MMG LIMITED

五礦資源有限公司

(Incorporated in Hong Kong with limited liability)
(STOCK CODE: 1208)

2014 MINERAL RESOURCES AND ORE RESERVES STATEMENT

This announcement is made by MMG Limited (Company 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 2014 (Mineral Resources and Ore Reserves Statement).

The highlights of the Mineral Resources and Ore Reserves Statement include:

- The Group's Mineral Resources (contained metal) as at 30 June 2014 has increased for lead (10%) and silver (5%), decreased for zinc (4%) copper (1%) and gold (7%), and remains unchanged for nickel.
- The Group's Ore Reserves as at 30 June 2014 have decreased for zinc (21%), copper (22%), lead (11%), silver (7%) and gold (4%).

Since 30 June 2014, MMG has acquired 62.5% of Las Bambas which will be included in the 2015 Mineral Resource and Ore Reserve statement. Las Bambas is not included in the current statement. The Mineral Resources and Ore Reserves Statement was prepared in accordance with the guidelines in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mineral Resources are inclusive of Mineral Resources used to estimate Ore Reserves.

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 entitled Mineral Resources and Ore Reserves Statement as at 30 June 2014 published on 10 December 2014 and is available to view on www.mmg.com. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resources and Ore Reserves Statement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the Mineral Resources and Ore Reserves Statement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Mineral Resources and Ore Reserves Statement.

By order of the Board
MMG Limited
Andrew Gordon Michelmore
CEO and Executive Director

Hong Kong, 10 December 2014

As at the date of this announcement, the Board comprises nine directors, of which three are executive directors, namely Mr Andrew Gordon Michelmore, Mr David Mark Lamont and Mr Xu Jiqing; three are non-executive directors, namely Mr Jiao Jian (Chairman), Mr Wang Lixin and Mr Gao Xiaoyu; and three are independent non-executive directors, namely Dr Peter William Cassidy, Mr Anthony Charles Larkin and Mr Leung Cheuk Yan.

MMG Limited

MINERAL RESOURCE AND ORE RESERVES STATEMENT
30 JUNE 2014

EXECUTIVE SUMMARY

Mineral Resources and Ore Reserves for MMG have been estimated as at 30 June 2014, 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 Rules Governing the Listing of Securities of The Stock Exchange of Hong Kong Limited (Listing Rules). Mineral Resource and Ore Reserve tables are provided on pages 4-8, which include the 30 June 2014 and 2013 estimates for comparison. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves. All supporting data is provided within the Technical Appendix.

Mineral Resource and Ore Reserve information in this statement has been compiled by Competent Persons (as defined by the 2012 JORC Code). Each Competent Person consents to the inclusion of the information in this report that they have provided in the form and context in which it appears. Competent Persons are listed on page 9.

MMG has established processes and structures for the governance of Mineral Resource and Ore Reserve estimation and reporting. MMG has a Mineral Resource and Ore Reserve Committee that regularly convenes for the regulation of estimation and reporting matters, which reports to the MMG Audit Committee and the Board of Directors.

Key changes to the Mineral Resources since the 30 June 2013 estimate include increases due to the discovery of additional Golden Grove mineralisation and inclusion of the Silver King Mineral Resource. Mineral Resource discoveries at Golden Grove include extensions to Hougoumont Hanging-wall, Amity and Tryall mineralisation within the Gossan Hill underground mine and discovery of oxide mineralisation at Scuddles. Decreases are due to milling depletion at all operating sites, along with a significant reduction in gold Mineral Resources at Sepon due to the lower long-term gold price assumption. Overall Ore Reserves have decreased since the 30 June 2013 estimate principally due to milling depletion at all operational sites. The acquisition of Las Bambas was completed after 30 June 2014 and will significantly add to the 30 June 2015 Mineral Resource.

Page 10 provides further discussion of the Mineral Resource and Ore Reserve changes.

The Las Bambas Mineral Resources and Ore Reserves will be included in the 30 June 2015 statement. The Share Purchase Agreement for this acquisition was completed and became effective on 1 August 2014 whereupon the Las Bambas Project was transferred to the Consortium of MMG Limited, CITIC and GXIIC. The Las Bambas Project Mineral Resources and Ore Reserves are provided in the Competent Person's Report prepared for the Circular released on 30 June 2014 (http://www.hkexnews.hk/listedco/listconews/sehk/2014/0630/01208_1970351/E118.PDF).

Las Bambas Mineral Resources and Ore Reserves tables are provided in Appendix A.

MINERAL RESOURCES

	2014						2013					
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)
Sepon												
Oxide Gold												
Measured	0.8				8	2.9	1.6				6	2.3
Indicated	3.1				4	1.5	4.4				7	1.3
Inferred	1.4				3	1.2	2.4				4	1.3
Total	**5.3**				**4**	**1.6**	**8.4**				**6**	**1.5**
Partial Oxide Gold												
Measured	0.9				13	3.5	1.1				12	3.1
Indicated	1.6				6	2.3	2.3				8	2.0
Inferred	1.0				5	1.2	1.8				5	1.4
Total	**3.5**				**7**	**2.2**	**5.1**				**8**	**2.0**
Primary Gold												
Indicated	11.2				10	3.2	13.5				10	3.0
Inferred	5.7				8	3.3	8.7				7	2.7
Total	**16.9**				**9**	**3.2**	**22.2**				**9**	**2.9**
Gold Stockpiles												
Measured	0.7					1.5	0.5					1.7
Total	**0.7**					**1.5**	**0.5**					**1.7**
Supergene Copper												
Measured							4.3	3.1				
Indicated	30.8	2.2					19.5	2.5				
Inferred	11.5	1.4					11.4	1.6				
Total	**42.2**	**2.0**					**35.2**	**2.3**				
Primary Copper												
Indicated	7.7	0.9			6	0.2	3.1	1.2			8	
Inferred	2.4	1.3			5	0.2	11.2	0.8			5	
Total	**10.1**	**1.0**			**6**	**0.2**	**14.2**	**0.9**			**6**	
Copper Stockpiles												
Measured	8.5	1.5					7.7	1.8				
Total	8.5	1.5					7.7	1.8				
Sepon Totals	**87.3**						**93.3**					
Kinsevere												
Oxide Copper												
Measured	7.0	3.8					12.2	4.0				
Indicated	12.2	3.2					12.0	2.9				
Inferred	0.5	2.9					0.8	2.5				
Total	**19.7**	**3.4**					**24.9**	**3.5**				
Primary Copper												
Measured							1.5	2.7				
Indicated							10.1	2.7				
Inferred	24.6	2.5					10.9	2.2				
Total	**24.6**	**2.5**					**22.5**	**2.5**				
Stockpiles												
Measured	5.3	2.7										
Indicated							3.8	2.4				
Total	**5.3**	**2.7**					**3.8**	**2.4**				
Kinsevere Totals	**49.6**						**51.3**					
	2014						**2013**					

