from those used in the assay laboratory) or handheld XRF instruments have been used for data included in the estimation of the Sokoroshe 2 Mineral Resource.</li> <li>▪ ~15% QAQC samples were incorporated, including blanks, duplicates (field, crush, and pulp) and certified reference material per sample analysis batch. Second laboratory duplicates were selected and analysed at Intertek Genalysis using similar methods as ALS Chemex. Results indicate that assay analysis has been undertaken to an acceptable level of accuracy and precision.</li> <li>▪ No significant QAQC issues have been found. CRMs show less than 2% relative bias. Duplicate results show very good correlation against original results.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Significant intercepts have been verified by comparison against the geological log, which has been checked by several MMG personnel.</li> <li>▪ 5 RC holes were twinned with diamond drilling to check for quality and 3 diamond drillholes were twinned to extend the intersection of the holes that previously stopped in mineralisation. The RC holes compared poorly to some of the DD holes, while the DD-DD twinning compared well. The RC and twinned DD holes in the northern mineralisation were drilled in deeply weathered areas and these were reviewed individually for use in grade estimation.</li> <li>▪ Primary data is stored in a Geobank® database, which is maintained according to MMG database protocols. Data is logged, entered, and verified in the process of data management. The database is stored on an MMG server and routinely backed up.</li> <li>▪ No adjustment has been made to assay data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ Planned collar positions for both DD and RC drilling were located using handheld GPS devices to ±5m accuracy.</li> <li>▪ Post drilling, actual collar positions were surveyed using DGPS (Geomax Zenith 25 Pro and Topcon Hiper II) and are considered to be of high accuracy.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Sokoroshe 2 uses the projected coordinate system WGS84 Universal Transverse Mercator (UTM), ellipsoid 35 south.</li> <li>▪ A TN14 GYROCOMPASS™ was used to align the drill rig to the correct azimuth and dip angles.</li> <li>▪ Downhole surveys were done using the REFLEX EZ-TRAC survey instrument. Downhole surveys were not carried out on RC drillholes. Azimuth and dip were extrapolated from measurements taken from the surface using compass and clinometer.</li> <li>▪ The surface Digital Terrain Model (DTM) for the Project was generated from the Airborne Geophysics Xcalibur surveys carried out in 2015. The dataset was found to be adequate with topographic control to ±3m accuracy. High resolution DEM for the Sokoroshe 2 pit area was surveyed with LiDAR technology on 02 August 2017.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ DD and RC drillholes were predominantly drilled at inclinations of between 50° and 60° to intersect generally steeply dipping mineralisation.</li> <li>▪ Drilling azimuths were as close as practical to orthogonal to the mineralised trend. Drillhole data were spaced on approximately 40m (N-S oriented) drill sections with holes on section spaced 40m to 70m apart.</li> <li>▪ Additional drilling is required to satisfy local estimate of tonne and grades to a Measured classification in the south. Quality issues and high variability prevent the reporting of Indicated Mineral Resources in the northern zones at the current drillhole spacing.</li> <li>▪ No additional sample compositing has been applied in the data, aside from that used in the estimation process.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ The orientation of sampling is across the mineral deposit and is considered to represent unbiased sampling of the deposit. However, alternate drilling orientations have not been undertaken to confirm this.</li> <li>▪ No sampling bias is thought to have been introduced by the relationship of drilling orientation to key mineralised structures.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Samples were transported from the field and delivered to the sample processing facility in Lubumbashi for cutting and preparation. Polyethylene foam, tarpaulins, and cargo nets were used to secure the load in the pick-up vehicle tray and to avoid possible shifting of core during transport.</li> <li>▪ RC chip sampling was conducted in the field. Chip samples were packed in labelled plastic bags along with a labelled plastic ID tag.</li> <li>▪ The plastic bags were tied with cable ties to secure the sample and to prevent contamination.</li> <li>▪ A set of 15 plastic sample bags were packed into labelled poly-weave bags, ready to be shipped from the field to the sample preparation laboratory in Lubumbashi.</li> <li>▪ Field packing documents and sample sheets were prepared and sent together with the core trays and poly-weave bags to the sample preparation laboratory in Lubumbashi.</li> <li>▪ After sample preparation, bar-coded envelopes of 100-200g of pulp for each sample were inserted into boxes of ~35 envelopes each, labelled with dispatch</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>ID and laboratory destination to be sent by DHL courier to ALS Chemex in Johannesburg and to SSM in Kolwezi.</p> <ul style="list-style-type: none"> <li>▪ Two sets of duplicate pulps of 100-200g were inserted into labelled boxes of ~35 envelopes each to be stored on site in storage containers.</li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>▪ No external audits or reviews of sampling techniques and data have been conducted for the Sokoroshe 2 project.</li> <li>▪ Data has been reviewed by the Competent Person as part of the previous Mineral Resource estimate. No significant issues were identified.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The Sokoroshe 2 project consists of one mining tenement or Permis d'Exploitation, PE538, with an area of 6 cadastral units (about 5.1 km<sup>2</sup>). The mineral rights of PE538 are held by La Générale des Carrierés et des Mines (Gécamines), the DRC state-owned mining company. MMG rights to the tenement are granted under the terms of the Mutoshi Swap Framework Agreement.</li> <li>▪ MMG declared an Inferred Mineral Resource on 17 March 2017 to retain the lease holding and transition it from a status of Exploration Period to Development Period under the terms of the agreement. According to the agreement, the "Development Period" shall start on the date on which the first Development Work Program has been agreed between Gécamines and MMG Kinsevere (the Development Period start date). The Development Period shall have a duration of 5 calendar years (1825 days) from the Development Period start date. MMG Kinsevere must establish Proved Reserves to achieve a viable economic exploitation of the deposits contained in the retained permits viz. PE538 Sokoroshe 2. MMG Kinsevere submitted its first Development Work Program to Gécamines for approval on 4 July 2017. Pursuant to clause 6.2.4(i), Gécamines was provided with 30 days to express its comments or disagreement on the first Development Work Program, which will then be deemed accepted in the absence of receipt of comments or disagreement of Gécamines within this period. MMG Kinsevere did not receive any comments or disagreement from Gécamines within the 30-day period (or any following period). Accordingly, the first Development Work Program was deemed accepted by Gécamines as from 4 August 2017 and the Development Period Start Date was also 4 August 2017.</li> <li>▪ On 1 July 2022, MMG personnel conducting works at the Sokoroshe 2 lease were removed by armed forces who claimed Gécamines had signed two research contracts for the area with third parties. MMG was denied access to the Sokoroshe 2 lease and it became aware that the third party had commenced pre-stripping works at the site, which contravenes DRC law. On 21 October 2022, MMG filed arbitral proceedings against La Générale des Carrierés et des Mines S.A. (Gécamines) before the International Chamber of Commerce.</li> <li>▪ Following a successful preliminary ruling by the ICC Court of Arbitration, and engagement with Gécamines, the armed forces that occupied Kinsevere's Sokoroshe II lease left the site on 20 December 2022. MMG commenced</li> </ul>



Section 2 Reporting of Exploration Results	
Criteria	Commentary
	preparatory works at Sokoroshe II pit in the second quarter of 2023, with a focus on pre-stripping.
Exploration done by other parties	<ul style="list-style-type: none"> <li>Soil sampling on 120m by 120m grid and geology mapping were done in 1976 by Gécamines. No data is available for this work.</li> <li>Ruashi Holdings/Metorex carried out unknown exploration work in 2005 at Sokoroshe 2. No data is available for this work.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Sediment-hosted copper deposit, hosted in the lower part of the Neoproterozoic Katanga Supergroup in the Roan Group.</li> <li>Copper mineralisation occurs mainly as oxide fill and replacement, veins and disseminations in variably weathered, laminated dolomites and carbonaceous siltstones.</li> <li>Primary copper mineralogy comprises chalcopyrite, bornite, and chalcocite in decreasing abundance. Oxide copper mineralogy comprises primarily malachite with trace amounts of chrysocolla.</li> </ul>
Drill hole information	<ul style="list-style-type: none"> <li>The Sokoroshe 2 database consists of 50 DD (7,413m) and 77 RC (8,673m) holes. No individual drillhole is material to the Mineral Resource estimate and therefore a geological database is not supplied.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>This is a Mineral Resource Statement and is not a report on exploration results, therefore no additional information is provided for this section.</li> </ul>
Relationship between mineralisation width and intercept lengths	<ul style="list-style-type: none"> <li>Mineralisation true widths are defined by modelled 3D wireframes based on mineralised intercepts.</li> <li>Drilling orientations, relative to the geometry of mineralisation, are designed to be as perpendicular as practicably achievable.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>All drill holes and assay results have been considered in the construction of low- and high-grade domains for the Sokoroshe 2 Mineral Resource estimate.</li> </ul>
Diagrams	<p style="text-align: center;">Sokoroshe 2 project location</p>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Other substantive exploration data	<ul style="list-style-type: none"> <li>▪ Airborne Geophysics – TEMPEST survey</li> <li>▪ Airborne EM, magnetic, and radiometric surveys were flown at the end of 2013. A channel 7 EM conductor was identified to the east of the Sokoroshe 2 occurrence.</li> <li>▪ Geological mapping was conducted in 2014. Mapping results indicated lithologies from the Roan Group, the main host rock to the mineralization. Younger lithologies were also noted from the Nguba and Kundelungu Groups.</li> <li>▪ Surface geochemistry:                             <ul style="list-style-type: none"> <li>– Termite mound sampling on 100m by 100m grid was completed in 2014, which effectively identified copper anomalous zones within the tenement.</li> </ul> </li> <li>▪ Airborne Geophysics – Xcalibur survey, flown in 2015                             <ul style="list-style-type: none"> <li>– Magnetics – effective at mapping structural and stratigraphic domains</li> <li>– Radiometrics – effective at mapping lithological contrasts and regolith domains.</li> </ul> </li> </ul>
Further work	<ul style="list-style-type: none"> <li>▪ Infill drilling where required to upgrade Inferred to Indicated</li> <li>▪ Detailed mining and investment studies.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The MMG Exploration database systems are SQL server and Geobank® management software. All geological and analytical data are managed in MMG's Corporate Geoscience Database. GIS data are stored in secure shared folders on the Lubumbashi server.</li> <li>▪ All data capture via GM logging profiles having strong internal validation criteria. The technician/geologist conducts first validation steps by checking intervals, description and accuracy of records using their "tough books".</li> <li>▪ Validation rules are predefined in each of the database tables. Only valid codes get imported into the database.</li> <li>▪ The sampling and geochemical data are stored in a local version of SQL database that gets replicated to a similar version on the Head Office server with daily, weekly and monthly backups.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The previous Competent Person visited the Sokoroshe 2 site in February 2018 and has visited the Kinsevere deposit and several other oxide copper deposits in the Katanga province, which are also similar in style to the Sokoroshe 2 mineral deposit.</li> <li>▪ The current Competent Person has not visited the site but has inspected several drillholes and the MMG drillhole sample processing facility in Lubumbashi.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ There is reasonable confidence in the interpretation of geology which guides the directional grade trends.</li> <li>▪ Geological interpretation of the mineral deposit is based on available drilling and reports of observed geology and structure at surface. Infill drilling has confirmed the previous geological interpretation.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Dimensions	<ul style="list-style-type: none"> <li>▪ The Sokoroshe 2 northern mineralisation is interpreted to occur over a distance of 780m along strike, 190m down dip and is 30m thick and the southern mineralisation has a strike length of up to 300m, 195m down dip and is 70m thick.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ Six holes were partially or fully discarded from the twin drilling in the western part of the northern mineralisation for estimation purposes. Each set of holes was examined and a collaborative decision between MSA and MMG was made on whether to accept or reject either a DD or RC hole based on quality criteria.</li> <li>▪ Mineralisation and other wireframes were modelled in Leapfrog Geo, the statistical work was completed using Snowden Supervisor V8 software and grade estimation was completed using Datamine Studio RM.</li> <li>▪ Three copper and cobalt mineralisation wireframes were modelled at 0.4% and 0.1% thresholds, respectively, which formed the basis for estimation domains. In addition, surfaces were modelled at 1.0% Ca, indicating a calcium leached zone, and 0.1% S. Acid soluble surfaces for copper and cobalt were also created at a 0.5 acid soluble threshold.</li> <li>▪ Variograms were modelled for copper and cobalt in the main northern domain (1) and the southern domain (4).</li> <li>▪ Total copper, total cobalt and solubility ratios were estimated into the parent cells using ordinary kriging within the copper domains. The grades were estimated using a minimum of 8 and a maximum of 14 composites, with a maximum of 6 per hole. A three-pass strategy was used with the first search ellipse of 60m by 60m by 10m, the second search was two times the first search and the third search was 10 times the first search to allow all blocks to have estimated grades. The Datamine process “Dynamic Anisotropy” was used to align the search ellipse to the mineralisation wireframes. The acid soluble grades were calculated by multiplying the total copper/cobalt by the estimated acid-soluble ratios.</li> <li>▪ Ca, S, Mg and Mn were estimated into parent cells using inverse distance.</li> <li>▪ Ca and S were estimated in relation to the respective surfaces modelled, with grades estimated in the zones above these surfaces aligned to the trend of the surface.</li> <li>▪ The grades for Ca and S below the surfaces, as well as Mg and Mn were estimated aligned to the stratigraphic contacts using Dynamic Anisotropy. A similar kriging neighbourhood to that used for the total copper/cobalt estimate was used.</li> <li>▪ Copper and cobalt grades were not capped for estimation because the high grades plotted close to each other forming high grade sub-domains.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ Estimated tonnes are on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The Oxide Mineral Resource estimate has been reported above an acid soluble copper cut-off grade of 0.6% and an acid soluble to total copper ratio greater than or equal to 0.5.</li> <li>▪ The transitional and mixed ore (TMO) Mineral Resource estimate has been reported above a total copper cut-off grade of 0.8% and an acid soluble to total copper ratio between 0.2 and 0.5.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The sulphide Mineral Resource estimate has been reported above a total copper cut-off grade of 0.8% and an acid soluble to total copper ratio of less than 0.2.</li> <li>▪ The cobalt estimate (mineralisation outside the copper zones) was reported at a cut-off grade of 0.2% Co.</li> <li>▪ The reported Mineral Resources estimates have been constrained within a US\$4.71/lb Cu and US\$32.72/lb Co Whittle optimised pit shell. The reported cut-off grade and the pit-shell price assumptions are in line with MMG's policy for reporting of Mineral Resources based on reasonable prospects for eventual economic extraction.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ The mining method is assumed to be open pit with trucks and excavators.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ At this stage of project development, metallurgical recovery assumptions are based on Kinsevere Expansion Project (KEP) recoveries. As such, the criteria impacting the resource cut-off grades and reportable pit shell inputs are based on the proposed KEP flowsheet and infrastructure upgrades. The upgraded flowsheet will consist of the following changes:                         <ul style="list-style-type: none"> <li>– Oxide pre-flotation circuit and leach tank modifications 2.3mtpa</li> <li>– Oxide leach upgrades to convert to reductive leach conditions</li> <li>– Sulphide Concentrator 2.2mtpa capacity</li> <li>– Roaster circuit including off-gas cleaning, acid plant and concentrate storage</li> <li>– Cobalt Recovery circuit to produce high grade Cobalt hydroxide</li> <li>– SX plant modifications</li> </ul> </li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Environmental factors include increased land surface disturbance and the required rehabilitation for this site, including final pit excavation and waste rock storage. All ore piles are expected to be transported to Kinsevere for treatment.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ Bulk density measurements have been undertaken using weight in air and weight in water. Measurement technique included wax immersion to prevent over estimation due to the porous nature of oxide samples. Wet samples are oven dried prior to measurement.</li> <li>▪ A total of 367 density values were included in the data.</li> <li>▪ Due to a limited number of density values, mean density values were applied to stratigraphic units sub-divided by the calcium grade domain boundary surface. These were compared to the values used in the previous estimate and where there were large discrepancies the values were reviewed and adjusted where necessary.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ The northern mineralised zones are mainly drilled with RC and the southern mineralised zones are mainly drilled with DD. Where there is deep weathering in the main northern zone, twin drilling was completed. The twin drillhole data was reviewed by MSA and MMG Exploration, which resulted in discarding data of poorer quality.</li> <li>▪ Grade continuity was demonstrated by variograms modelled for the southern and main northern zone.</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>The main northern and southern zones were classified at Indicated, and the secondary northern mineralised zone was classified at Inferred.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>No external audits or reviews of this Mineral Resource estimate have been undertaken aside from checks by the Competent Person.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>All mineralised zones were drilled at approximately 50m spacing, at which grade continuity is visually exhibited between holes. Variograms were modelled for the main, northern and southern mineralised zones demonstrating continuity of grade. The lack of robust variograms for the secondary northern mineralised zone indicates poor continuity of grades. Hence the main northern and southern mineralised zones are classified at Indicated, and the secondary northern mineralised zone is classified at Inferred.</li> <li>The northern mineralised zones (domains 1 and 3) were predominantly drilled using RC. Twinning of the RC was completed specifically on areas of concern due to deep weathering. Diamond twin drilling of the RC holes in the eastern part of the main northern mineralisation (domain 1) showed discrepancies between the drillhole types. A review of the RC and the twin holes was completed, and holes of poorer quality were discarded from estimation. According to the MMG Exploration Manager, no concerns were noted for drilling in the rest of the deposit.</li> </ul>