	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)
Rosebery												
Rosebery												
Measured	7.7	0.4	12.6	3.9	127	1.6	8.1	0.4	13.0	3.9	124	1.6
Indicated	4.3	0.3	10.0	3.5	125	1.5	4.9	0.3	10.2	3.4	125	1.4
Inferred	5.2	0.6	10.3	3.4	115	2.2	5.3	0.6	10.0	3.2	112	2.1
Total	17.2	0.4	11.3	3.6	123	1.7	18.2	0.4	11.4	3.6	121	1.7
South Hercules												
Measured	0.6	0.1	4.0	2.1	164	3.1	0.7	0.1	3.7	2.0	163	2.9
Indicated	0.1	0.1	2.7	1.3	168	3.0	0.1	0.1	2.5	1.2	162	2.9
Total	0.7	0.1	3.8	2.0	165	3.1	0.8	0.1	3.5	1.8	163	2.9
Rosebery Totals	**17.9**						**19.1**					
Golden Grove												
Oxide Gold												
Indicated	0.8				52	3.6	0.5				105	3.3
Inferred	0.3				25	2.1	0.2				50	2.2
Total	1.1				45	3.2	0.7				88	3.0
Partial Oxide Gold												
Indicated	0.1				177	2.9	0.2				194	2.4
Inferred	0.1				74	2.1	0.1				113	1.5
Total	0.2				149	2.7	0.2				172	2.1
Primary Gold												
Indicated	0.1				39	1.8	0.1				81	1.4
Inferred	0.04				28	1.5	0.1				119	0.4
Total	0.1				35	1.7	0.1				97	1.0
Primary Zinc												
Measured	1.5	0.3	13.2	1.6	111	1.4	1.0	0.4	12.8	1.2	84	1.2
Indicated	1.8	0.4	14.4	1.6	103	3.1	1.3	0.3	14.3	1.6	122	2.0
Inferred	5.5	0.4	12.7	0.9	56	0.8	4.8	0.5	12.0	0.7	52	0.7
Total	8.9	0.4	13.2	1.1	75	1.4	7.1	0.4	12.5	0.9	69	1.0
Oxide Copper												
Measured	0.2	3.3					0.8	2.4				
Indicated	0.4	2.0					1.2	2.3				
Inferred	0.01	1.7										
Total	0.6	2.4					2.0	2.3				
Partial Oxide Copper												
Indicated	0.6	3.6					0.6	2.2				
Inferred	0.01	3.5										
Total	0.6	3.3					0.6	2.2				
Primary Copper												
Measured	6.1	2.7	0.5	0.1	19	0.5	5.9	2.8	0.4	0.04	17	0.5
Indicated	2.6	2.8	1.2	0.2	26	1.0	3.2	2.7	1.7	0.2	28	1.3
Inferred	11.5	2.9	0.4	0.04	23	0.3	9.8	3.1	0.3	0.04	24	0.3
Total	20.2	2.8	0.6	0.1	22	0.4	18.9	2.9	0.6	0.1	23	0.5
Golden Grove Totals	**31.6**						**29.8**					

	2014							2013						
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	Nickel (%)	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	Nickel (%)
Century														
Century Pit														
Measured														
Indicated	7.9		9.3	1.7	41			16.6		9.9	1.6	39		
Inferred	0.5		9.1	1.5	38									
Total	8.4		9.3	1.7	41			16.6		9.9	1.6	39		
Eastern Fault Block														
Measured														
Indicated	0.5		11.6	1.1	48			0.5		11.8	1.1	49		
Inferred														
Total	0.5		11.6	1.1	48			0.5		11.8	1.1	49		
Stockpiles														
Measured	1.1		5.7	2.3	51			0.1		8.4	1.1	27		
Total	1.1		5.7	2.3	51			0.1		8.4	1.1	27		
Silver King														
Inferred	2.7		6.9	12.5	121									
Total	2.7		6.9	12.5	121									
Century Totals	**12.8**							**17.2**						
Dugald River														
Primary Zinc														
Measured	5.6		14.7	2.0	64			3.0		13.6	1.9	61		
Indicated	25.2		13.5	2.3	52			30.6		12.1	1.9	46		
Inferred	24.4		13.1	1.9	14			29.0		12.0	1.7	13		
Total	55.2		13.4	2.1	36			62.5		12.1	1.8	31		
Primary Copper														
Inferred	4.4	1.8				0.2		4.4	1.8				0.2	
Total	4.4	1.8				0.2		4.4	1.8				0.2	
Dugald River Totals	**59.6**							**66.9**						
High Lake														
Indicated	7.9	3.0	3.5	0.3	83	1.3		7.9	3.0	3.5	0.3	83	1.3	
Inferred	6.0	1.8	4.3	0.4	84	1.3		6.0	1.8	4.3	0.4	84	1.3	
Total	14.0	2.5	3.8	0.4	84	1.3		14.0	2.5	3.8	0.4	84	1.3	
Izok Lake														
Indicated	13.5	2.4	13.3	1.4	73	0.2		13.5	2.4	13.3	1.4	73	0.2	
Inferred	1.2	1.5	10.5	1.3	73	0.2		1.2	1.5	10.5	1.3	73	0.2	
Total	14.6	2.3	13.1	1.4	73	0.2		14.6	2.3	13.1	1.4	73	0.2	
Avebury														
Measured	3.8						1.1	3.8						1.1
Indicated	4.9						0.9	4.9						0.9
Inferred	20.7						0.8	20.7						0.8
Total	29.3						0.9	29.3						0.9

ORE RESERVES

	2014						2013					
Deposit	**Tonnes (Mt)**	**Copper (%)**	**Zinc (%)**	**Lead (%)**	**Silver (g/t)**	**Gold (g/t)**	**Tonnes (Mt)**	**Copper (%)**	**Zinc (%)**	**Lead (%)**	**Silver (g/t)**	**Gold (g/t)**
Sepon												
Oxide Gold												
Proved							0.1				8	2.4
Probable							0.5				4	1.7
Total							0.6				5	1.8
Supergene Copper												
Proved							5.4	2.6				
Probable	8.8	4.3					8.6	4.8				
Total	8.8	4.3					14.0	4.0				
Copper Stockpiles												
Proved	5.6	1.8										
Total	5.6	1.8										
Sepon Total	**14.5**						**14.6**					
Kinsevere												
Stockpiles												
Proved	1.6	4.6										
Probable	2.7	1.5										
Total	4.3	2.6										
Oxide Copper												
Proved	5.2	4.2					9.8	4.8				
Probable	6.8	3.6					11.0	2.8				
Total	12.0	3.8					20.8	3.7				
Kinsevere Total	**16.4**						**20.8**					
Rosebery												
Proved	3.2	0.3	10.7	3.4	111	1.4	2.8	0.3	11.8	3.5	110	1.5
Probable	2.3	0.3	8.2	3.3	121	1.3	2.9	0.3	8.9	3.4	130	1.5
Total	**5.4**	0.3	9.7	3.4	115	1.4	**5.7**	0.3	10.3	3.4	120	1.5
Golden Grove												
Primary Zinc												
Proved	0.9	0.5	12.3	1.7	138	1.7	0.6	0.6	10.5	1.2	90	1.4
Probable	1.0	0.7	12.4	1.5	81	4.0	1.0	0.7	10.8	1.4	110	2.2
Total	1.9	0.6	12.3	1.6	107	2.9	1.6	0.7	10.7	1.3	103	1.9
Oxide Copper												
Proved	0.2	3.3					1.5	2.6				
Probable							0.9	2.5				
Total	0.2	3.3					2.4	2.6				
Transition Copper												
Probable	0.4	3.7										
Total	0.4	3.7										
Primary Copper												
Proved	2.1	2.9	0.4	0.04	17	0.5	3.4	2.4	0.4		14	0.5
Probable	1.0	3.0	2.9	0.3	30	1.8	1.2	2.3	2.0	0.2	28	1.8
Total	3.1	2.9	1.2	0.1	21	1.0	4.6	2.4	0.8	0.1	18	0.8
Golden Grove Total	**5.5**						**8.6**					

	2014						2013					
Deposit	**Tonnes (Mt)**	**Copper (%)**	**Zinc (%)**	**Lead (%)**	**Silver (g/t)**	**Gold (g/t)**	**Tonnes (Mt)**	**Copper (%)**	**Zinc (%)**	**Lead (%)**	**Silver (g/t)**	**Gold (g/t)**
Century												
Open Pit												
Proved	0.8		6.8	2.6	69		0.1		8.4	1.1	27	
Probable	7.2		8.3	1.5	37		14.0		9.8	1.5	36	
Total	7.9		8.2	1.6	40		14.1		9.8	1.5	36	
Dugald River												
Primary Zinc												
Proved												
Probable	21.2		12.6	2.2	49		24.0		12.5	2.0	41	
Total	21.2		12.6	2.2	49		24.0		12.5	2.0	41	

COMPETENT PERSONS

Deposit	Accountability	Competent Person	Professional Membership	Employer
MMG Mineral Resources and Ore Reserves Committee	Mineral Resources	Jared Broome	FAusIMM(CP)	MMG Ltd
MMG Mineral Resources and Ore Reserves Committee	Ore Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Mineral Resources/ Ore Reserves	Geoff Senior	MAusIMM	MMG Ltd
Sepon	Mineral Resources	Kerrin Allwood	MAusIMM(CP)	Geomodelling Ltd
Sepon	Ore Reserves	Dean Basile	MAusIMM(CP)	Mining One Pty Ltd
Kinsevere	Mineral Resources	Mauro Bassotti	MAusIMM(CP)	MMG Ltd
Kinsevere	Ore Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
Rosebery	Mineral Resources	Mark Aheimer	MAusIMM	MMG Ltd
Rosebery	Ore Reserves	David Brown	MAusIMM	MMG Ltd
Golden Grove (Underground & Open Pit)	Mineral Resources	Jared Broome	FAusIMM(CP)	MMG Ltd
Golden Grove - Underground	Ore Reserves	Wayne Ghavalas	MAusIMM	MMG Ltd
Golden Grove - Open Pit	Ore Reserves	Chris Lee	MAusIMM	MMG Ltd
Century	Mineral Resources	Mike Smith	MAusIMM(CP)	MMG Ltd
Silver King	Mineral Resources	Damian O'Donohue	MAusIMM	MMG Ltd
Century	Ore Reserves	David Purdey	MAusIMM(CP)	QG Australia Pty Ltd
Dugald River	Mineral Resources	Mauro Bassotti	MAusIMM(CP)	MMG Ltd
Dugald River	Ore Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
High Lake, Izok Lake	Mineral Resources	Allan Armitage	MAPEG[1] (P.Geo)	Former MMG Ltd
Avebury	Mineral Resources	Peter Carolan	MAusIMM	Former MMG Ltd

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

[1] Member of the Association of Professional Engineers and Geoscientists of British Columbia

SUMMARY OF SIGNIFICANT CHANGES

The MMG 30 June 2014 Mineral Resources have changed since the 30 June 2013 estimate for a number of reasons with the most significant changes outlined in this section. Overall contained metal has increased for lead (10%) and silver (5%), decreased for zinc (4%) copper (1%) and gold (7%), and remains unchanged for nickel.

Increases:
The Silver King Mineral Resource has been re-included after re-estimation as part of Proof of Concept (PoC) work. Exploration within the Gossan Hill mine at Golden Grove has continued to extend the Hougoumont Hanging-wall, Tryall and Amity lenses resulting in additions to the Mineral Resource more than off-setting milling depletion. Recently discovered oxide copper and gold mineralisation at Scuddles has been realised and zones within the Gossan Valley area have also been added for the first time. Further drilling, updated modelling and an increase in copper price used for the constraining pit shells have resulted in additional copper Mineral Resources for Sepon.

Reductions:
Milling depletion at all MMG Operations has reduced Mineral Resources. The outlook for lower gold prices has resulted in a significant reduction in the Sepon Gold Mineral Resources. The use of a pit shell constraint in 2014 has resulted in a small decrease (66kt) to the Kinsevere Mineral Resource.

The MMG 30 June 2014 Ore Reserves decreased in 2014 for zinc (21%), copper (22%), lead (11%), silver (7%) and gold (4%). The most significant change is due to milling depletion at all operational sites. Other significant changes include removal of the stage 8 buttress in the south-west wall of the Century pit. Golden Grove Ore Reserves decreased due to reductions in metal prices, which were partly offset by conversion of Mineral Resource discovery. Reduction of the Dugald River Ore Reserve resulted from adjustments in metallurgical recoveries, concentrate grade, treatment and refining charges and royalties, which were partly offset by increases due to increased stope sizes and mining production rate. At Sepon milling depletion was more than offset by additions to the Ore Reserve arising from Mineral Resource model increases at Khanong and Thengkham primarily due to the new pit-shells the Mineral Resource was reported inside of.

Expected Future Changes:
Since 30 June 2014, MMG has acquired 62.5% of Las Bambas which will be included in the 2015 Mineral Resource and Ore Reserve statement. Las Bambas is not included in the current statement. In addition, mining and milling processes at operating sites will continue to deplete Mineral Resources and Ore Reserves, while exploration across the MMG Operations will continue and is expected to discover additional Mineral Resources.

KEY ASSUMPTIONS

Prices and Exchange Rates

Table 1 : Price (real) and foreign exchange assumptions

	Medium Term (CY15-17)	Long Term (2018+)	October 2014 Long Term (2018+)
Zn $/lb	0.97	1.14	1.20
Cu $/lb	3.00	3.00	2.95
Pb $/lb	1.03	1.14	1.12
Au $/oz	1220	1030	1030
Ag $/oz	21.90	21.10	21.10
A$:US$	0.90	0.82	0.82
CAD:US$	0.93	0.94	0.92

Ore Reserves applied metal prices and exchange rates as follows:

- Long-term (Life-of-Asset) Ore Reserves (> 3 years) used the “Long-Term” price and exchange rate values.
- Medium-term (< 3 years) Ore Reserves used the average price and exchange rate of the CY15-CY17 three years where price forecast is declining (Cu, Au and Ag), and first year price and exchange rate where price forecast is increasing (Zn and Pb).
- Short-term planning, where it is known that the Ore Reserves will be mined out and completed in CY14, the sites used CY14 price and exchange assumptions.

Dugald River Ore Reserves were calculated using the October 2014 Long Term (2018+) metal prices and exchange rates to align with other changes to the project assumptions made in November 2014 following initial results of the ongoing trial stoping program. The modelling analysis for the remainder of the operations and projects was undertaken using the metal prices and exchange rate assumptions utilising a 30 June 2014 cut-off date for determining the applicable assumptions.

Estimation of Mineral Resources applied the long-term prices and exchange rate assumptions.

Cut-Off Grades

Mineral Resource and Ore Reserve cut-off values are shown in Table 2 and Table 3 respectively.