### 7.2.3 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").

#### 7.2.3.1 Competent Person Statement

I, Jeremy Charles Witley, confirm that I am the Competent Person for the Sokoroshe 2 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 (Membership No. 60286) and I am a Registered Professional Natural Scientist (Geological Science) with the South African Council for Natural Scientific Professions (SACNASP) – Reg No 400181/05.
- I have reviewed the relevant Sokoroshe 2 Mineral Resource section of this Report to which this Consent Statement applies.

I am a full-time employee of The MSA Group (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 Sokoroshe 2 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 the supporting documentation relating to the Sokoroshe 2 Mineral Resources.

#### 7.2.3.2 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 Sokoroshe 2 Mineral Resources – I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Jeremy Charles Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

Wony Diergaardt (Johannesburg North, South Africa)

Witness Name and Residents:  
(eg, town/suburb)

## 7.3 Ore Reserves – Sokoroshe

### 7.3.1 Results

The 2023 Sokoroshe Ore Reserves is based on the 2023 Mineral Resources model as describe in Section 7, 2 and 3 above.

The 2023 Sokoroshe Ore Reserves are summarised in Table 25.

Table 25: Sokoroshe Ore Reserves tonnage and grade (as at 30 June 2023)

Sokoroshe Ore Reserve							
Oxide/TMO Copper	Tonnes (Mt)	Copper (% Cu)	Copper (AS % Cu)	Cobalt (% Co)	Copper ('000) t	Contained Metal	
						Copper AS ('000) t	Cobalt ('000) t
Probable	2.5	1.9	1.6	0.42	46	39	10
<b>Primary Copper</b>							
Probable	0.1	1.0	0.2	0.65	1	0.2	0.6
<b>Sokoroshe Copper Total</b>	<b>2.5</b>	<b>1.9</b>	<b>1.6</b>	<b>0.43</b>	<b>47</b>	<b>39</b>	<b>11</b>

Cut-off grades were calculated at a US\$3.92/lb copper price and \$23.37/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 1.0% Cu for Oxide and Transitional ex-pit material, 1.0% Cu for Primary Material. Sokoroshe Ore Reserves are incremental to Kinsevere existing operations, overhead costs are predominately carried by Kinsevere.

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

Contained metal does not imply recoverable metal.

This is the first time MMG have declared Ore Reserves for Sokoroshe.

- Modelled planned dilution and ore loss approximate 1% and 6% respectively. Mining practises are aligned with Kinsevere, it is therefore the basis of the unplanned dilution and ore loss.
- 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 2023) rehabilitation liability.

**7.3.2 Ore Reserves JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 11 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 26: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Sokoroshe Ore Reserves 2023

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
Mineral Resource estimates for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>The Mineral Resources are reported inclusive of the Ore Reserves.</li> <li>The Ore Reserves include Mineral Resources on stockpiles.</li> <li>The sub-celled Mineral Resources block model named “SOK2BLK_V4.dm ” from 2022 was used for dilution and ore loss modelling. The pit optimisation and designs were generated from the Diluted Mining Model “sok2blk_v4_dil_c1”.</li> <li>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 10m x 5m with sub blocking. The mining model simulates a mining panel of 10m x 10m x 5m introducing localised dilution and ore loss.</li> <li>All existing stockpiles have been considered for economic inclusion in the Mineral Resources and Reserves.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>The Competent Person was unable to visit the site in July 2022 due to the illegal occupation of the site at the time, however the diamond drill core was available for inspection. A Mining One Pty Ltd representative (Louis Gyawu CP Mining 316767) visited site in August 2023. The Competent Person is in regular contact with site personnel regarding operational activities and performance.</li> <li>The 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, waste storage, and environmental and social disciplines. The outcomes from the visit have confirmed a common understanding of assumptions, calculation of the cut-off grades and development of the Life-of-Asset mine plan.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>The mine commenced operating activities around the middle of this year and ore is planned to be transported approximately 25km to the Kinsevere processing plant. 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 Asset Business Planning, incorporating the Kinsevere Expansion Project (KEP), which incorporates the feasibility study of the sulphide processing plant.</li> <li>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 identified material Modifying Factors.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>Breakeven cut-off grades (COG) were calculated at a US\$3.92/lb copper price, \$23.7/lb Co considering all known Copper and Cobalt mineral species. A variable gangue acid consumption is estimated using the equation <math>GAC (kg/t) = 33.823 \times \%Ca + 2.713 \times \%Mg + 2.8</math>. The following approximate COG’s are applied:</li> </ul>