Table 2 : Mineral Resources cut-off grades

Site	**Mineralisation**	**Likely Mining Method**[a]	**Cut-Off Value**	**Comments**
Sepon	Oxide Gold & Stockpiles	OP	0.6 g/t Au	Insitu Gold Mineral Resources constrained within US$1230/oz Au pit shell
	Partial Oxide & Primary Gold	OP	1 g/t Au	
	Primary Gold	UG	3 g/t Au	3.2Mt of the total Primary Gold Mineral Resource is likely to be mined from underground and reported above 3g/t Au
	Supergene & Primary Copper	OP	0.5% Cu	Insitu Copper Mineral Resources constrained within US$4/lb Cu pit shell
Kinsevere	Oxide Copper & Stockpiles	OP	0.75% ASCu[b]	Insitu Copper Mineral Resources constrained within a US$4/lb Cu pit shell
	Primary Copper	OP	0.75% TCu[c]	
Rosebery	Rosebery (Zn, Cu, Pb, Au, Ag)	UG	A$122.5/t NSRAR[d]	Price assumptions: US$3.00/lb Cu US$1.14/lb Pb US$1.14/lb Zn US$1030/oz Au US$21.1/oz Ag $1 AUD = $0.82
	South Hercules (Zn, Cu, Pb, Au, Ag)	UG	A$105/t NSRAR[d]	
Golden Grove	Primary Zinc & Primary Copper (Zn, Cu, Pb, Au, Ag)	UG	A$100/t NSRAR[d]	Price assumptions: US$3.00/lb Cu US$1.14/lb Pb US$1.14/lb Zn US$1030/oz Au US$21.1/oz Ag $1 AUD = $0.82
	Oxide & Partial Oxide & Primary Copper	OP	1.0% Cu	
	Oxide, Partial Oxide & Primary Gold	OP	1.1 g/t Au	
	Primary Zinc	OP	3% Zn	
Century	Century Pit & Eastern Fault Block (Zn, Pb, Ag)	OP	3.5% ZnEq[e]	ZnEq[e] = Zn + 1.19*Pb based on price and metallurgical recovery constrained within the Century final pit shell
	Silver King (Zn, Pb, Ag)	OP	5% Pb+Zn	
Dugald River	Primary Zinc (Zn, Pb, Ag)	UG	A$120/t NSRAR[d]	
	Primary Copper	UG	1% Cu	
High Lake	Cu, Zn, Pb, Ag, Au	OP	2.0% CuEq[f]	CuEq[f] = 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%
		UG	4.0% CuEq[f]	
Izok Lake	Cu, Zn, Pb, Ag, Au	OP	4.0% ZnEq[e]	ZnEq = Zn + (Cu×3.31) + (Pb×1.09) + (Au×1.87) + (Ag×0.033); prices and metal recoveries as per High Lake

[a] : OP = Open Pit, UG = Underground, DO = Dredging Operation, ASCu[b] = Acid Soluble Copper, TCu[c] = Total Copper, NSRAR[d] = Net Smelter Return After Royalty, ZnEq[e] = Zinc Equivalent, CuEq[f] = Copper Equivalent

Table 3 : Ore Reserves cut-off grades

Site	**Mineralisation**	**Mining Method**	**Cut-Off Value**	**Comments**
Sepon	Copper - Sulphide Surface Copper – LAC[a] Carbonate Surface Copper – HAC[b] Carbonate Surface		1.1% to 1.2% Cu 1.4% Cu 2.6% to 3.1% Cu	Dependent upon pit haul distance to crusher Dependent upon pit haul distance to crusher Dependent upon pit haul distance to crusher and average GAC[c] per area.
Kinsevere	Copper Oxide	OP	1.0% ASCu[d]	
Rosebery	(Zn, Cu, Pb, Au, Ag)	UG	A$189/t	NSRAR[e] Stopes with access already available applied a A$156/t cut-off grade
Golden Grove	Primary Zinc and Primary Copper (Zn, Cu, Pb, Au, Ag)	UG	A$145/t	NSRAR[e]
	Oxide Copper	OP	1.3% Cu	
	Transition Copper	OP	1.4% Cu	
Century	Zinc	OP	5.1% ZnEq[f]	ZnEq[f] = Zn + (1.19*Pb).
Dugald River	Primary Zinc	UG	A$170/t	

LAC[a] = Low Acid Consuming; HAC[b] = High Acid Consuming, GAC[c] = Gangue Acid Consuming, ASCu[d] = Acid Soluble Copper, NSRAR[e] = Net Smelter Return After Royalty[1], ZnEq[f] = Zinc Equivalent

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[1] Net Smelter Return is a measure of in-ground value of a metal grade or set of metal grades after all the realisation costs down-stream of the mill have been accounted for and effectively represents the dollar value at the mine gate of the in-ground minerals. NSRAR (NSR after Royalties) is similar to NSR but includes the cost effects of Royalties payable. See the following paper for a detailed explanation: Goldie, R. and Tredger, P., 1991. Net Smelter Return Models and Their Use in the Exploration, Evaluation and Exploitation of Polymetallic Deposits, *Geoscience Canada*, Vol 18, No. 4, pp 159-171

Processing Recoveries

Output average processing recoveries are shown in Table 4. More detailed processing recovery relationships are provided in the Technical Appendix.

Table 4: Processing Recoveries

Site	**Product**	**Recovery**					**Concentrate Moisture Assumptions**
		Copper	**Zinc**	**Lead**	**Silver**	**Gold**	
Century	Zinc Concentrate	–	71%	–	57%	–	11%
	Lead Concentrate	–	–	63%	8.5%	–	11%
Golden Grove - Underground	Zinc Concentrate	–	88%	–	–	–	8.9%
	Lead Concentrate	–	–	65%	59%	56%	9.2%
	Copper Concentrate	90%	–	–	68%	–	9.0%
Golden Grove – Open Cut	Oxide Copper Concentrate	65%	–	–	–	–	16%
	Transition Copper Concentrate	87%	–	–	–	–	14%
Rosebery	Zinc Concentrate	–	90%	–	12%	8.7%	8%
	Lead Concentrate	–	–	77%	43%	14%	8%
	Copper Concentrate	67%	–	–	39%	44%	8%
	Gold Doré				a	14%	
Dugald River	Zinc Concentrate	–	87%		–	–	8.9%
	Lead Concentrate	–		65%	35%	–	9.5%
Sepon	Copper Cathode	90%	–	–	–	–	–
Kinsevere	Copper Cathode	81% (96% ASCu)	–	–	–	–	–

a: Silver for Rosebery Gold Doré is calculated as a constituent ratio to gold in the Doré. Silver is set to 0.35 against gold being 0.57.

Additional information about the Mineral Resources and Ore Reserves is included in the Technical Appendix published on the MMG website.

APPENDIX A

The Las Bambas Mineral Resources and Ore Reserves do not form part of the MMG 30 June 2014 Mineral Resource and Ore Reserve estimate but have been included in Appendix A for convenience.

Las Bambas Mineral Resources as at 1st January 2014 at a 0.2% Cu Cut-off grade

Area	Type	Class	Quantity (Mt)	Cu (%)	Cu (Kt)	Mo (%)	Mo (Kt)	Ag (g/t)	Ag (Moz)	Au (g/t)	Au (Moz)
Chalcobamba	**Sulphide**	Measured	85	0.44	363	0.014	11.5	1.4	3.7	0.02	0.05
		Indicated	250	0.61	1,524	0.013	33.1	2.3	18.3	0.03	0.23
		Measured + Indicated	**335**	**0.57**	1,887	**0.013**	**44.5**	**2.1**	**22.0**	**0.03**	**0.28**
		Inferred	45	0.35	157	0.012	5.4	1.1	1.5	0.02	0.03
		Sub Total (M+I+Inf)	**380**	**0.54**	**2,044**	**0.013**	**50.0**	**1.9**	**23.5**	**0.03**	**0.31**
	Oxide	Indicated	35	0.57	200	0.01	2.3	2.0	2.3	0.02	0.02
		Measured + Indicated	**35**	**0.57**	200	**0.01**	**2.3**	**2.0**	**2.3**	**0.02**	**0.02**
		Inferred	1	0.33	3	0.01	0.1	1.1	0.0	0.02	0.00
		Sub Total (M+I+Inf)	**35**	**0.56**	**203**	**0.006**	**2.3**	**2.0**	**2.3**	**0.02**	**0.02**
Ferrobamba	**Sulphide**	Measured	405	0.68	2,730	0.02	73.3	3.3	43.0	0.07	0.86
		Indicated	365	0.74	2,682	0.02	75.0	4.0	47.2	0.08	0.90
		Measured + Indicated	**770**	**0.71**	5,413	**0.02**	**148.3**	**3.7**	**90.2**	**0.07**	**1.77**
		Inferred	310	0.48	1,481	0.02	50.7	2.1	21.4	0.04	0.40
		Sub Total (M+I+Inf)	**1,080**	**0.64**	**6,894**	**0.018**	**199.0**	**3.2**	**111.6**	**0.06**	**2.17**
	Oxide	Indicated	55	0.86	473	0.01	4.1	4.5	8.0	0.08	0.14
		Measured + Indicated	**55**	**0.86**	473	**0.01**	**4.1**	**4.5**	**8.0**	**0.08**	**0.14**
		Inferred	10	0.86	77	0.01	1.0	4.7	1.4	0.08	0.02
		Sub Total (M+I+Inf)	**65**	**0.86**	**550**	**0.008**	**5.1**	**4.5**	**9.3**	**0.08**	**0.16**
Sulfobamba	**Sulphide**	Indicated	105	0.64	682	0.02	16.1	4.6	15.8	0.02	0.06
		Measured + Indicated	**105**	**0.64**	682	**0.02**	**16.1**	**4.6**	**15.8**	**0.02**	**0.06**
		Inferred	115	0.45	509	0.01	13.6	3.8	13.9	0.01	0.04
		Sub Total (M+I+Inf)	**220**	**0.54**	**1,190**	**0.013**	**29.6**	**4.2**	**29.7**	**0.01**	**0.10**
Total	**Sulphide**	Measured	490	0.64	3,094	0.02	84.8	3.0	46.6	0.06	0.91
		Indicated	720	0.68	4,888	0.02	124.1	3.5	81.3	0.05	1.20
		Measured + Indicated	**1,210**	**0.66**	**7,981**	**0.02**	**208.9**	**3.3**	**128.0**	**0.05**	**2.11**
		Inferred	470	0.46	2,146	0.01	69.8	2.45	36.85	0.03	0.47
		Sub Total (M+I+Inf)	**1,680**	**0.60**	**10,127**	**0.017**	**278.7**	**3.1**	**164.8**	**0.05**	**2.58**
	Oxide	Indicated	90	0.75	673	0.01	6.4	3.5	10.2	0.06	0.16
		Measured + Indicated	**90**	**0.75**	**673**	**0.01**	**6.4**	**3.5**	**10.2**	**0.06**	**0.16**
		Inferred	10	0.81	81	0.01	1.0	4.3	1.4	0.07	0.02
		Sub Total (M+I+Inf)	**100**	**0.75**	**753**	**0.007**	**7.4**	**3.6**	**11.6**	**0.06**	**0.19**
	Total	**Measured**	**490**	**0.64**	**3,094**	**0.02**	**84.8**	**3.0**	**46.6**	**0.06**	**0.91**
		Indicated	**810**	**0.69**	**5,560**	**0.02**	**130.5**	**3.5**	**91.5**	**0.05**	**1.36**
		Inferred	**480**	**0.47**	**2,227**	**0.01**	**70.8**	**2.5**	**38.2**	**0.03**	**0.49**
		All (M+I+Inf)	**1,780**	**0.61**	**10,881**	**0.02**	**286.1**	**3.1**	**176.4**	**0.05**	**2.77**

Note:

1. *The Statement of JORC Mineral Resources has been compiled under the supervision of Mr. Esteban Acuña who is a full-time employee of RPM and a Registered Member of the Chilean Mining Commission. Mr. Acuña has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code.*
2. *All Mineral Resources figures reported in the table above represent estimates at 1st January, 2014. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.*
3. *Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The Joint Ore Reserves Committee Code – JORC 2012 Edition).*

Las Bambas Ore Reserves as at 1st January 2014 at a 0.2% Cu Cut-off grade

Description	Quantity (Mt)	Cu (%)	Cu (Kt)	Mo (%)	Mo (Kt)	Ag (g/t)	Ag (Moz)	Au (g/t)	Au (Moz)
Ferrobamba									
Proved	386	0.68	2,640	0.018	70.0	3.4	41.8	0.07	0.8
Probable	271	0.80	2,179	0.021	57.2	4.5	38.9	0.09	0.8
Sub Total	**657**	**0.73**	**4,819**	**0.019**	**127.2**	**3.8**	**80.7**	**0.08**	**1.6**
Chalcobamba									
Proved	63	0.46	292	0.014	9.0	1.5	3.0	0.02	0.0
Probable	172	0.74	1,264	0.013	22.9	2.8	15.4	0.03	0.2
Sub Total	**235**	**0.66**	**1,556**	**0.014**	**31.9**	**2.4**	**18.4**	**0.03**	**0.2**
Sulfobamba									
Proved	-	-	-	-	-	-	-	-	-
Probable	60	0.86	516	0.014	8.4	6.6	12.9	0.02	0.0
Sub Total	**60**	**0.86**	**516**	**0.014**	**8.4**	**6.6**	**12.9**	**0.02**	**0.0**
Total									
Proved	450	0.65	2,932	0.018	78.9	3.1	44.8	0.06	0.9
Probable	503	0.79	3,960	0.018	88.6	4.2	67.2	0.06	1.0
Grand Total	**952**	**0.72**	**6,892**	**0.018**	**167.5**	**3.7**	**112.0**	**0.06**	**1.9**

Notes:

1. *The Statement of JORC Ore Reserves has been compiled under the supervision of Mr. Rondinelli Sousa who is a full time Senior Mining Engineer employed by RPM and is a Member of the American Society of Mining, Metallurgy & Exploration (SME). Mr. Sousa has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the JORC Code.*
2. *Tonnages are metric tonnes*
3. *Cut-off Grade of 0.2% Cu applied to all are types*
4. *Copper price: $2.91/lb; Molybdenum price: $13.37/lb; Silver price: $19.83/oz; Gold price: $1,196/oz.*

Figures reported are rounded which may result in small tabulation errors. Ore Reserves have been estimated under the 2012 Edition of the JORC Code.

MMG Mineral Resources and Ore Reserves Statement

as at 30 June 2014

Technical Appendix

10 December 2014

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APPROVALS PAGE

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The above signed endorse and approve this Mineral Resource & Ore Reserves Statement Executive Summary.

1. INTRODUCTION

On 20th December 2012 an updated JORC[1] Code was released – the previous release being the 2004 Edition. The JORC Code 2012 Edition 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[2] as per amendments to Chapter 18 of the Listing Rules that were announced on 3rd June 2010.

The core of the changes to JORC Code is enhanced disclosure of the material information prepared by the Competent Person with the requirement for the addition of a publicly released detailed Appendix to the Mineral Resource and Ore Reserves release document, which outlines the supporting details to the Mineral Resource and Ore Reserves numbers.

This Technical Appendix provides these supporting details.

Under the JORC Code, reporting in compliance with the guidelines of JORC Code 2012 Edition became compulsory from 1 Dec 2013.

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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[1] JORC = Joint Ore Reserves Committee.

[2] 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) and 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 Reserve described in this document and for the whole Company has resulted in positive NPV's. 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 2014 Mineral Resource 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 Price (real) and foreign exchange assumptions

	Medium Term (CY15-17)	Long Term (2018+)
Zn $/lb	0.97	1.14
Cu $/lb	3.00	3.00
Pb $/lb	1.03	1.14
Au $/oz	1220	1030
Ag $/oz	21.90	21.10
A$:US$	0.90	0.82
CAD:US$	0.93	0.94

The basis for these prices was the MMG 1-April-2014 released price assumptions – with "Real" values based at date of 1-January-2014. The original corporate price guidance has where necessary, been sightly adjusted in order to simplify the Mineral Resources and Ore Reserves estimation process and to ensure consistency between sites where possible.

Operations with a life-of-asset greater than three years were directed to use the "long term" price forecasts in their estimation of Ore Reserves. In the case of future rising price commodity forecasts, these sites were also directed to adjust the Ore Reserves for the lower "medium term" price scenario for any part of the Ore Reserve to be mined in the next three years.

Operations with a life-of-asset less than three years were directed to use the "medium term" prices.

Estimation of Mineral Resources uses the long-term prices and foreign exchange assumptions.