Section 4 Estimation and Reporting of Ore Reserves																																																																																																							
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	<ul style="list-style-type: none"> <li>– 1.0% Cu for ex-pit Oxide and Transitional material</li> <li>– 1.0% for Primary material</li> <li>▪ 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.</li> <li>▪ The NVS routine identifies material that is both suitable and potentially economic for processing in the Diluted Mining Model. This material is then considered for inclusion in the Ore Reserves process.</li> <li>▪ For the cost assumptions please see the “Costs” section.</li> <li>▪ For the price assumptions please see the “Revenue factors” section.</li> </ul>																																																																																																						
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Sokoroshe mine is an open pit operation that is mining and transporting predominantly oxide copper ore. The operation uses a contract mining fleet of excavators and articulated dump trucks along with a fleet of ancillary equipment.</li> <li>▪ This mining method is appropriate for the style and size of the mineralisation.</li> <li>▪ The pit optimisation was based on a mining model based on the 2022 Mineral Resources block model, and the strategy for the final pit selection was based on a revenue factor 1. The RF 1 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.</li> <li>▪ 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 5% in the 2023 Ore Reserves). The dilution and ore loss modelling are a reflection Kinsevere operating practises and are considered reflective of current and future mining at Sokoroshe.</li> <li>▪ Minimum mining width (bench size) is typically in excess of 45m.</li> <li>▪ No Inferred Mineral Resources material have been included in the optimisation and/or Ore Reserve reporting.</li> <li>▪ All required infrastructure is in place for processing Sokoroshe Oxide Copper bearing minerals at Kinsevere.</li> <li>▪ Mining rates are planned to stay relatively constant and is within the capacity of the proposed mining contractor capability.</li> <li>▪ The slope guidelines used for the 2023 Sokoroshe Ore Reserves are as follows:</li> </ul> <table border="1" data-bbox="379 1798 1426 2065"> <thead> <tr> <th>Domain</th> <th>Weathering Zone</th> <th>BFA (Max°)</th> <th>Bench Height (m)</th> <th>Berm Width (m)</th> <th>IRA (°)</th> <th>BSA (°)</th> <th>Stack Height (m)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Northwest</td> <td>Completely Weathered</td> <td>50</td> <td>10</td> <td>7.8</td> <td>31.7</td> <td>35</td> <td>40</td> </tr> <tr> <td>Highly Weathered</td> <td>70</td> <td>10</td> <td>5.1</td> <td>48.8</td> <td>52</td> <td>65</td> </tr> <tr> <td>Moderately Weathered</td> <td>70</td> <td>10</td> <td>5.1</td> <td>48.8</td> <td>52</td> <td>65</td> </tr> <tr> <td rowspan="3">Southwest</td> <td>Completely Weathered</td> <td>50</td> <td>10</td> <td>7.8</td> <td>31.7</td> <td>35</td> <td>40</td> </tr> <tr> <td>Highly Weathered</td> <td>65</td> <td>10</td> <td>6.7</td> <td>41.3</td> <td>44</td> <td>65</td> </tr> <tr> <td>Moderately Weathered</td> <td>65</td> <td>10</td> <td>6.7</td> <td>41.3</td> <td>44</td> <td>65</td> </tr> <tr> <td rowspan="3">Northeast</td> <td>Completely Weathered</td> <td>50</td> <td>10</td> <td>6.3</td> <td>34.2</td> <td>41</td> <td>10</td> </tr> <tr> <td>Highly Weathered</td> <td>50</td> <td>10</td> <td>5.0</td> <td>36.8</td> <td>36</td> <td>90</td> </tr> <tr> <td>Moderately Weathered</td> <td>65</td> <td>10</td> <td>7.6</td> <td>39.2</td> <td>50</td> <td>20</td> </tr> <tr> <td rowspan="3">Southeast</td> <td>Completely Weathered</td> <td>50</td> <td>10</td> <td>9.75</td> <td>28.9</td> <td>37</td> <td>20</td> </tr> <tr> <td>Highly Weathered</td> <td>65</td> <td>10</td> <td>5.1</td> <td>46</td> <td>48</td> <td>50</td> </tr> <tr> <td>Moderately Weathered</td> <td>65</td> <td>10</td> <td>4.6</td> <td>47.2</td> <td>50</td> <td>50</td> </tr> </tbody> </table>							Domain	Weathering Zone	BFA (Max°)	Bench Height (m)	Berm Width (m)	IRA (°)	BSA (°)	Stack Height (m)	Northwest	Completely Weathered	50	10	7.8	31.7	35	40	Highly Weathered	70	10	5.1	48.8	52	65	Moderately Weathered	70	10	5.1	48.8	52	65	Southwest	Completely Weathered	50	10	7.8	31.7	35	40	Highly Weathered	65	10	6.7	41.3	44	65	Moderately Weathered	65	10	6.7	41.3	44	65	Northeast	Completely Weathered	50	10	6.3	34.2	41	10	Highly Weathered	50	10	5.0	36.8	36	90	Moderately Weathered	65	10	7.6	39.2	50	20	Southeast	Completely Weathered	50	10	9.75	28.9	37	20	Highly Weathered	65	10	5.1	46	48	50	Moderately Weathered	65	10	4.6	47.2	50	50
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Section 4 Estimation and Reporting of Ore Reserves																		
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	<ul style="list-style-type: none"> <li>The design sectors highlighted in the table above can be seen in the figure below:           <div data-bbox="419 389 1380 952" data-label="Figure"> </div> </li> <li>These guidelines take into account observed performance of the current exposures at Sokoroshe and potential failure modes that could occur at bench, inter-ramp and overall slope scale at Sokoroshe.</li> </ul>																	
Metallurgical factors or assumptions	<p><b>Sokoroshe Processing at Kinsevereis</b></p> <ul style="list-style-type: none"> <li>The existing metallurgical process at Kinsevereis is a hydrometallurgical process involving grinding, tank leaching, counter-current decantation (CCD) washing, solvent extraction and electrowinning.</li> <li>The acid leach process has been operating successfully since start-up in September 2011.</li> <li>Copper recovery is determined by the equation:           <math display="block">Cu\ recovery\ (\%) = (0.963 * CuAS) / Cu</math>           where CuAS refers to the acid soluble copper content of the ore which is determined according to a standard test. The CuAS value has historically been around 80 to 90% of the total copper value though the exact percentage varies with the ore type. Much of the non-acid soluble copper is present in sulphides which are not effectively leached in the tank leaching stage.</li> <li>The reconciliation between expected and actual recovery is checked each month. The following table summarizes the outcomes for the last eight quarters.           <table border="1" data-bbox="414 1641 1169 1933"> <thead> <tr> <th rowspan="2">Period</th> <th colspan="2">Recovery of Acid Soluble Copper (%)</th> </tr> <tr> <th>Predicted</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Q3 2022</td> <td>96.3</td> <td>96.4</td> </tr> <tr> <td>Q4 2022</td> <td>96.3</td> <td>97.1</td> </tr> <tr> <td>Q1 2023</td> <td>96.3</td> <td>96.7</td> </tr> <tr> <td>Q2 2023</td> <td>96.3</td> <td>96.2</td> </tr> </tbody> </table> </li> <li>There are no known deleterious components of the ore at Sokoroshe.</li> <li>Total gangue acid consumption has been estimated based on the following equation <math>GAC\ (kg/t) = 33.823 \times \%Ca + 2.713 \times \%Mg + 2.8</math>.</li> </ul>	Period	Recovery of Acid Soluble Copper (%)		Predicted	Actual	Q3 2022	96.3	96.4	Q4 2022	96.3	97.1	Q1 2023	96.3	96.7	Q2 2023	96.3	96.2
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Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
	<ul style="list-style-type: none"> <li>For Ore Reserves, an Oxide processing capacity of approximately 2.4Mtpa of ore (2.3Mtpa 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.</li> </ul> <p><b>Kinsevere Expansion Project (KEP)</b></p> <ul style="list-style-type: none"> <li>The KEP study proposes to expand the current acid leach process to treat sulphide, transition and oxide ore, as well as recover cobalt. The KEP project is currently in construction with the Cobalt plant expected to be commissioned in last quarter of 2023 and the Sulphide plant planned to commence in quarter four 2024.</li> <li>Sokoroshe ore is predominantly Oxide with some significant Cobalt grades. The Kinsevere plant will soon employ the addition of Sodium Metabisulfite (SMBS) which will ensure cobalt recovery targets are achieved.</li> </ul> <p>The block flowsheet for Kinsvere is given below:</p> <p>The estimated plant recoveries are as follows:</p>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>																												
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	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f28b82; color: white;"> <th style="text-align: left;">Recovery Description</th> <th style="text-align: center;">Unit</th> <th style="text-align: left;">Comment</th> </tr> </thead> <tbody> <tr> <td>Sulphide Circuit Flot Copper Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small></td> <td style="text-align: center;">%</td> <td>Calc &gt;10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU &lt;10% ASCu/Tcu; the recovery = 94 -57 * ASCu/TCu</td> </tr> <tr> <td>Sulphide Circuit Flot Cobalt Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small></td> <td style="text-align: center;">%</td> <td>Calc &gt;10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU - 2% &lt;10% ASCu/Tcu; the recovery = 94 -57 * ASCu/TCu - 2%</td> </tr> <tr> <td>Oxide Circuit Flotation Copper Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small></td> <td style="text-align: center;">%</td> <td>Calc 72% * (CuT - ASCu)</td> </tr> <tr> <td>Oxide Circuit Flotation Cobalt Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small></td> <td style="text-align: center;">%</td> <td>30%</td> </tr> <tr> <td>Leach Copper Recovery <small>(Includes Recovery Losses)</small></td> <td style="text-align: center;">%</td> <td>98 Less Soluble Losses</td> </tr> <tr> <td>(Oxide Feed) Leach Cobalt Recovery <small>(Less Soluble Losses)</small></td> <td style="text-align: center;">%</td> <td>35 (70% Cobalt / Oxide only - i.e. 12 months prior to commissioning of the Sulphide plant)</td> </tr> <tr> <td>Roaster Recovery - Cu Conversion</td> <td style="text-align: center;">%</td> <td>95</td> </tr> <tr> <td>Roaster Recovery - Co Conversion</td> <td style="text-align: center;">%</td> <td>92.5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>▪ 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:             <ul style="list-style-type: none"> <li>– Planned Misallocation Modelling:                     <ul style="list-style-type: none"> <li>○ Sulphide Circuit where the Ratio CuAS / Cu &lt; 0.4</li> <li>○ Oxide Circuit where the Ratio CuAS / Cu &gt;= 0.4</li> </ul> </li> <li>– Operational Target:                     <ul style="list-style-type: none"> <li>○ Sulphide Circuit where the Ratio CuAS / Cu &lt; 0.2</li> <li>○ Oxide Circuit where the Ratio CuAS / Cu &gt;= 0.2</li> </ul> </li> </ul> </li> </ul>	Recovery Description	Unit	Comment	Sulphide Circuit Flot Copper Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small>	%	Calc >10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU <10% ASCu/Tcu; the recovery = 94 -57 * ASCu/TCu	Sulphide Circuit Flot Cobalt Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small>	%	Calc >10% ASCu/Tcu; the recovery = 96 - 94 * ASCu/TCU - 2% <10% ASCu/Tcu; the recovery = 94 -57 * ASCu/TCu - 2%	Oxide Circuit Flotation Copper Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small>	%	Calc 72% * (CuT - ASCu)	Oxide Circuit Flotation Cobalt Recovery <small>(Ratio&lt;0.4 / 0.2 - plan / target)</small>	%	30%	Leach Copper Recovery <small>(Includes Recovery Losses)</small>	%	98 Less Soluble Losses	(Oxide Feed) Leach Cobalt Recovery <small>(Less Soluble Losses)</small>	%	35 (70% Cobalt / Oxide only - i.e. 12 months prior to commissioning of the Sulphide plant)	Roaster Recovery - Cu Conversion	%	95	Roaster Recovery - Co Conversion	%	92.5
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Environmental	<ul style="list-style-type: none"> <li>▪ Geochemical analysis of mine waste material for Sokoroshe has not been done. However a prudent definition for PAF has been adopted whereby material with a Sulphur Grade greater than 0.2% and not in the CMN is classified as PAF waste. “Clean” waste is preserved for construction and rehabilitation requirements.</li> <li>▪ Surface water management plans for the short and medium term have been completed. Maintenance of infrastructure will continue throughout the 2023 dry season.</li> <li>▪ There is sufficient tailings storage at Kinsevere to accommodate tailings generated from processing Sokoroshe Ore.</li> </ul>																											
Infrastructure	<ul style="list-style-type: none"> <li>▪ The Kinsevere mine site is well established with the following infrastructure in place:             <ul style="list-style-type: none"> <li>– The Oxide processing plant is operational.</li> <li>– Labour is mostly sourced from Lubumbashi and surrounding villages with some expatriate support. There is an existing accommodation facility onsite.</li> <li>– There is sufficient water for the processing.</li> <li>– Copper cathode is transported off-site by truck.</li> <li>– Site has an access road that is partially sealed.</li> <li>– There is power supply from the national grid and from onsite generators.</li> <li>– The Ore Reserves do not require any additional land for expansion.</li> <li>– Tailings Storage Facility in place and future lifts are planned for.</li> </ul> </li> <li>▪ Grid power in country can be intermittent; mitigation management is through diesel-based power generation. Future grid power availability is forecast to improve.</li> </ul>																											

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Timely dewatering of the mining areas is an important aspect of mining operations.</li> </ul> <p><b>Kinsevere Expansion Project (KEP)</b></p> <ul style="list-style-type: none"> <li>▪ Tailings storage facility (sulphide tailings) including tailings and decant pipelines</li> <li>▪ Reagents storage and utilities; power, water, air, sewerage, etc. have all been designed and in the process of being re-established.</li> <li>▪ Operational buildings and services relocations</li> <li>▪ Roads and drainage upgrades</li> </ul>
Costs	<ul style="list-style-type: none"> <li>▪ Processing costs for Kinsevere is based on historic and forecast costs, with the exception of the contract mining costs and the Sulphide Processing Plant costs.</li> <li>▪ Mining costs are based on existing contract mining costs, tendered in early 2023.</li> <li>▪ Ore haulage costs from Sokoroshe to Kinsevere are based on contract haulage rates.</li> <li>▪ Transportation charges used in the valuation are based on the actual invoice costs that MMG are charged by the commodity trading company per an existing agreement.</li> <li>▪ Royalties' charges have been considered, approximating 6% of the Copper revenue and 10% of the Cobalt revenue.</li> <li>▪ The processing costs include calculated gangue acid consumption.</li> <li>▪ The final product contains no deleterious elements.</li> <li>▪ US dollars have been used thus no exchange rates have been applied.</li> <li>▪ Weathering profiles have been used to model in-pit blasting costs.</li> <li>▪ 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.</li> <li>▪ Sustaining capital costs have been included in the pit optimisation. The sustaining capital costs are principally related to the tailing's storage facility lift construction and the process plant(s).</li> <li>▪ A cash flow model was produced based on the mine and processing schedule and the aforementioned costs.</li> <li>▪ The Ore Reserve estimation has been based on the aforementioned costs.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>▪ For cost assumptions see section above – “Costs”</li> <li>▪ The assumed long-term copper and cobalt price is US\$3.92/lb and \$23.37/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.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Global copper consumption growth will continue to be underpinned by rising consumption in China and the developing countries in Asia as these nations</li> </ul>

<b>Section 4 Estimation and Reporting of Ore Reserves</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>invest in infrastructure such as power grids, commercial and residential property, motor vehicles and transportation networks and consumer appliances such as air conditioners.</p> <ul style="list-style-type: none"> <li>▪ 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 vehicle and related industries.</li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ 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. Cobalt Hydroxide sales will be conducted by the MMG Sales and Marketing team.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>▪ The costs are based on historic actuals and estimated Sulphide Plant feasibility study operating costs, the 2023 Kinsevere Budget and tendered contractor mining costs.</li> <li>▪ 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 (2023 to 2027) with a long-term forecast of \$3.92/lb Copper and \$23.37/lb Cobalt.</li> <li>▪ The Ore Reserves financial model demonstrates the mine has a positive NPV, assuming existing rehabilitation liability costs are treated as sunk.</li> <li>▪ 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.</li> <li>▪ Standard sensitivity analyses were undertaken for the Ore Reserve work and support that the Ore Reserve estimate is robust.</li> </ul>
Social	<ul style="list-style-type: none"> <li>▪ Following a successful preliminary ruling by the International Chamber of Commerce (ICC) Court of Arbitration and engagement with Gécamines, the armed forces that occupied Kinsevere's Sokoroshe II lease left the site on 20 December 2022. MMG commenced Preparatory works at Sokoroshe II pit in the second quarter of 2023, with a focus on pre-stripping.</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ Sokoroshe consists of one mining tenement or Permis d'Exploitation, PE538, with an area of 6 cadastral units (about 5.1 km<sup>2</sup>). The mineral rights of PE538 are held by La Générale des Carrierés et des Mines (Gécamines), the DRC state-owned mining company. MMG rights to the tenement are granted under the terms of the Mutoshi Swap Framework Agreement.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ 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 is 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.</li> </ul>

Section 4 Estimation and Reporting of Ore Reserves	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>▪ There are no Resource stockpiles at Sokoroshe.</li> <li>▪ The Ore Reserves do not include any Inferred Mineral Resources.</li> </ul>
Audit or Reviews	<ul style="list-style-type: none"> <li>▪ An external audit was completed in 2020 on the 2020 feasibility study. The work was carried out by AMC Consultants and subsequently by Nerin Institute of Technical Design. Whilst some minor improvements were suggested, no material issues were identified.</li> <li>▪ The next external Ore Reserves audit is planned for completion in 2024 on the 2023 Ore Reserves.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>▪ The most significant factors affecting confidence in the Ore Reserves are:               <ul style="list-style-type: none"> <li>– Mining Dilution and Ore Loss.</li> <li>– Existence of Karst features and impacts to mining Dilution and Ore Loss.</li> <li>– Increase in operating costs for mining</li> <li>– Geotechnical risk related to slope stability.</li> <li>– Effective management of surface water.</li> </ul> </li> </ul>

**7.3.3 Expert Input Table**

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 27.

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.

**Table 27: Contributing experts – Sokoroshe Mine Ore Reserves**

<b>EXPERT PERSON / COMPANY</b>	<b>AREA OF EXPERTISE</b>
Jeremy Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286), The MSA Group	Mineral Resources model
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 and capacity
Jason Duffin, Superintendent Business Evaluations and Business Improvements Operations, MMG Ltd	Economic Assumptions and evaluation
Hugues Munung, Environment and Social Performance, MMG Ltd (Kinsevere)	Environment and Social
Hong Yu, Head of Marketing, MMG Ltd (Beijing)	Marketing



### 7.3.4 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").

#### 7.3.4.1 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.

#### 7.3.4.2 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 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Dean Basile MAusIMM(CP) (#301633)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

Davron Lu (Melbourne, Victoria)

Witness Name and Residents:  
(eg, town/suburb)

## 8. Mwepu

### 8.1 Introduction and Setting

The Mwepu Project is located within lease PE1052 in Democratic Republic of Congo, DRC. From the Kinsevere copper (Cu) mine, the Project is located some 40km to the SW (Figure 8-1).

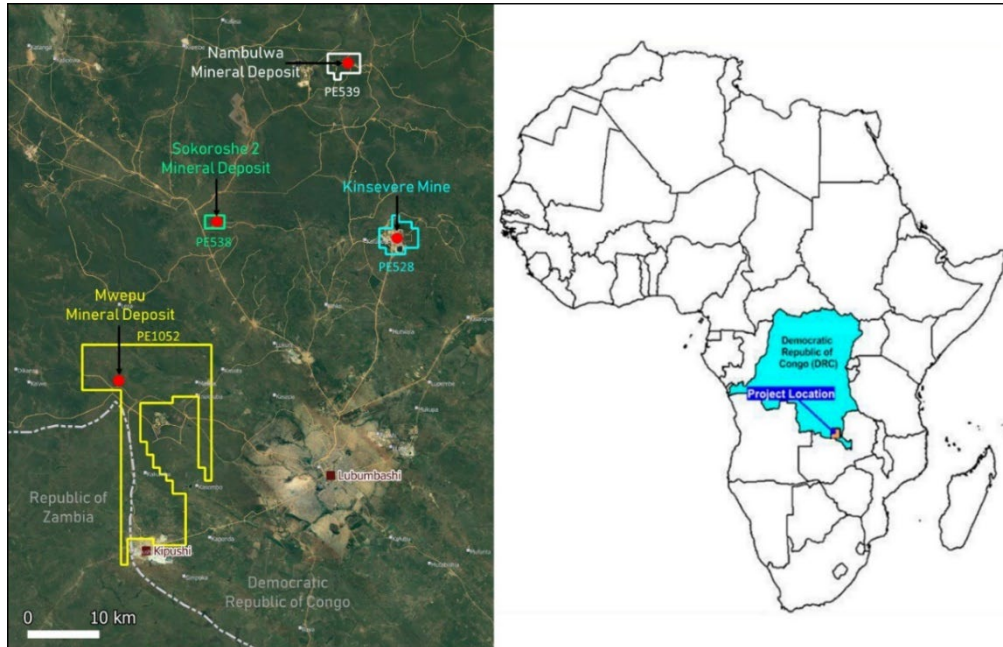


Figure 8-1 Mwepu project location

The lease belongs to the DRC state owned mining company Gécamines and was granted to MMG under an exploration agreement which became effective in March 2017. Under the exploration agreement, Gécamines undertook to sign an exploitation agreement for the deposits within the mining perimeters to the extent the feasibility study established profitability. MMG submitted the required study documentation to Gécamines in October 2021 however an exploitation agreement has not yet been concluded with Gécamines. MMG will continue to present its case to Gécamines for the future development of the lease.

## 8.2 Mineral Resources – Mwepu

### 8.2.1 Results

The 2023 Mwepu Mineral Resource is summarised in Table 28. There are no Ore Reserves for the Mwepu deposit.

Table 28: 2023 Mwepu Mineral Resource tonnage and grade (as at 30 June 2023)

Mwepu Mineral Resource							
	Tonnes (Mt)	Copper (% Cu)	Copper AS <sup>1</sup> (% Cu)	Cobalt (% Co)	Contained Metal		
					Copper (kt)	Copper AS <sup>1</sup> (kt)	Cobalt (kt)
<b>Mwepu Oxide Copper<sup>2</sup></b>							
Measured	0.4	2.0	1.4	0.2	7.3	5.1	0.6
Indicated	1.5	2.6	1.8	0.14	40	28	2.2
Inferred	0.38	2.3	1.6	0.02	9	5.9	0.1
<b>Total</b>	<b>2.3</b>	<b>2.4</b>	<b>1.7</b>	<b>0.12</b>	<b>56</b>	<b>39</b>	<b>2.8</b>
<b>Mwepu TMO Copper<sup>3</sup></b>							
Measured	0.05	1.3	0.4	0.13	0.7	0.2	0.1
Indicated	0.25	1.5	0.5	0.17	3.7	1.2	0.4
Inferred	0.10	1.9	0.6	0.03	1.9	0.5	0.0
<b>Total</b>	<b>0.40</b>	<b>1.6</b>	<b>0.5</b>	<b>0.13</b>	<b>6.2</b>	<b>2.0</b>	<b>0.5</b>
<b>Mwepu Oxide-TMO Cobalt<sup>4</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.08	0.59	0.25	0.40	0.45	0.19	0.30
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.08</b>	<b>0.59</b>	<b>0.25</b>	<b>0.40</b>	<b>0.45</b>	<b>0.19</b>	<b>0.32</b>
<b>Mwepu Primary Cobalt<sup>5</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.12	0.32	0.04	0.44	0.37	0.05	0.51
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.12</b>	<b>0.32</b>	<b>0.04</b>	<b>0.44</b>	<b>0.37</b>	<b>0.05</b>	<b>0.51</b>
<b>Combined Total</b>	<b>2.9</b>	<b>2.2</b>	<b>1.4</b>	<b>0.15</b>	<b>63</b>	<b>41</b>	<b>4.2</b>

<sup>1</sup> AS stands for Acid Soluble

<sup>2</sup> 0.7% Cu cut-off grade

<sup>3</sup> 1.0% Cu cut-off grade

<sup>4</sup> 0.3% Co cut-off grade

<sup>5</sup> 0.3% Co cut-off grade

All Mineral Resources except stockpiles are contained within a US\$4.71/lb Cu and US\$32.72/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.

**8.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria**

The following information provided in Table 29 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 29: JORC 2012 Code Table 1 Assessment and Reporting Criteria for the Mwepu Mineral Resources 2023

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Sampling techniques	<ul style="list-style-type: none"> <li>▪ A combination of 136 reverse circulation (RC) and diamond drillholes (DD) were completed at the Mwepu Main Project, including 8 new diamond drillholes completed in October 2022 to test the deeper portions on the deposit.</li> <li>▪ Two RC holes and one DD hole were re-drilled due to difficult drilling conditions. An additional RC hole was re-drilled in a different orientation to the original hole to test counter-dipping mineralisation.</li> <li>▪ Mineralized zones within the drill core were identified based on a combination of lithological, mineralogical, and alteration logging, along with systematic spot pXRF readings.</li> <li>▪ DD core was sampled nominally at 1m intervals within mineralized zones while unmineralized zones were generally sampled in 2m or 4m lengths. Sampling was carried out by longitudinally cutting PQ and HQ drill core using an Almonte automatic diamond saw. HQ drill core was cut into halves, with half-core retained for future reference. PQ drill core was quartered and sampled with three-quarters of the core retained for future reference.</li> <li>▪ RC drill cuttings were collected in 1m bulk samples from a rig mounted cyclone. Lithological and mineralogical logging, along with systematic spot pXRF readings, were used to differentiate mineralized and unmineralized zones. Samples from mineralized zones were manually riffle split every 1m to obtain a representative (~2.5kg) sample. Samples from unmineralized zones were riffle split and composited to 2m intervals. Wet samples were dried in ambient air before splitting and compositing.</li> <li>▪ 65 % of the samples were collected as 1m intervals and 20 % were collected as 2m intervals.</li> <li>▪ Samples were crushed, split and pulverised (&gt;85 % passing 75 µm) at the MMG preparation laboratory located at the MMG core yard facility in Lubumbashi. 100 grams of pulp material was sent to the SANAS accredited ALS Laboratories in Johannesburg.</li> <li>▪ The sample types, nature, quality and sample preparation techniques are considered appropriate for the nature of mineralization within the Project (sediment hosted base metal mineralization) by the Competent Person.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>▪ Diamond drilling: PQ and HQ core sizes with triple tube to maximize recovery. At the end of each drilling run the core was marked with an orientation mark by using a REFLEX ACE tool. An orientation line was then drawn along the axis of the core if two consecutive orientations marks could be aligned by docking core pieces.</li> <li>▪ Reverse circulation drilling: A hammer bit was used for drilling a 5.25-inch (133mm) diameter hole. The cyclone was manually cleaned at the start of each shift, after any wet samples and after each hole. Compressed air from the drilling machine was used to clean/blow out material from the RC rods, hoses, and cyclone after each rod.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
Drill sample recovery	<ul style="list-style-type: none"> <li>▪ Overall DD core recovery averaged 83% across the Project area. As expected, the recovery dropped in unconsolidated/highly weathered ground. Above 50m, core recovery averaged 80%, and below 50m, core recovery averaged 85%.</li> <li>▪ Actual vs. recovered drilling lengths were captured by the driller and an onsite rig technician using a measuring tape to 1cm accuracy. The core recoveries were calculated in a digital database during export.</li> <li>▪ Sample recovery during diamond drilling was maximized using the following methods:               <ul style="list-style-type: none"> <li>– Short drill runs (maximum 1.5m)</li> <li>– Using drilling additives, muds and chemicals to improve broken ground conditions.</li> <li>– Using the triple tube methodology in the core barrel.</li> <li>– Reducing water pressure to prevent washout of friable/unconsolidated material.</li> </ul> </li> <li>▪ Drilling rates varied depending on the actual and forecast ground conditions.</li> <li>▪ Core loss was recorded at the rig and assigned to intervals where visible loss occurred. Cavities were noted.</li> <li>▪ Bias due to core loss has not been determined.</li> <li>▪ RC cuttings recovery was measured by weighing each 1m sample bag immediately following collection from the cyclone.</li> <li>▪ Sample returns for RC drilling have been calculated by MMG to equate to 68 % recovery.</li> <li>▪ Sample recovery during RC drilling was maximized using the following methods:               <ul style="list-style-type: none"> <li>– Adjusting air pressures to the prevailing ground condition.</li> <li>– Using new hammer bits and replacing when showing signs of wear.</li> </ul> </li> </ul>
Logging	<ul style="list-style-type: none"> <li>▪ All drill samples (DD core and RC chips) were geologically logged using a GeoBank Mobile® interface and uploaded to a central Geobank® database.</li> <li>▪ Qualitative logging includes lithology, mineralization type, oxidation type, weathering type, colour and alteration types. Quantitative logging includes mineralization mineral percentage, alteration mineral percentage and in the case of core, RQD and structural data have been recorded.</li> <li>▪ All the core and chip samples were photographed both wet and dry.</li> <li>▪ 100% of core and chips have been logged with the above information.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>▪ DD core was split in half longitudinally (HQ size) or quartered (PQ size) using an Almonte automatic diamond saw.</li> <li>▪ Sample lengths were cut as close to nominal 1m intervals as possible while also respecting geological contacts. Samples were generally ~2.5kg in weight.</li> <li>▪ RC samples were collected from a cyclone every metre by a trained driller's assistant. If the sample was dry the sample was passed through a riffle splitter and a ~2.5kg split was 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 a larger poly-weave bag (bulk reject). The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<p>If the sample was wet, the sample was air dried before being split according to the above procedure.</p> <ul style="list-style-type: none"> <li>▪ For RC drilling, field duplicates were collected at a rate of approximately 5 % to ensure sampling precision was measured.</li> <li>▪ Samples from individual drillholes were sent in a single dispatch to the onsite MMG preparation laboratory at the MMG core yard facility in Lubumbashi.</li> <li>▪ Samples were received, recorded on the sample sheet, weighed, and dried at 105°C for 4 to 8 hours (or more), depending on dampness, at the sample preparation laboratory.</li> <li>▪ Samples were crushed and homogenized in a jaw crusher to &gt;70 % passing 2mm. The jaw crusher was cleaned with a barren quartz blank after every crushed sample.</li> <li>▪ The sample size was reduced to 1kg in a riffle splitter and pulverized in an LM2 pulveriser to &gt;85 % passing 75 microns. QC grind checks were carried out using wet sieving at 75 microns on 1 in 10 samples.</li> <li>▪ 100 grams of pulp material were sent to the SANAS accredited ALS Laboratories in Johannesburg.</li> <li>▪ Crush and pulp duplicates were submitted for QAQC purposes.</li> <li>▪ Certified reference materials (high, medium, and low copper grades) were also inserted and submitted to ALS for analysis at a rate of 3 per 30 samples.</li> <li>▪ The sample size is appropriate for the grain size and distribution of the minerals of interest.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ All samples were sent to ALS Chemex Laboratory in Johannesburg</li> <li>▪ Samples were analysed using a 4-acid digest with ICP MS finish. 48 elements were analysed in total.</li> <li>▪ Acid soluble copper assays were only performed when the total copper assay was greater than 1,000 ppm.</li> <li>▪ ~15% QAQC samples were incorporated, including blanks, duplicates (field, crush, and pulp) and certified reference material per sample analysis batch.</li> <li>▪ QAQC data have been interrogated with no significant biases or precision issues. Several acid soluble values of Cu and Co were higher than the total copper values. Lab investigations and re-analyses were completed – all issues were addressed, rectified and re-assay results accepted. Despite this, some acid soluble assays remained slightly higher than the total assays due to inherent laboratory precision. These were adjusted down to the total copper/cobalt assay for estimation purposes.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Significant intersections have been reviewed by competent MMG employees.</li> <li>▪ No twin drilling was completed.</li> <li>▪ Data are stored in a SQL database with a Geobank® interface.</li> <li>▪ No adjustments to assay data were made.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ Planned collar positions for both diamond drilling and RC drilling were located using handheld GPS devices to ±5m accuracy.</li> <li>▪ Post-drilling, actual collar positions were surveyed using DGPS (Geomax Zenith 25 Pro and Topcon Hiper II) and are of high accuracy.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ Grid system is in WGS84/UTM35S</li> <li>▪ The TN14 GYROCOMPASS™ was used to align the drill rig to the correct azimuth and dip angles.</li> <li>▪ Downhole surveys were done using the REFLEX EZ-TRAC survey instrument. Downhole surveys were not carried out on RC drillholes.</li> <li>▪ All survey data was approved by the site geologist and stored in the IMBEXHUB-IQ cloud.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ Drilling sections are spaced at nominally ~25m or ~100m. The drillhole sections increased to 170 m spacing in the far north and 90 m in the far south of the deposit. Down dip drill hole spacing is generally ~20 m or ~50 m.</li> <li>▪ 2m or 4m composites were taken in zones of no visual mineralization.</li> <li>▪ Nominal 1m samples were taken in zones of mineralization.</li> <li>▪ No other sample compositing has been undertaken.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ DD and RC drillholes were mainly drilled with dips of between -48° and -55° to intersect generally steeply dipping mineralization. Drilling azimuths were as close as practical to orthogonal to the mineralized trend.</li> <li>▪ In the view of the Competent Person, no bias has been introduced by the drilling direction.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Samples were transported from the field and delivered to the MMG sample processing facility in Lubumbashi for cutting and preparation. Polyethylene foam, tarpaulins, and cargo nets were used to secure the load and to avoid possible shifting of core during transport.</li> <li>▪ RC chip sampling was conducted in the field. Chip samples were packed in a labelled plastic bag along with a labelled plastic ID tag.</li> <li>▪ The plastic bag was tied with cable ties to secure the sample and to prevent contamination.</li> <li>▪ A set of 15 samples were packed into labelled poly-weave bags, ready to be shipped from the field to the MMG sample preparation laboratory in Lubumbashi.</li> <li>▪ Field packing documents and sample sheets were prepared and sent together with the core trays and poly-weave bags to the MMG sample preparation laboratory in Lubumbashi.</li> <li>▪ After sample preparation, bar-coded envelopes of 100-200g of pulp for each sample were inserted into envelopes before packed into boxes. Approximately 40 envelopes were packed into boxes, labelled with dispatch ID and laboratory destination to be sent by DHL courier to ALS Chemex in Johannesburg.</li> <li>▪ Two sets of duplicate pulps of 100-200g were inserted into labelled boxes of ~40 envelopes each to be stored on site in storage containers.</li> <li>▪ The shipment of pulps from Lubumbashi to ALS laboratories was by DHL Courier services with waybill number for tracking.</li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>▪ No external audits or reviews of sampling techniques and data have been conducted.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Commentary</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The Mwepu Project is located within lease PE1052 in the DRC.</li> <li>▪ The lease belongs to the DRC state owned mining company Gécamines and was granted to MMG under an exploration agreement which became effective in March 2017. Under the exploration agreement, Gécamines undertook to sign an exploitation agreement for the deposits within the mining perimeters to the extent the feasibility study established profitability. MMG submitted the required study documentation to Gécamines in October 2021 however an exploitation agreement has not yet been concluded with Gécamines. MMG will continue to present its case to Gécamines for the future development of the lease.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>▪ Union Miniere (UMHK) first explored the Mwepu Project in 1925, attempting to define the stratigraphy and the tectonic framework of the area.</li> <li>▪ In 1966, UMHK produced a sketch geology map at 100,000 scale of a region which included the Mwepu tenement. This survey identified the presence of an NW trending anticline, comprised of Roan Group stratigraphy.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>▪ Sedimentary hosted copper and cobalt.</li> <li>▪ Mineralization is hosted by the Neoproterozoic Katanga Supergroup within the R3 (Kansuki formation) stratigraphy.</li> <li>▪ Copper mineralization is both lithologically and structurally controlled and occurs predominantly within weathered dolomites and breccia.</li> <li>▪ The Mwepu deposit occurs at top the Roan Group of the Katanga Supergroup, in the axial plane of an overturned synclinal fold which is orientated north-west. Mwepu is a steeply dipping copper-cobalt oxide deposit.</li> <li>▪ Copper and cobalt mineralisation is believed to occur in fractures possibly associated with the fold axis, and in close association to iron alteration zones or ironstones within the stratigraphy.</li> <li>▪ Oxide copper mineralogy includes malachite and copper bearing clays. Oxide cobalt is often associated with Mn-Fe rich clays.</li> <li>▪ Sulphide copper mineralogy includes chalcocite with minor chalcopyrite and bornite. Sulphide mineralisation occurs below the base of oxidation and does not contribute significantly to the copper resource.</li> </ul>
Drill hole information	<ul style="list-style-type: none"> <li>▪ The Mwepu database consists of 73 DD (13,347m) and 63 RC (7,653m) holes. No individual drillhole is material to the Mineral Resource estimate and therefore a geological database is not supplied.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>▪ This is a Mineral Resource Statement and is not a report on exploration results, therefore no additional information is provided for this section.</li> </ul>
Relationship between mineralisation width and intercept lengths	<ul style="list-style-type: none"> <li>▪ Mineralisation true widths are defined by modelled 3D wireframes based on mineralised intercepts.</li> <li>▪ The mineralisation is sub-vertically dipping. Drilling orientations, relative to the geometry of mineralisation, are designed to be as perpendicular as practicably achievable. A minor mineralised zone dips 50° to the southwest and has been intersected at a low angle by drilling; the uncertainty of which has been considered in the Mineral Resource classification.</li> </ul>