2.2 Metal Market Analysis – Basis for Pricing Assumptions

MMG's corporate economic assumptions for metal prices are derived from a combination of broker consensus and internal strategy evaluations.

2.2.1 Market Assessment – The Global Demand for Metals

The outlook for growth in the metals and mining industry on a global scale remains positive. While demand for metals has been affected by flat economic conditions in the United States and Europe, this has been offset by the strong demand that flows from the expansion of developing economies. The global economy grew 3.0% in 2013, and the IMF-World Bank is forecasting global growth of 3.6% in 2014 and 3.9% in 2015. Advanced economies will account for 1.5% to 2% and emerging economies for 5.5% to 6%. Despite signs of a slowdown in China, the IMF sees China growing 7.5% in 2014 and 7.3% in 2015.

MMG remains confident in sustainable levels of economic growth, driven by the industrialisation and modernisation of developing economies, particularly in Asia.

2.2.2 Copper Demand and Supply

MMG has a long term positive view of copper market fundamentals with future supply likely to be constrained by declining grades and increasing costs slowing future mine production and investment. Demand for copper is expected to increase as China and developing economies continue rural urbanisation and investment in infrastructure.

Copper Supply

MMG's long term view centres on future copper supply contracting as current reserves are depleted and are replaced by lower grade and higher cost operations located in more remote and geopolitically risky locations.

Declining grades are a significant issue amongst existing producers as mining companies process increased ore to maintain levels of production. This is having an impact on cost inflation and the incentivised price of copper for mining companies to invest in future projects.

Copper Demand

The global demand for copper is dominated by China with the use of copper in the power sector accounting for more than 40% of Chinese copper demand. This increased infrastructure investment is expected to continue, further elevating levels of copper demand.

Global copper consumption growth is expected to increase as the economic recovery gathers pace among developed countries, dampening the reliance on growth in China to drive medium-term demand.

2.2.3 Zinc Demand and Supply

Zinc supply is expected to contract in the future as the market forecasts a supply deficit, given planned mine closures and a lack of major new development projects. Demand for zinc will be driven by its end use as a cost-effective anti-corrosive coating, improving the longevity of steel. Continued growth in the construction, transportation and infrastructure sectors especially in the developing economies, will correlate to solid demand for zinc in the medium-to long-term.

Zinc Supply

Expected mine closures will remove 1.8mt pa of zinc from the existing market. This includes MMG's Century mine where production from the open pit operation will come to an end in Q3 2015.

Table 2 : Upcoming zinc mine closures

Mine Closures (TOP 5)	Operator	Location	Production 2013	Expected closure
Century	MMG	Australia	488kt	Q3 2015
Brunswick	Xstrata	Canada	219kt	Closed 2013
Lisheen	Vedanta	Ireland	160kt	2015
Perseverance	Xstrata	Canada	128kt	Closed 2013
		Namibia	159kt	2017
			1,154kt	

Source: Wood Mackenzie Global copper long-term outlook Q3 2014

There are limited committed greenfield or brownfield zinc developments expected to commence operations in the short term. This is due to the scarcity of high grade and large scale deposits driven by historical under investment in exploration and the nature of zinc deposits. Future zinc supply will likely come from lower grade, higher cost underground mines as current reserves are depleted.

Zinc Demand

Demand for zinc is driven by its use in the galvanising of steel which is used mainly in building & construction, transport (including automotive) and consumer goods and appliances.

The end use of zinc is essential for the continuing industrialisation of the developing world.

The long-term outlook for zinc will be determined by the ability of miners to offset the impact of scheduled mine closures and growing demand.

2.3 Competent Persons

Deposit	Accountability	Competent Person	Professional Membership	Employer
MMG Mineral Resources and Ore Reserves Committee	Resources	Jared Broome	FAusIMM(CP)	MMG Ltd
MMG Mineral Resources and Ore Reserves Committee	Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
MMG Mineral Resources and Ore Reserves Committee	Metallurgy: Resources/Reserves	Geoffrey Senior	MAusIMM	MMG Ltd
Sepon	Resources	Kerrin Allwood	MAusIMM(CP)	Geomodelling Ltd
Sepon	Reserves	Dean Basile	MAusIMM(CP)	Mining One Pty Ltd
Kinsevere	Resources	Mauro Bassotti	MAusIMM(CP)	MMG Ltd
Kinsevere	Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
Rosebery	Resources	Mark Aheimer	MAusIMM	MMG Ltd
Rosebery	Reserves	David Brown	MAusIMM	MMG Ltd
Golden Grove (Underground & Open Pit)	Resources	Jared Broome	FAusIMM(CP)	MMG Ltd
Golden Grove - Underground	Reserves	Wayne Ghavalas	MAusIMM	MMG Ltd
Golden Grove - Open Pit	Reserves	Chris Lee	MAusIMM	MMG Ltd
Century	Resources	Mike Smith	MAusIMM(CP)	MMG Ltd
Silver King	Resources	Damian O'Donohue	MAusIMM	MMG Ltd
Century	Reserves	David Purdey	MAusIMM(CP)	QG Australia Pty Ltd
Dugald River	Resources	Mauro Bassotti	MAusIMM(CP)	MMG Ltd
Dugald River	Reserves	Richard Butcher	FAusIMM(CP)	MMG Ltd
High Lake, Izok Lake	Resources	Allan Armitage	MAPEG[1] (P.Geo)	Former MMG Ltd
Avebury	Resources	Peter Carolan	MAusIMM	Former MMG Ltd

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

[1] Member of the Association of Professional Engineers and Geoscientists of British Columbia

The Component Person Consent and Compliance Statements have been signed by each Competent Persons. These Consent Statements are kept on file by MMG.

3 SEPON – COPPER AND GOLD OPERATIONS

3.1 Introduction and Setting

The Sepon gold and copper operations are located in south-central Laos. The property is located in the Vilabouly district of Savannakhet province, 235km east of the town of Savannakhet, 40km north of the town of Sepon (Figure 1).

Figure 1 Sepon Mine location

The main road from Vientiane to Savannakhet is National Route 13, a paved single-carriageway highway. The route is located within the Mekong River basin and crosses many tributaries few of which compromise travel during exceptionally heavy wet season events. The Sepon Operation is located east of Savannakhet via National Route 9 then northward from Ban Nabo along National Route 28A.

MMG Lane Xang Minerals Limited Sepon (LXML) operates the Sepon gold and copper operations and is a subsidiary of MMG Limited. MMG owns 90% of LXML, while the Government of Lao owns the remaining 10% of LXML.

3.2 Mineral Resources - Sepon

3.2.1 Results

The 2014 Sepon Mineral Resource are summarised in Table 3. The Sepon Mineral Resource is inclusive of the Ore Reserve.