Section 2 Reporting of Exploration Results

Criteria	Commentary																				
Diagrams	<p><b>PE1052 MWEPU PROJECT</b></p> <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>● RC &amp; DD Drillholes</li> <li>▨ Historical Artisanal Pit</li> <li>▭ PE1052 Tenement Boundary</li> <li>— Geological Interpreted Structures</li> </ul> <p><b>Geological stratigraphy</b></p> <table border="1"> <tr> <td>Kundelungu</td> <td>Kamoya</td> </tr> <tr> <td>Lusele</td> <td>Kansuki</td> </tr> <tr> <td>Kyandamu</td> <td>Mofya</td> </tr> <tr> <td>Monwezi</td> <td>RGS</td> </tr> <tr> <td>Katete</td> <td>Kambove</td> </tr> <tr> <td>Kipushi</td> <td>SD</td> </tr> <tr> <td>Kaponda - Kakontwe</td> <td>Kamolo</td> </tr> <tr> <td>Mwale</td> <td>GRAT</td> </tr> <tr> <td>Kanzadi</td> <td>RRAT</td> </tr> <tr> <td>Kafubu</td> <td></td> </tr> </table> <p>Collar locations for Mwepu resource delineation drilling.</p> <p>Mwepu copper (red) &amp; cobalt (blue) grade shells. The red line designated A – A' is the location of the cross section shown in the figure below.</p>	Kundelungu	Kamoya	Lusele	Kansuki	Kyandamu	Mofya	Monwezi	RGS	Katete	Kambove	Kipushi	SD	Kaponda - Kakontwe	Kamolo	Mwale	GRAT	Kanzadi	RRAT	Kafubu	
Kundelungu	Kamoya																				
Lusele	Kansuki																				
Kyandamu	Mofya																				
Monwezi	RGS																				
Katete	Kambove																				
Kipushi	SD																				
Kaponda - Kakontwe	Kamolo																				
Mwale	GRAT																				
Kanzadi	RRAT																				
Kafubu																					

Section 2 Reporting of Exploration Results	
Criteria	Commentary
Balanced reporting	<ul style="list-style-type: none"> <li>All drill holes and assay results have been considered in the construction of low- and high-grade domains for the Mwepu Mineral Resource estimate.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Airborne Geophysics – Xcalibur high resolution airborne magnetics and radiometrics were flown in 2017. In 2019, some orientation ground geophysical campaigns including IP, Gravity and Passive Seismic were carried out over the Mwepu tenement mainly in the eastern part of the tenement (Karavia East/Niamumenda prospects). 3D inversion EM data were sourced from a neighbouring mining company (Kalumines). All these data were integrated and interpreted to provide detailed structural and geological information as well as assisting in the identification of drill targets.</li> <li>Geological mapping was conducted in 2018 and 2019. Mapping results outlined the presence of the geologically prospective rock units (Kansuki and Mines (R2) Subgroup) that are the main host rock to the Cu-Co mineralization. These units are in the core of a steeply dipping anticline striking NW-SE. Younger lithologies were also noted from the Nguba and Kundelungu Formations.</li> <li>Surface geochemistry (Soil sampling) on 200m x 200m grid and a 200m by 100m grid was completed in 2018, which identified copper and cobalt anomalous zones within the tenement.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>Further exploration activities have been completed comprising infill drilling to improve confidence levels of the Mineral Resource.</li> <li>Further work, including geotechnical drilling to assess pit wall characteristics for mine planning and studies to evaluate economic viability.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The MMG Exploration database systems are SQL server and GeoBank management software. All geological and analytical data are managed in MMG's Corporate Geoscience Database. GIS data are stored in secure shared folders on the Lubumbashi server.</li> <li>▪ All data capture via GM logging profiles having strong internal validation criteria. The technician/geologist conducts first validation steps by checking intervals, description and accuracy of records on their respective Toughbooks®.</li> <li>▪ Validation rules are predefined in each of the database tables. Only valid codes get imported into the database.</li> <li>▪ The sampling and geochemical data are stored in a local version of SQL database that gets replicated to a similar version on the Head Office server with daily, weekly and monthly backups.</li> <li>▪ Mineral Resource estimation carried out a validation process consisting of:                         <ul style="list-style-type: none"> <li>– Examining the sample assay, collar survey, downhole survey and geology data to ensure that the data were complete for all of the drillholes.</li> <li>– Examining the desurveyed data in three dimensions to check for spatial errors.</li> <li>– Examination of the assay data to ascertain whether they are within expected ranges, including checks for acid soluble values greater than the corresponding total assay value.</li> <li>– Checks for "FROM-TO" errors, to ensure that the sample data did not overlap one another or that there were no unexplained gaps between samples.</li> <li>– Checks for excessive mineralised sample lengths.</li> <li>– Checks for unsampled drillholes.</li> </ul> </li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The Competent Person, Mr Jeremy Witley, visited the Mwepu pit on 27 July 2022 where the mineralisation and geology were observed.</li> <li>▪ The MMG exploration core preparation and storage facility were visited on 28 July 2022, where a selection of mineralised cores were inspected.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ There is a moderate to high degree of confidence in the lithological model and geological setting.</li> <li>▪ Grade shells have been constructed between the Upper Kansuki and the Middle Kansuki where subvertical fracture hosted mineralisation predominates.</li> <li>▪ A 0.4 % total copper threshold was used for the copper grade shells and a 0.08 % total cobalt threshold was used for the cobalt grade shells. These thresholds allowed for continuity of mineralisation from one drilling section to the next. The mineralisation is generally extrapolated to 15 m down dip from the nearest drillhole intersection.</li> <li>▪ An alternative interpretation for the third copper mineralised fracture may exist, however more exploration would need to be carried out to gain better understanding in this area.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>▪ Strike length is approximately 1,055m.</li> <li>▪ The modelled copper mineralisation is between approximately 2m and 50m wide.</li> </ul>

Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Commentary
	<ul style="list-style-type: none"> <li>▪ Mineralisation occurs between 5m to 30m below surface along most of the strike length, with it outcropping in some locations, especially to the north and is deeper to the south. The mineralisation extends from 45m to 220m below surface.</li> <li>▪ A high-grade zone is identified around an elevation of 1,300 m, approximately 110m below surface.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ Leapfrog Geo was used for wireframe modelling. Datamine Studio RM was used for block model grade estimation.</li> <li>▪ A 0.4% total copper threshold was used for the copper grade shells and a 0.08% total cobalt threshold was used for the cobalt grade shells.</li> <li>▪ Data were composited to 2m lengths for grade estimation.</li> <li>▪ Grade estimation was completed using ordinary kriging for total copper, cobalt, acid soluble ratios for copper and cobalt. Inverse distance weighting was used for Ca, Mg, Mn and S.</li> <li>▪ MSA sub-domained the southern copper and cobalt mineralised domains (Domains 1 and 2) by the base of the calcium depletion surface. Domains 3 for copper and cobalt were not sub-domained by the leached calcium surface. Therefore, five mineralisation domains were used for copper and cobalt.</li> <li>▪ Top caps were applied to outliers per domain.</li> <li>▪ The wireframe models were filled within a rotated block model (320 degrees about Z), with parent cells of 5mX by 20mY by 10mZ. The parent cells were split to sub-cells to a minimum of 1mX by 1mY by 1mZ. The blocks were rotated to align with the mineralisation trend.</li> <li>▪ A minimum of 8 and a maximum of 16 composites, with a maximum of 6 composites from a single drillhole were found to be optimal for estimation of total copper and cobalt grades through several trials.</li> <li>▪ Search ellipses were based on variogram ranges and were aligned parallel to the relevant wireframes.</li> <li>▪ A similar neighbourhood was used in the estimation of total copper and cobalt as well as the acid soluble ratios. A limit on the number of composites from a single drillhole was not applied when estimating acid soluble ratios due to lesser data.</li> <li>▪ Each lithological and grade shell wireframe was filled and coded for zonal estimation of Cu, CuAS, Co, CoAS, Ca, Mg, Mn and S.</li> <li>▪ Calcium and magnesium showed a good correlation with each other. Thus, Ca and Mg were estimated using the same domains. Manganese was also estimated using the same domains because elevated manganese grades appear to be restricted to the low calcium zone.</li> <li>▪ Acid soluble copper showed good correlation to the total copper assay. The oxidation of rocks has been observed to be along mineralisation fractures, and acid soluble ratio wireframes were created independent of soluble ratios in the waste domain at an acid soluble ratio threshold of 0.5. The soluble wireframes were used to control the soluble ratio estimation.</li> <li>▪ Sulphur estimates used the sulphur wireframe constructed at a threshold of 0.08 % to domain the sulphur leached zone.</li> <li>▪ All estimates used hard boundaries within relevant wireframe boundaries.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ A waste model was created that extended outside the mineralisation to enable pit planning.</li> <li>▪ No SMU was considered.</li> <li>▪ The block model grade was compared to drillhole data visually, statistically and by comparing average grades of the drillhole data and model in 25m slices through the deposit.</li> <li>▪ No reconciliation data were available.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ Estimated tonnes are on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ The Oxide Mineral Resource has been reported above an acid soluble copper cut-off grade of 0.7% and an acid soluble to total copper ratio greater than or equal to 0.5.</li> <li>▪ The transitional and mixed ore (TMO) Mineral Resource has been reported above a total copper cut-off grade of 1.0% and an acid soluble to total copper ratio between 0.2 and 0.5.</li> <li>▪ The cobalt resource (mineralisation outside the copper zones) was reported at a cut-off grade of 0.3% for Oxide-TMO and 0.3% Co for Sulphide.</li> <li>▪ The reported Mineral Resources have been constrained within a US\$4.71/lb Cu and US\$32.72/lb Co Whittle optimised pit shell. The reported cut-off grade and the pit-shell price assumptions are in line with MMG's policy for reporting of Mineral Resources based on reasonable prospects for eventual economic extraction.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ The mining method is assumed to be open pit with trucks and excavators</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ Preliminary metallurgical tests have been conducted and results indicate similar recoveries to those used in the Kinsevere Expansion Project (KEP) for CuAS and Co. However, at Mwepu, the non-CuAS component is comprised of copper hosted in clays, Mn-Fe WAD, silicates and sulphides. As such, recovery of the non-CuAS component is complex. Further met test work is currently being undertaken to optimise recovery of the non CuAS.</li> <li>▪ At this early stage of project development, metallurgical recovery assumptions are based on KEP recoveries. This is subject to change as additional metallurgical test work is completed and as ore body understanding improves.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Environmental factors include increased land surface disturbance and the required rehabilitation for this site, including final pit excavation and waste rock storage. All ore piles are expected to be transported to Kinsevere for treatment.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ A total of 888 bulk density measurements were undertaken within specific lithological units and on mineralised intersections.</li> <li>▪ Bulk density was completed using the Archimedes method, with samples dipped in molten wax to prevent water absorption.</li> <li>▪ In-situ bulk density values were assigned to the block model based on stratigraphy and weathering.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ Areas drilled at approximately 25 m grid were classified as Measured Resource. This is towards the north.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Commentary</b>
	<ul style="list-style-type: none"> <li>▪ The model was classified as Indicated Mineral Resources where the grid spacing of mineralised intersections is 50 m and less. Indicated Mineral Resources were extended 25 m along strike for the drilled sections.</li> <li>▪ The model was classified as Inferred Mineral Resources where the drillhole sections are spaced less than 100 m apart. Inferred Mineral Resources were extrapolated a maximum of 50 m from the nearest drillhole.</li> <li>▪ The area below the base of calcium leaching surface in the south forms a separate domain and was classified as Inferred due to limited amounts of data in this domain.</li> <li>▪ The third copper domain in the south (the counter dipping domain) was classified as Inferred.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>▪ No external audits or reviews of this Mineral Resource estimate have been undertaken, aside from checks by the Competent Person.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>▪ The Mwepu mineralisation is highly variable, this is observed in the data and in variogram models with most of the semi-variance being modelled between 20 m and 30 m.</li> <li>▪ The Measured Resource is informed by a drill grid of approximately 30 m, and the Indicated Mineral Resources are informed by a drill grid of up to 50 m spacing. The Inferred Mineral Resources are informed by drilling and extrapolation is minimal. Mineral Resources informed by sparse drilling are considered to be low confidence estimates that may change significantly with additional data. It cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated Mineral Resource as a result of continued exploration.</li> <li>▪ Inferred Mineral Resources are not suitable for detailed technical and economic evaluation.</li> <li>▪ Although block model estimates have been carried out, local estimates are likely to be inaccurate for Inferred Mineral Resources.</li> </ul>