Table 3 2014 Sepon Mineral Resource tonnage and grade (as at 30 June 2014)

Sepon Mineral Resources

					Contained Metal		
Supergene Copper[1]	**Tonnes (Mt)**	**Copper (%)**	**Gold (g/t)**	**Silver (g/t)**	**Copper ('000 t)**	**Gold (Moz)**	**Silver (Moz)**
Measured	-	-	-	-	-	-	-
Indicated	30.8	2.2	-	-	689	-	-
Inferred	11.5	1.4	-	-	163	-	-
Total	**42.2**	**2.0**	-	-	**852**	-	-
Copper Stockpiles			-	-		-	-
Measured	8.5	1.5	-	-	125	-	-
Total	8.5	1.5	-	-	125	-	-
Primary Copper[1]							
Measured	-	-	-		-	-	
Indicated	7.7	0.9	0.2	6	72	0.1	1.5
Inferred	2.4	1.3	0.2	5	32	0.01	0.4
Total	**10.1**	**1.0**	**0.2**	**6**	**103**	**0.11**	**1.9**
Oxide Gold[2]							
Measured	0.8	-	2.9	8	-	0.1	0.2
Indicated	3.1	-	1.5	4	-	0.1	0.4
Inferred	1.4	-	1.2	3	-	0.1	0.1
Total	**5.3**	-	**1.6**	4	-	**0.3**	0.7
Partial Oxide Gold[2]		-			-		
Measured	0.9	-	3.5	13	-	0.1	
Indicated	1.6	-	2.3	6	-	0.1	
Inferred	1.0	-	1.2	5	-	0.04	
Total	**3.5**	-	**2.2**	7	-	**0.3**	
Gold Stockpiles		-			-		
Measured	0.7	-	1.5		-	0.03	
Total	**0.7**	-	**1.5**		-	**0.03**	
Primary Gold[3]							
Measured	-	-	-		-	-	
Indicated	11.2	-	3.2	10	-	1.2	3.6
Inferred	5.7	-	3.3	8	-	0.6	1.5
Total	**16.9**	-	**3.2**	9	-	**1.7**	5.1
Total Contained Metal					**1,080**	**2.4**	**8.63**

[1] 0.5% Cu cut-off grade contained in US$ 4.0/lb pit shells

[2] 0.6g/t Au cut-off grade contained in US$ 1230oz pit shells

[3] 1g/t Au cut-off grade contained in US$ 1230/oz pit shells. This material includes 3.2Mt at 4.3g/t Au reported above 3g/t Au cut-off grade for a potential underground Mineral Resource

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

All Mineral Resources quoted in this report were estimated from three-dimensional block models created with MineSight and Maptek Vulcan mining software. Mineral Resources are modelled using solid wireframes of geological boundaries and/or a nominal 0.1% Cu or 0.3 to 0.5 g/t Au grade boundaries which approximate the natural breaks between copper and gold mineralisation and background grades.

Grade estimation was completed using an Ordinary Kriging algorithm. Variogram and estimation parameters were defined using Vulcan and Snowden Supervisor Software. Grade estimates were modelled on geological domains and density assigned or interpolated where sufficient data exists based on Archimedes method bulk density tests.

The Mineral Resource was estimated and compiled for all Sepon deposits. Some estimates remain unchanged from those reported in June 2013 while others were subjected to minor changes due to pit shells generated using new economic parameters, some Mineral Resource estimates have been removed due to failure to meet the reasonable prospects test whilst significant changes have occurred at the Khanong and Thengkham South copper deposits where the new modelling methods have been adapted and new drilling incorporated in the estimates up to 30th June 2014.

3.3 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 Sepon Copper and Gold Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling techniques	• Grade control sample data is not used in the Mineral Resource. • Reverse circulation (RC) drilling was sampled at 1m (3kg-5kg) intervals for sub-sampling and analysis. • Diamond drilling (DD) was sampled at nominal 1m lengths modified (+/-0.5m) to geological boundaries as appropriate. • Samples are crushed and pulverised to produce a pulp (>85% passing 85 µm). • Measures taken to ensure sample representivity include orientation of the drill holes as close as practical to perpendicular to the known mineralised structure, and collection, and analysis of field duplicates. • In the view of the Competent Person sampling is of a reasonable quality to estimate the Mineral Resource.
Drilling techniques	• RC and DD techniques were used. • Since 2006 all RC holes were stopped and converted to DD when dry sample could not be maintained. The exception to this was in RC pre-collars drilled as a twin to a pre-existing hole that could not be re-entered. • All DD drilling used triple tube core barrels, largely HQ3 but with PQ3 common in the clayey near surface zones. • All DD core was orientated in fresh rocks where good orientation marks allow.
Drill sample recovery	• Sample recoveries tend to be better in DD (90%) than RC (80% calculated) with minor differences between mineralised zones and waste. • DD sample recoveries were recorded as the length of core recovered per 1m of drilling and stored in the Sepon database. RC sample recoveries were recorded as sample weight in the database and a recovery calculated based on expected weight given a particular density. • Drilling process is controlled by the drill crew and geological supervision provides a means for maximising sample recovery and ensures suitable core presentation. No other measures are taken to maximise core recovery. • Preferential loss/gains of fine or coarse materials are not considered significant. • Sample recovery in core and RC samples is better and generally of lower grade in primary rock than in the softer and higher grade transitional and oxide material as expected.
Logging	• All RC and DD core was logged on paper log sheets and entered manually into the Sepon database. All Sepon RC and DD drill core has been

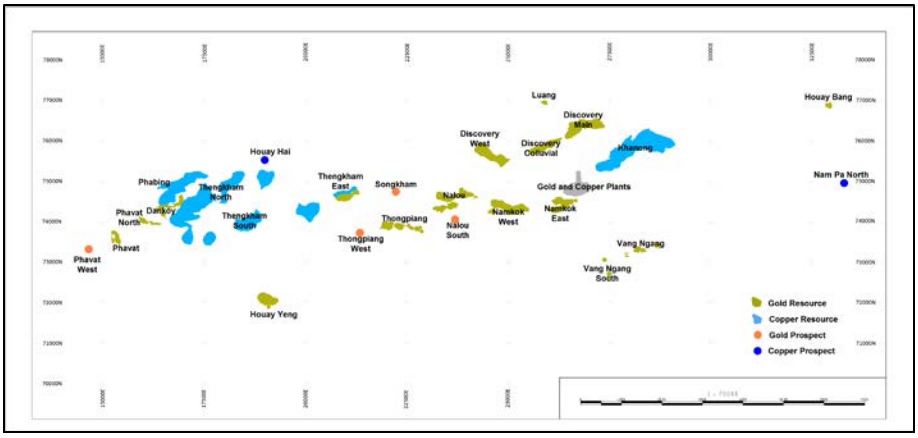
	geologically and geotechnically logged to support Mineral Resource estimation, mining and metallurgy studies. • Geological logging is qualitative, using a set of pre-determined Sepon tables for; lithology, structure, mineralisation, geotechnical, oxidation, alteration and a site developed metcode. Core was photographed and stored digitally. • All drill cores are stored at the Sepon core shed. • A total of 1,241,307.5m of drilled data is contained in the database, of this 99% is geologically logged, and 95% of drilled data contains gold and copper assays.
Sub-sampling techniques and sample preparation	• DD core was orientated along the apical trace of the reference plane (usually offset 1cm from structural orientation mark when available), and then half-core samples were taken using a diamond core saw for competent core or sampling by hand using a spatula or blade for clay-rich or rubbly material. • RC samples were collected from a cyclone and, if dry, put through a three stage riffle splitter for a 12.5% sub-sample. A 3kg-5kg (1m) sample was collected into pre-numbered sample bags for analysis. Before 2006, if RC samples were wet, then sampling was by quartering. After 2006 wet RC samples were no longer taken. • The RC and DD sample preparation techniques are considered to be of high-quality and appropriate as sample preparation techniques. • Representivity of samples was checked by sizing analysis and duplication at the crush stage. • Field duplicates were taken as an additional 12.5% split every 15m for RC drilling. DD field duplicate samples were taken as quarter core every 15m (but at times have been sampled every 20m). Duplicate samples were collected and analysed at both the coarse crush split and the pulverised split stages. Replication of the duplicates is considered satisfactory. • Sample size is considered appropriate for the disseminated gold and copper grain size for both the RC and DD samples. • All samples were bagged with a waterproof sample number into numbered calico bags and weighed. The samples were stacked and wrapped on a pallet before being transported by truck to the laboratory. • Sample processing and gold fire assaying takes place at ALS laboratory Vientiane. In the past a small proportion of the data used has been assayed at the site assay laboratory using the same methods. • Upon laboratory receipt of samples they were sorted, barcode tagged for tracking and then weighed. The samples were oven dried at 110°C (for core samples, minimum of 12 hours drying or longer until the sample has completely dried, allowing it to pass through a crusher without pelleting). The entire sample was crushed in a Jaw Crusher with 70% passing 2mm. The sample was rotary split to 3kg if required, then pulverised using an LM5 to 85% passing 85µm. • The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Sepon mineralisation (sediment hosted base metal) by the Competent Person.
Quality of	• Following sample preparation a 110g pulp aliquot for Au Fire Assay and 20g