### 8.2.3 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").

#### 8.2.3.1 Competent Person Statement

I, Jeremy Charles Witley, confirm that I am the Competent Person for the Mwepu 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 (Membership No. 60286) and I am a Registered Professional Natural Scientist (Geological Science) with the South African Council for Natural Scientific Professions (SACNASP) – Reg No 400181/05.
- I have reviewed the relevant Mwepu Mineral Resource section of this Report to which this Consent Statement applies.

I am a full-time employee of The MSA Group (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 Mwepu 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 the supporting documentation relating to the Mwepu Mineral Resources.

#### 8.2.3.2 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 Mwepu Mineral Resources - I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Jeremy Charles Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286)

*This signature was scanned for the exclusive use in this document – the MMG Mineral Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

Signature of Witness:

Date:

Wony Diergaardt (Johannesburg North, South Africa)

Witness Name and Residents:  
(eg, town/suburb)

## 9. Nambulwa / DZ

### 9.1 Introduction and Setting

The Nambulwa and Diazenza (DZ) Projects are located on the license PE539 in Democratic Republic of Congo, DRC. The tenement was acquired by MMG as part of the Anvil Mining acquisition in 2012. From the Kinsevere copper (Cu) mine, the Projects are located some 30km to the NNW (Figure 9-1).

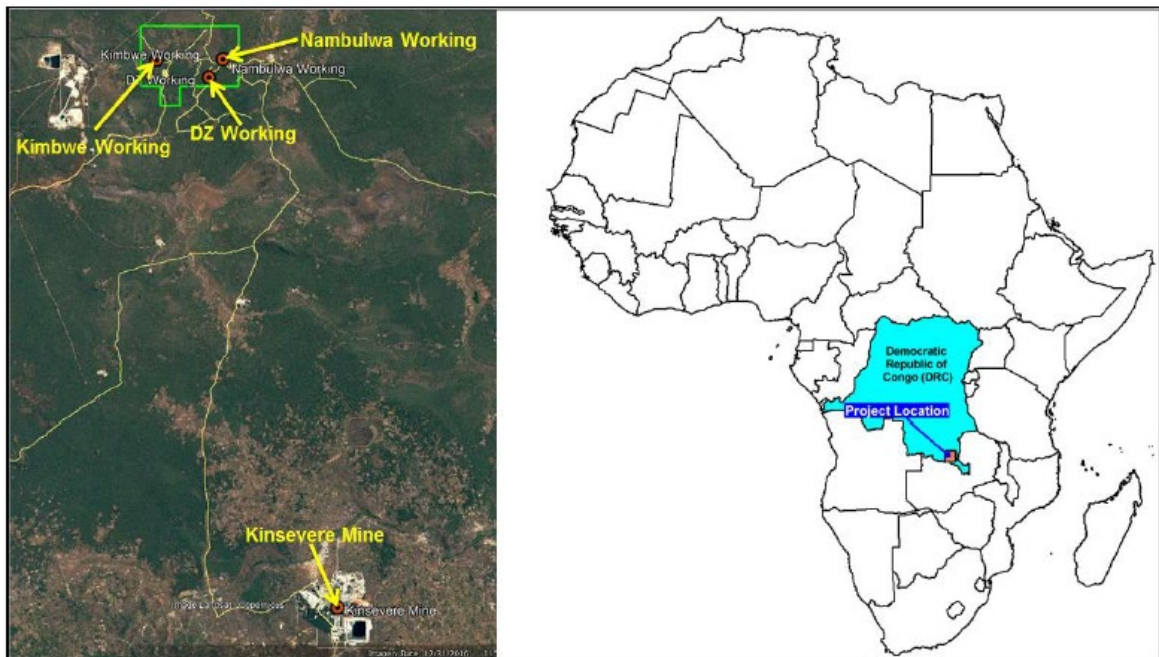


Figure 9-1 Nambulwa and DZ project location

MMG began exploring tenement PE539 in 2014 with regional to semi-regional exploration work including geological mapping, surface geochemistry, airborne geophysical survey (magnetics, radiometrics, and EM).

On 16 September 2022, armed forces who claimed that the government-owned mining company Gécamines has signed a research contract for the area with a third party even though MMG has a registered interest over the lease. MMG's employees and contractors were evacuated from the site on 23 September 2022. With the support of local authorities, MMG people were able to return to the site and continue work from 28 September 2022, however the armed forces remain at the site.

MMG continues to make formal requests to both Gécamines and the DRC Ministry of Mines for Gécamines to withdraw the new agreements with third parties, and to remove the armed forces and third parties from the sites, in order for MMG to continue its works. Gécamines has purported to suspend, or allege the breach of, agreements held by MMG on the Sokoroshe 2, Nambulwa and Mwepu sites that MMG contests.



## 9.2 Mineral Resources – Nambulwa / DZ

### 9.2.1 Results

The 2023 Nambulwa/DZ Mineral Resources are summarised in Table 30. There are no Ore Reserves for Nambulwa/DZ deposits.

Table 30: 2023 Nambulwa/DZ Mineral Resources tonnage and grade (as at 30 June 2023)

Nambulwa and DZ Mineral Resources							
	Tonnes (Mt)	Contained Metal					
		Copper (% Cu)	Copper AS <sup>1</sup> (% Cu)	Cobalt (% Co)	Copper (kt)	Copper AS <sup>1</sup> (kt)	Cobalt (kt)
<b>Nambulwa Oxide Copper<sup>2</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	1.2	2.2	2.0	0.1	26	24	1.3
Inferred	0.1	1.7	1.5	0.1	2.1	1.8	0.1
<b>Total</b>	<b>1.3</b>	<b>2.1</b>	<b>1.9</b>	<b>0.1</b>	<b>28</b>	<b>25</b>	<b>1.4</b>
<b>Transition Mixed Ore (TMO) Copper<sup>3</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.02	3.3	1.3	0.18	0.55	0.22	0.03
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.02</b>	<b>3.30</b>	<b>1.31</b>	<b>0.18</b>	<b>0.55</b>	<b>0.22</b>	<b>0.03</b>
<b>Nambulwa Oxide-TMO Cobalt<sup>4</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.02	3.3	1.3	0.18	0.55	0.22	0.03
Inferred	-	-	-	-	-	-	-
<b>Total</b>	<b>0.02</b>	<b>3.3</b>	<b>1.3</b>	<b>0.18</b>	<b>0.55</b>	<b>0.22</b>	<b>0.03</b>
<b>DZ Oxide Copper<sup>2</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	1.0	1.8	1.6	0.12	18	16	1.2
Inferred	0.05	1.9	1.7	0.11	0.97	0.85	0.06
<b>Total</b>	<b>1.1</b>	<b>1.8</b>	<b>1.6</b>	<b>0.12</b>	<b>19</b>	<b>17</b>	<b>1.3</b>
<b>DZ Oxide-TMO Cobalt<sup>4</sup></b>							
Measured	-	-	-	-	-	-	-
Indicated	0.34	0.23	0.15	0.27	0.76	0.51	0.92
Inferred	0.01	0.13	0.07	0.25	0.02	0.009	0.03
<b>Total</b>	<b>0.35</b>	<b>0.22</b>	<b>0.15</b>	<b>0.27</b>	<b>0.78</b>	<b>0.52</b>	<b>0.95</b>
<b>Combined</b>							
<b>Total</b>	<b>2.7</b>	<b>1.8</b>	<b>1.6</b>	<b>0.1</b>	<b>49</b>	<b>43</b>	<b>3.7</b>

<sup>1</sup> AS stands for Acid Soluble

<sup>2</sup> 0.6% CuAS cut-off grade

<sup>3</sup> 0.9% Cu cut-off grade

<sup>4</sup> 0.2% Co cut-off grade

All Mineral Resources except stockpiles are contained within a US\$4.71/lb Cu and US\$32.72/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.

9.2.2 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 31 complies with the 2012 JORC Code requirements specified by “Table-1 Section 1-3” of the Code.

Table 31: JORC 2012 Code Table 1 Assessment and Reporting Criteria for Nambulwa/DZ Mineral Resources 2023

Section 1 Sampling Techniques and Data	
Criteria	Explanation
Sampling techniques	<ul style="list-style-type: none"> <li>▪ The Mineral Resources uses a combination of reverse circulation (RC) and diamond drilling (DD) to inform the estimates. At DZ, aircore drilling was used to help define near surface Cu-oxide but the data from aircore drillholes were not used in estimation.</li> <li>▪ Mineralised zones within the drill core were identified based on combined parameters, including lithological and alteration logging, mineralogical logging and systematic spot pXRF readings. DD core was sampled nominally at 1m intervals within mineralised zones while unmineralised zones were sampled at 2m or 4m intervals. Sampling was carried out by longitudinally cutting PQ and HQ drill core using an Almonte automatic diamond saw and sampling half-core, with half-core retained for future reference. PQ drill core was quartered and sampled. Three-quarters of the core was retained for future reference.</li> <li>▪ RC drill cuttings were collected in 1m bulk samples from a rig mounted cyclone. Lithological and mineralogical logging, supported by systematic spot pXRF readings, were used to identify mineralised and unmineralised zones in the RC chips. Samples from mineralised zones were riffle split every 1m to obtain a representative (~2.5kg) sample. Samples from unmineralised zones were riffle split and composited to 2m intervals. Wet samples were dried in ambient air before splitting and compositing.</li> <li>▪ Air core (AC) drill cuttings were collected in 1m bulk samples from a rig mounted cyclone. Samples from zones of mineralisation were riffle split to obtain a representative (~2.5kg sample). Samples from visually unmineralised, lithologically similar zones were riffle split and composited to 3m sample intervals (~2.5kg weight). Wet samples were dried in ambient air before splitting and compositing.</li> <li>▪ Overall, 54% of the samples were less than 2m, with mineralised samples taken at nominal 1m intervals.</li> <li>▪ Samples were crushed, split and pulverised (&gt;85% passing 75 µm) at an onsite MMG laboratory at the MMG core yard facility in Lubumbashi. 100 grams of pulp material was sent to the SANAS accredited ALS Laboratories in Johannesburg.</li> <li>▪ The sample types, nature, quality and sample preparation techniques are considered appropriate for the nature of mineralisation within the Project (sediment hosted base metal mineralisation) by the Competent Person.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>▪ DD: PQ and HQ sizes, with triple tube core barrel to maximise recovery. At the end of each drilling run the core was marked with an orientation mark by using a REFLEX ACE tool. An orientation line was then drawn along the axis of the core if two consecutive orientations marks could be aligned by docking core pieces.</li> <li>▪ AC drilling: A blade bit was used for drilling a 3.23-inch (82mm) hole. The cyclone was manually cleaned at the start of each shift, after any wet samples,</li> </ul>

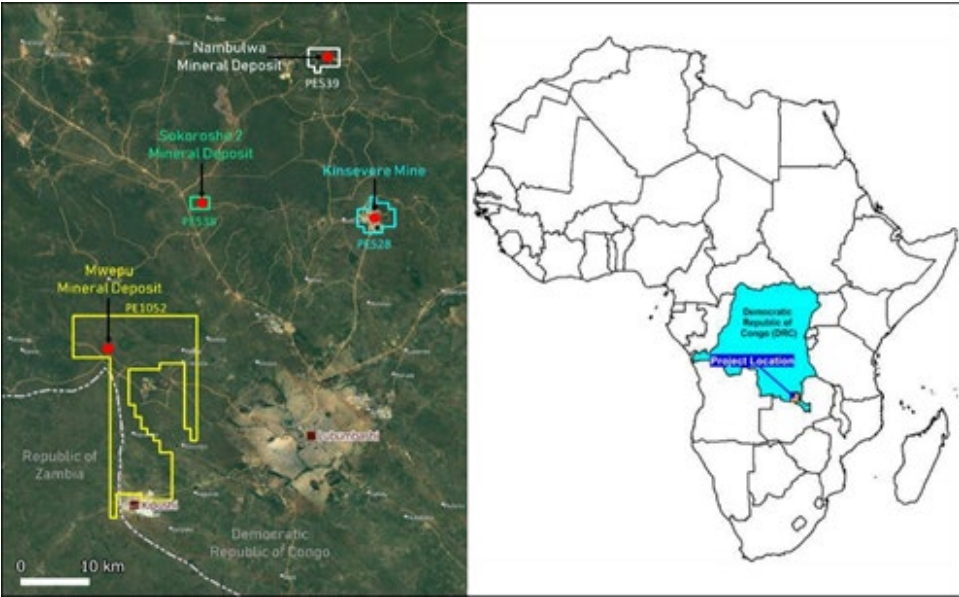
<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Explanation</b>
	<p>and after each hole. Compressed air from the drilling machine was used to clean/blow out material from the AC rods, hoses, and cyclone after each rod.</p> <ul style="list-style-type: none"> <li>▪ RC drilling: A hammer bit was used for drilling a 5.25-inch (133mm) diameter hole. The cyclone was manually cleaned at the start of each shift, after any wet samples, and after each hole. Compressed air from the drilling machine was used to clean/blow out material from the RC rods, hoses, and cyclone after each rod.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>▪ Overall DD core recovery averaged 83% across the Project area. As expected, the recovery dropped in unconsolidated/highly weathered ground. Above 50m, core recovery averaged 85%, and below 100m, core recovery averaged 89%.</li> <li>▪ Actual versus recovered drilling lengths were captured by the driller and an on-site rig technician using a tape measure. Measured accuracy was to 1cm. The core recoveries were calculated during the database exports.</li> <li>▪ Sample recovery during diamond drilling was maximised using the following methods: <ul style="list-style-type: none"> <li>– Short drill runs (~50cm)</li> <li>– Using drilling additives, muds and chemicals to improve broken ground conditions.</li> <li>– Using the triple tube core barrels.</li> <li>– Reducing water pressure to prevent washout of friable material.</li> </ul> </li> <li>▪ Drilling rates varied depending on the actual and forecast ground conditions</li> <li>▪ Core loss was recorded through the core and assigned to intersections where visible loss occurred. Cavities were noted.</li> <li>▪ Bias due to core loss has not been determined.</li> <li>▪ RC and AC cuttings recovery was measured by weighing each 1m sample bag immediately following collection from the cyclone.</li> <li>▪ Sample returns for RC and AC drilling have been calculated at 62% and 63% respectively.</li> <li>▪ Sample recovery during RC drilling was maximized using the following methods: <ul style="list-style-type: none"> <li>– Adjusting air pressures to the prevailing ground condition.</li> <li>– Using new hammer bits and replacing when showing signs of wear.</li> </ul> </li> </ul>
Logging	<ul style="list-style-type: none"> <li>▪ DD core, RC chips and AC chips have been geologically logged and entered into the MMG database (Geobank®). The level of detail supports the estimation of Mineral Resources. Additional geotechnical logging is required for further studies of the deposit.</li> <li>▪ Qualitative logging includes lithology, mineralisation type, oxidation type, weathering type, colour and alteration types. Quantitative logging includes mineralisation mineral percentage, alteration mineral percentage and in the case of core, RQD and structural data have been recorded.</li> <li>▪ All the core and chip samples were photographed both wet and dry.</li> <li>▪ 100% of core and chips have been logged with the above information.</li> </ul>
Sub-sampling techniques and	<ul style="list-style-type: none"> <li>▪ DD core was split in half longitudinally (HQ size) or quartered (PQ size) using an Almonte automatic diamond saw.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Explanation</b>
sample preparation	<ul style="list-style-type: none"> <li>▪ Sample lengths were cut as close to nominal 1m intervals as possible while also respecting geological contacts. Samples were generally ~2.5kg in weight.</li> <li>▪ RC and AC samples were collected from a cyclone every metre by a trained driller's assistant. If the sample was dry the sample was passed through a riffle splitter and a ~2.5kg split was 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 (bulk reject). The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet. If the sample was wet, the sample was air dried before being split according to the above procedure.</li> <li>▪ For RC and AC methods, field duplicates were inserted at a rate of approximately 5% to ensure sampling precision was measured.</li> <li>▪ Samples from individual drillholes were sent in a single dispatch to the MMG laboratory at the MMG core yard facility in Lubumbashi.</li> <li>▪ Samples were received, recorded on the sample sheet, weighed, and dried at 105°C for 4 to 8 hours (or more) depending on dampness at the sample preparation laboratory.</li> <li>▪ Samples were crushed and homogenised in a jaw crusher to &gt;70% passing 2mm. The jaw crusher was cleaned with a barren quartz blank after every crushed sample.</li> <li>▪ The sample size was reduced to 1000g in a riffle splitter and pulverised in an LM2 pulveriser to &gt;85% passing 75µm. QC grind checks were carried out using wet sieving at 75µm on every 1 in 10 samples.</li> <li>▪ 100 grams of pulp material were sent to the SANAS accredited ALS Laboratories in Johannesburg.</li> <li>▪ Crush and pulp duplicates were submitted for QAQC purposes.</li> <li>▪ Certified reference material was also inserted and submitted to ALS for analysis at a rate of 1 of each high, medium, and low copper grade per 30 samples.</li> <li>▪ The sample size is appropriate for the grain size and distribution of the minerals of interest.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>▪ All samples were sent to ALS Chemex Laboratory in Johannesburg</li> <li>▪ Samples were analysed using a 4-acid digest with ICP MS finish. 48 elements were analysed in total.</li> <li>▪ Acid soluble copper assays were only performed when the total copper assay was greater than 1,000 ppm.</li> <li>▪ ~15% QAQC samples were incorporated, including blanks, duplicates (field, crush, and pulp) and certified reference material per sample analysis batch.</li> <li>▪ QAQC data has been interrogated with no significant biases or precision issues.</li> <li>▪ No geophysical tools, spectrometers, or portable XRF instruments have been used for estimation purposes.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>▪ Significant intersections have been reviewed by competent MMG employees.</li> <li>▪ No twin drilling was completed.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Explanation</b>
	<ul style="list-style-type: none"> <li>▪ Primary data is stored in a Geobank® database, which is maintained according to MMG database protocols. Data is logged, entered and verified in the process of data management. Database is stored on a MMG server and routinely backed up.</li> <li>▪ No adjustment has been made to assay data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>▪ Planned collar positions for both diamond drilling and RC drilling were located using handheld GPS devices to ±5m accuracy.</li> <li>▪ Post drilling, actual collar positions were surveyed using DGPS (Geomax Zenith 25 Pro and Topcon Hiper II) and are of high accuracy.</li> <li>▪ Grid system is in WGS84/UTM35S</li> <li>▪ Topographic control was by a detailed aerial drone survey.</li> <li>▪ The TN14 GYROCOMPASS™ was used to align the drill rig to the correct azimuth and dip angles.</li> <li>▪ Downhole surveys were done using the REFLEX EZ-TRAC survey instrument. Downhole surveys were not carried out on RC &amp; AC drillholes.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>▪ 89 drillholes were completed in the Mineral Resource area at Nambulwa (60 DD, including 4 redrills and 29 RC).</li> <li>▪ At DZ, 36 DD (including 2 redrills), 81 AC and 42 RC drillholes were completed in the Mineral Resource area.</li> <li>▪ At Nambulwa, the drillholes were drilled on northeast oriented sections approximately 25m to 50m apart and there are between one and three holes approximately 25m apart on each section.</li> <li>▪ At DZ, the drillholes were drilled on northeast oriented sections approximately 25m apart in the mineralised area and 50m to 100m apart in the barren areas.</li> <li>▪ 2m or 4m composites were taken in zones of no visual mineralisation (3m composites for AC drilling)</li> <li>▪ Nominal 1m samples were taken in zones of mineralisation.</li> <li>▪ No other sample compositing has occurred.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>▪ DD and RC drillholes were predominantly drilled at inclinations of between 45° and 60° to the northeast at both Nambulwa and DZ to intersect generally steeply dipping mineralisation. Drilling azimuths were as close as practical to orthogonal to the mineralised trend. The AC drillholes were drilled vertically.</li> <li>▪ In the view of the Competent Person, no bias has been introduced by the drilling direction for the RC and DD holes, however the vertical dip of AC drilling renders these holes unsuitable for Mineral Resource estimation.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>▪ Samples were transported from the field and delivered to the MMG sample processing facility in Lubumbashi for cutting and preparation. Polyethylene foam, tarpaulins, and cargo nets were used to secure the load to the pick-up tray and to avoid possible shifting of core during transport.</li> <li>▪ RC chip sampling was conducted in the field. Chip samples were packed in labelled plastic bags along with a labelled plastic ID tag.</li> <li>▪ The plastic bags were tied with cable ties to secure the sample and to prevent contamination.</li> </ul>

<b>Section 1 Sampling Techniques and Data</b>	
<b>Criteria</b>	<b>Explanation</b>
	<ul style="list-style-type: none"> <li>▪ A set of 15 plastic sample bags were packed into labelled poly-weave bags, ready to be shipped from the field to the sample preparation laboratory in Lubumbashi.</li> <li>▪ Field packing documents and sample sheets were prepared and sent together with the core trays and poly-weave bags to the sample preparation laboratory in Lubumbashi.</li> <li>▪ After sample preparation, bar-coded envelopes of 100-200g of pulp for each sample were inserted into boxes of ~40 envelopes each, labelled with dispatch ID and laboratory destination to be sent by DHL courier to ALS Chemex in Johannesburg.</li> <li>▪ Two sets of duplicate pulps of 100-200g were inserted into labelled boxes of ~40 envelopes each to be stored on-site in storage containers.</li> <li>▪ The shipment of pulps from Lubumbashi to ALS laboratories was done using DHL Courier services with waybill number for tracking.</li> <li>▪ The Lubumbashi sample preparation laboratory utilizes the ALS-Chemex LIM System installed at Kinsevere mine site, generating a unique lab workorder for each batch sample in the analytical chain.</li> </ul>
Audit and reviews	<ul style="list-style-type: none"> <li>▪ No external audits or reviews of sampling techniques and data have been conducted.</li> <li>▪ Data that informed the Mineral Resource model has been reviewed by the previous Competent Person. No significant issues were identified.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Status</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>▪ The Nambulwa and DZ Projects are located within lease PE539 (100% Gécamines) in the DRC. The lease was acquired by MMG as part of the Kinsevere Amodiation agreement with Gécamines. The tenement is valid through to April 3, 2024.</li> <li>▪ On 16 September 2022 the site was occupied by armed forces who claimed that the government-owned mining company Gécamines has signed a research contract for the area with a third party even though MMG has a registered interest over the lease. MMG's employees and contractors were evacuated from the site on 23 September 2022. With the support of local authorities, MMG people were able to return to the site and continue work from 28 September 2022, however the armed forces remain at the site. On 21 October, MMG filed arbitral proceedings against La Générale des Carrières et des Mines S.A. (Gécamines) before the International Chamber of Commerce.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>▪ Union Miniere (UMHK) explored the Nambulwa Project during the 1920s. UMHK conducted trenching, pitting and tunnelling, mainly at Nambulwa Main.</li> <li>▪ Gécamines explored the Nambulwa Project during the 1990s. Work completed included mapping, pitting, and limited drilling at Nambulwa Main.</li> <li>▪ Anvil Mining explored the Nambulwa Project between September and December 2007 and was the first company to effectively define a resource. Anvil's initial phase of exploration included geological mapping, termite mound sampling, AC drilling (11,830m), RC drilling (6,268m), and DD drilling (668m)</li> </ul>

Section 2 Reporting of Exploration Results	
Criteria	Status
	<p>focussed on PE539 and the surrounding tenements. An unclassified resource of 1.1Mt of ore @ 3.3% Cu for 35,000 t of copper metal was estimated for Nambulwa Main.</p>
Geology	<ul style="list-style-type: none"> <li>Sedimentary hosted copper and cobalt oxide deposits.</li> <li>Mineralisation is hosted by the Neoproterozoic Katanga Supergroup within R2 and R1 Subgroups.</li> <li>Copper mineralisation mainly occurs in oxide form (malachite) in vugs, fractures and as mineral replacement. Chalcocite and minor bornite are present in veins and as fine-grained disseminations within shaley host rocks.</li> <li>Cobalt oxides tend to concentrate near surface in Fe-Mn rich clays.</li> </ul>
Drill hole information	<ul style="list-style-type: none"> <li>The DZ database consists of 34 DD (5864m) and 42 RC (3580m) holes. The 81 aircore holes drilled at DZ were not considered in the Mineral Resource.</li> <li>The Nambulwa database consists of 56 DD (6490m) and 29 RC (2302m) holes.</li> <li>No individual drillhole is material to the Mineral Resource estimate and therefore a detailed listing of the database is not provided.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>Exploration Results not being reported and therefore reporting of methods of aggregating data are not applicable.</li> <li>No metal equivalents were used in the Mineral Resource estimation.</li> </ul>
Relationship between mineralisation width and intercept lengths	<ul style="list-style-type: none"> <li>DD and RC drillholes were predominantly drilled with inclinations of between 45° and 60° to intersect generally steeply dipping mineralisation. Drilling azimuths were as close as practical to orthogonal to the mineralised trend. The AC drillholes were drilled vertically.</li> </ul>
Diagrams	
Balanced reporting	<ul style="list-style-type: none"> <li>All drill holes and assay results have been considered in the construction of Cu and Co domains for the Nambulwa and DZ Mineral Resource estimates. However, AC hole sample data was not used in estimation.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>	
<b>Criteria</b>	<b>Status</b>
Other substantive exploration data	<ul style="list-style-type: none"> <li>▪ Airborne Geophysics - TEMPEST survey, Airborne EM, magnetics, and radiometric were flown at the end of 2013. 3D inversion of the EM data identified a prominent conductor body over the western, central and eastern section of the Project.</li> <li>▪ Geological mapping was conducted in 2014 and 2017. Mapping results outlined the presence of the geologically prospective rock units that are the main host rock to the mineralisation. Younger lithologies were also noted from the Nguba and Kundelungu Formations.</li> <li>▪ Surface geochemistry: Termite mound sampling on 100m by 100m grid was completed in 2014, which effectively identified copper anomalous zones within the tenement. Additional geochemical surveys include 50m by 50m soil sampling was conducted in 2017.</li> <li>▪ Airborne Geophysics - Xcalibur survey, flown in 2015</li> <li>▪ Magnetics – effective at mapping structural and stratigraphic domains</li> <li>▪ Radiometrics - effective at mapping lithological contrasts and regolith domains.</li> <li>▪ Ground IP and AMT survey – helped in mapping the conductive and resistive bodies at depth.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>▪ Further work on Nambulwa and DZ will focus on advancing the project to Pre-feasibility study level. This will include drilling to convert Inferred to Indicated and Measured Mineral Resources, mining design and scheduling, metallurgical testing and analysis along with all other Ore Reserve modifying factors.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Status</b>
Database integrity	<ul style="list-style-type: none"> <li>▪ The MMG Exploration database systems are SQL server and Geobank®(Micromine) management software. All geological and analytical data are managed in MMG's Corporate Geoscience Database. GIS data are stored in secure shared folders in the Lubumbashi server.</li> <li>▪ All data capture via Microsoft Excel logging templates.</li> <li>▪ Multiple data validation steps conducted by the geologist and database team. Validation rules are predefined in each of the database tables. Only valid codes get imported into the database.</li> <li>▪ The sampling and geochemical data are stored in a local version of SQL database that gets replicated to a similar version on the Head Office server with daily, weekly and monthly backups.</li> <li>▪ A data validation process conducted prior to estimation consisted of:                         <ul style="list-style-type: none"> <li>– Examining the sample assay, collar survey, downhole survey and geology data to ensure that the data were complete for all of the drillholes.</li> <li>– Examining the desurveyed data in three dimensions to check for spatial errors.</li> <li>– Examination of the assay data in order to ascertain whether they are within expected ranges, including checks for acid soluble values greater than the corresponding total assay value.</li> <li>– Checks for “FROM-TO” errors, to ensure that the sample data did not overlap one another or that there were no unexplained gaps between samples.</li> </ul> </li> </ul>



Section 3 Estimating and Reporting of Mineral Resources	
Criteria	Status
	<ul style="list-style-type: none"> <li>- Checks for excessive mineralised sample lengths.</li> <li>- Checks for unsampled drillholes.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>▪ The previous Competent Person visited the Nambulwa and DZ sites in July 2018 and January 2019 and has visited the Kinsevere deposit and several other oxide copper deposits in the Katanga province, which are also similar in style to the Nambulwa and DZ mineral deposit.</li> <li>▪ The current Competent Person visited the site in July 2022 where he inspected the geology exposed in the informal historical open-pit workings at Nambulwa and DZ.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>▪ High degree of confidence in the lithological model and geological setting.</li> <li>▪ Grade shells have been constructed aligned with the stratigraphy, although they can cross-cut stratigraphic contacts.</li> <li>▪ A 0.4% total copper threshold was used for copper grade shells and a 0.1% total cobalt threshold was used for the cobalt grade shells. These thresholds allowed for continuity of mineralisation from one drilling section to the next.</li> <li>▪ Alternative interpretations of the mineralisation controls exist and there may be a structural control in addition to the stratigraphic control. These are unlikely to significantly affect the total quantity of Mineral Resources.</li> <li>▪ The grade shells appear to have been offset in places by faulting. Structures trending at a close angle to the mineralisation may occur.</li> </ul>
Dimensions	<p><b>Nambulwa</b></p> <ul style="list-style-type: none"> <li>▪ Strike length is approximately 1.1km.</li> <li>▪ The modelled copper mineralisation is between approximately 2m and 15m wide. Cobalt mineralisation reaches 40m wide.</li> <li>▪ Mineralisation occurs from surface along most of the strike length. In some areas drilling did not identify mineralisation near surface, despite artisanal mining, and the mineralisation extends downwards from as deep as 60m below surface.</li> <li>▪ The host rocks are terminated by a low angle fault at depths of between 50m and 150m.</li> <li>▪ The mineralisation is subvertical over most of the area but flattens to the southeast.</li> </ul> <p><b>DZ</b></p> <ul style="list-style-type: none"> <li>▪ Strike length is approximately 500m (adjacent to Nambulwa).</li> <li>▪ The modelled copper mineralisation is between approximately 5m and 80m wide, reaching a maximum thickness in the centre (bulge area).</li> <li>▪ Mineralisation occurs from surface along most of the strike length. In some areas drilling did not identify mineralisation near surface.</li> <li>▪ The mineralisation is subvertical over most of the area, with a bulging shape in the middle of the grade shells.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>▪ A similar estimation strategy was used for both Nambulwa and DZ and is summarised below:</li> <li>▪ A 0.4% total copper threshold was used for copper grade shells and a 0.1% total cobalt threshold was used for the cobalt grade shells.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Status</b>
	<ul style="list-style-type: none"> <li>▪ Grade estimation was completed using ordinary kriging for total copper and cobalt and inverse distance weighting for density, Ca, Mg and acid soluble ratios using Datamine Studio RM software. Samples were composited to 1m.</li> <li>▪ Top cuts were applied to statistical outliers where necessary.</li> <li>▪ Search distances were based on multiples of the variogram ranges.</li> <li>▪ The wireframe models were filled with parent cells 5m by 5m by 5m (X,Y,Z). The parent cells were split to sub-cells of a minimum of 1m by 1m by 1m (X,Y,Z). The drillhole spacing is approximately 25m (Nambulwa) or 50m (DZ) on strike and 25m on dip. The small block size was chosen due to the orientation of the grade shells rather than on a geostatistical basis.</li> <li>▪ Each lithological and grade shell wireframe was filled and coded for zonal estimation so that the model contains lithological codes and grade shell codes. The coding included a code for the low Ca volume that represents the base of deep weathering.</li> <li>▪ Ca and Mg were estimated by lithology separately within volumes defining low, moderate and high levels of Ca and Mg.</li> <li>▪ In-situ bulk dry density was estimated within each lithology and below and above the low Ca volume, which defines the deep weathering.</li> <li>▪ A waste model was created that covered the area containing any elevated copper and/or cobalt grades.</li> <li>▪ No SMU was considered</li> <li>▪ Bivariate analysis was carried out to determine relationships between the attributes of interest. All elements were estimated individually there being no discernible relationship between copper and cobalt and acid soluble values.</li> <li>▪ Hard boundaries were used so that estimation was within grade shells.</li> <li>▪ The block model grade was compared to drillhole data visually and statistically.</li> <li>▪ No reconciliation data were available.</li> <li>▪ The latest estimate compares well with the previous estimate by MSA and wherever differences occur, significant deviations are justified. The block model grade was compared to drillhole data visually, statistically and by comparing average grades of the drillhole data and model in 50m slices through the deposit.</li> <li>▪ No formal mining occurred and therefore, no reconciliation data is available.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>▪ Estimated tonnes are on a dry basis with density measurements being in-situ dry bulk densities.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>▪ 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 greater than or equal to 0.5.</li> <li>▪ The transitional and mixed ore (TMO) Mineral Resource has been reported above a total copper cut-off grade of 0.9% and an acid soluble to total copper ratio between 0.2 and 0.5.</li> <li>▪ The cobalt resource (mineralisation outside the copper zones) was reported at a cut-off grade of 0.2% for Oxide-TMO.</li> <li>▪ The reported Mineral Resources have been constrained within a US\$4.71/lb Cu and US\$32.72/lb Co Whittle optimised pit shell. The reported cut-off grade and</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Status</b>
	the pit-shell price assumptions are in line with MMG's policy for reporting of Mineral Resources based on reasonable prospects for eventual economic extraction.
Mining factors or assumptions	<ul style="list-style-type: none"> <li>▪ The mining method is assumed to be open pit with trucks and excavators.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>▪ At this stage of project development, metallurgical recovery assumptions are based on Kinsevere Expansion Project (KEP) recoveries.</li> <li>▪ As such, the criteria impacting the resource cut-off grades and reportable pit shell inputs are based on the proposed KEP flowsheet and infrastructure upgrades. The upgraded flowsheet will consist of the following changes:                             <ul style="list-style-type: none"> <li>– Oxide pre-flotation circuit and leach tank modifications 2.3mtpa</li> <li>– Oxide leach upgrades to convert to reductive leach conditions</li> <li>– Sulphide Concentrator 2.2mtpa capacity</li> <li>– Roaster circuit including off-gas cleaning, acid plant and concentrate storage</li> <li>– Cobalt Recovery circuit to produce high grade Cobalt hydroxide</li> <li>– SX plant modifications</li> </ul> </li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>▪ Environmental factors include increased land surface disturbance and the required rehabilitation for this site, including final pit excavation and waste rock storage. All ore piles are expected to be transported to Kinsevere for treatment.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>▪ Bulk density measurements have been undertaken using weight in air and weight in water. The samples measurement also included wax immersion to prevent over estimation due to the porous nature of oxide samples. Samples were oven dried prior to measurement.</li> <li>▪ Density measurements were undertaken on each hole within specific lithological units and on mineralised intersections.</li> <li>▪ In-situ bulk density estimated into each block using inverse distance squared,</li> </ul>
Classification	<ul style="list-style-type: none"> <li>▪ The model was classified as Indicated and Inferred where informed by an approximately 25m grid of mineralised intersections.</li> <li>▪ Indicated Mineral Resources were extrapolated a maximum of 25 m from the nearest drillhole.</li> <li>▪ Inferred Mineral Resources were extrapolated a maximum of 60 m from the nearest drillhole.</li> <li>▪ Where an unmineralised intersection occurs within the drillhole grid, the Mineral Resource was constrained to a distance halfway between the nearest mineralised intersection and the unmineralised intersection.</li> <li>▪ The Mineral Resource was constrained above the interpreted basal fault at Nambulwa.</li> <li>▪ Mineralisation outside the modelled grade shells was not classified as Mineral Resource.</li> <li>▪ No Measured Mineral Resources were reported due to uncertain grade continuity.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>▪ No external audits or reviews of this Mineral Resource estimate have been undertaken, aside from checks by the Competent Person.</li> </ul>

<b>Section 3 Estimating and Reporting of Mineral Resources</b>	
<b>Criteria</b>	<b>Status</b>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"><li>▪ The Indicated Mineral Resources are informed by drilling spaced 25 m along strike.</li><li>▪ The Inferred Mineral Resources are informed by drilling and extrapolation is minimal. Mineral Resources informed by sparse drilling are considered to be low confidence estimates that may change significantly with additional data. It cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated Mineral Resource as a result of continued exploration.</li><li>▪ Inferred Mineral Resources are not suitable for detailed technical and economic evaluation.</li><li>▪ Although block model estimates have been carried out, local Inferred estimates are likely to be inaccurate.</li></ul>

**9.2.3 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").

**9.2.3.1 Competent Person Statement**

I, Jeremy Charles Witley, confirm that I am the Competent Person for the Nambulwa-DZ 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 (Membership No. 60286) and I am a Registered Professional Natural Scientist (Geological Science) with the South African Council for Natural Scientific Professions (SACNASP) – Reg No 400181/05.
- I have reviewed the relevant Nambulwa-DZ Mineral Resource section of this Report to which this Consent Statement applies.

I am a full-time employee of The MSA Group (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 Nambulwa-DZ 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 the supporting documentation relating to the Nambulwa-DZ Mineral Resources.

**9.2.3.2 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 Nambulwa-DZ Mineral Resources - I consent to the release of the 2023 Mineral Resources and Ore Reserves Statement as at 30 June 2023 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 Resources and Ore Reserves Statement as at 30 June 2023 – with the author's approval. Any other use is not authorised.*

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Jeremy Charles Witley, BSc Hons (Mining Geology), MSc (Eng), Pr. Sci. Nat. (400181/05) FGSSA (60286)

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Signature of Witness:

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Date:

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Wony Diergaardt (Johannesburg North, South Africa)

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Witness Name and Residents:  
(eg, town/suburb)

**10. High Lake**

This Mineral Resources remains unchanged since reporting in 2013. This information can be found in the 2013 MMG Mineral Resources and Ore Reserves Statement as at 30 June 2013 Technical Appendix.

**11. Izok Lake**

This Mineral Resources remains unchanged since reporting in 2013. This information can be found in the 2013 MMG Mineral Resources and Ore Reserves Statement as at 30 June 2013 Technical Appendix.