assay data and laboratory tests	pulp aliquot for ICP multi element was taken. The 20g pulp aliquots were transported to other ALS laboratories (usually ALS Brisbane) for ICP and Leco furnace analysis. The analytical procedure is as follows: o If Au grade > 10g/t Au, re-assayed by Fire Assay Gravimetric. o If Au grade > 0.4g/t Au, re-assayed using CN Leachwell technique. o Detection limit for Fire Assay is 0.01ppm. • A multi-element suite (varying through time from 30 – 40 elements, but always including Cu, Ag, S, Mo) was analysed by ICP-AES. • If Cu > 0.5% Cu, the sample was re-assayed using an Ore Grade technique (either AAS or diluted ICP). These methods are considered total methods. The use of partial copper analysis would assist in copper species identification and is being investigated. • For some samples total sulphur, sulphide sulphur, sulphate sulphur, total carbon, carbonate carbon and organic carbon were analysed by Leco Furnace following appropriate digestion. • 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. • A quality control system uses grade and matrix matched certified standards, coarse and pulp blanks, field duplicates and pulp repeats in the assay process for each drill hole. At a minimum, every drill hole contains at least one coarse blank, pulp blank and standard. At a minimum 1 in 15 samples is a control sample (earlier programmes vary from 1 in 25 to 3 in 25). Checks of the laboratory results and data import procedures are undertaken to identify any spurious results for verification and re-assay. Acceptable levels of accuracy and precision have been established. Any suspect data is excluded from the Mineral Resource estimate. • Independent / round robin laboratory checks were conducted on a quarterly or half yearly basis until 2010. The results were generally unbiased with respect to each other, for example, Khanong has an overall relative precision of +/- ~6%. Since 2010 no independent laboratory checks have been undertaken, this is currently being re-instated.
Verification of sampling and assaying	• Verification by independent or alternative company personnel was not undertaken at the time of drilling. • For Mineral Resources containing large proportions of RC drilling, twinned drill holes were periodically drilled as part of drill quality analysis. The general conclusion was that wet and moist samples (RC) have demonstrated smearing and a positive grade bias. Areas where wet samples influence the estimate have been given a lower level of confidence when Mineral Resources are classified. Current practice is to use DD when wet conditions are experienced. Drill holes suspected of smearing are removed from the dataset prior to Mineral Resource estimation. • Laboratory result files were directly uploaded into the database with no manual data entry. • Significant assay results were compared to drill hole logging and photos on an ad-hoc basis.

	• Below detection limit assay results are stored in the database as the detection limit (negative) with appropriate metadata. No other modification of the assay results is undertaken. • Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation.
Location of data points	• Drill hole collar locations were located by differential GPS or total station survey instrument. Downhole surveys have been carried out using Eastman single-shot cameras or Reflex EZ tools. Surveys were taken at depths of 12m, 30m and then every 30m to the bottom of hole. • All drill hole collars were converted from UTM / India-Thai 1960 projection to SPG06 local grid coordinate systems. • In 2008 a LIDAR (Light Detection and Ranging) survey was completed providing an accurate topographic surface. Drill hole collar locations have been validated through a process of database and spatial checking for historical and recent data and by comparing the collar locations to the LIDAR topographic surface. A number of drill holes were identified as having suspected locations and resolved prior to modelling of the data. The LIDAR survey is considered to be of high quality and accuracy by the Competent Person for topographic control.
Data spacing and distribution	• Drill hole spacing generally ranges from 100m to 25m. • The data spacing and distribution is considered sufficient due to reconciliation and variogram analysis to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation and classification methods used at Sepon. • DD samples are not composited prior to being sent to the laboratory, however the nominal sample length is generally 1m. RC samples are 1m intervals but compositing up to 4m has occurred in the past.
Orientation of data in relation to geological structure	• Geological mapping and interpretation show that mineralisation generally strikes about 070^{0} - 090^{0} (deposit dependent); hence drilling is conducted on north -south directions so as to intersect the mineralized zone at a high angle. Most drill holes are drilled with dips of -60^{0} to -90^{0}, depending on the expected dip of the target mineralisation and surface site access for drill pads. • In parts of the TKM and TKN model areas, drill holes were drilled at -60^{0} along 090^{0} or 270^{0} from 50m spaced sections in order to reduce the need for vegetation clearance and ground disturbance in areas of steep topography. • Drilling orientation is not considered to have introduced any sampling bias.
Sample security	• Measures to provide sample security include: o Adequately trained and supervised sampling personnel o Core yard facility with security fence and well maintained sampling sheds o Cut core is sampled and stored in calico bags tied and clearly numbered in sequence o Calico sample bags are transported on wrapped pallets to the assay

	laboratory. o The laboratory checks sample dispatch numbers against submission documents and advises of any discrepancies. o Assay data returned separately in both spreadsheet and PDF formats.
Audit and reviews	• REFLEX Geochemistry completed a QC review on data from 1 January 2011 – 31 May, 2014. The conclusions reached indicate that the control samples have provided a satisfactory guide to the accuracy and precision of the analyses. • The ALS laboratory in Vientiane has been audited on a quarterly basis by site personnel. No material issues have been identified at the laboratory. • In 2008 a QC review of assay data at the Thengkham South deposit and Phabing area was undertaken (Hackman & Associates) and found that there were no obvious grade biases in the dataset, there were however quality discrepancies that required follow up. These have been addressed. • A 2008 external audit (IO Global) of the database found post-2006 analytical data to be of appropriate integrity. • In 2007 a twin hole study undertaken by QG comparing RC samples to DD samples, found that the use of all the available RC drilling is likely to be biased and overestimate tonnes above a gold cut-off. This was due to the presence of wet RC samples. Measures have been taken since this report to exclude wet RC samples from the estimate.
Section 2 Reporting of Exploration Results	
Mineral tenement and land tenure status	• These Mineral Resources are located within the bounds of the Mineral Exploration and Production Agreement (MEPA), a direct agreement with the Laos Government. The MEPA provides for exploration, development and extraction of any Mineral Resources discovered. • The Sepon Mineral Exploration and Production Agreement (Sepon MEPA) is a direct agreement with the Laos Government. The MEPA provides for exploration, development and extraction of any Mineral Resources discovered. The Sepon MEPA occupies portions of both Savannakhet Province, and Khammouane Province to the immediate north. • The Sepon MEPA originally occupied 5212km^2. Various relinquishments have occurred since it was granted in 1993, the most recent relinquishment in early 2005 has resulted in the current retained area of 1247km^2. • A royalty is payable to the Government of Laos, representing 2.5 % of the FOB value of minerals received by LXML, less all selling, transport, smelting, refining and other attributable cost to the minerals sold. • The Operating period which follows is for 20 years, to begin at the commencement of a mining operation. • The terms of the agreement provides for the right to apply for two extensions of the Operating Period with each extension for a period of ten (10) years. • There are no known impediments to operating in the area.
Exploration	• CRA Exploration (CRAE, later RTZ) first identified the Sepon Mineral District

done by other parties	as an area of interest in 1990 and formed Lane Xang Minerals Limited (LXML) as holder of the MEPA. • Between 1995 and 1999 RTZ (RTZ was formed from the merger of CRA and Rio Tinto in 1997) discovered and defined several gold only Mineral Resources and copper and gold Mineral Resources at the Khanong prospect. • Oxiana became manager of the Sepon Project in 2000 by buying 80% of LXML before later buying the remaining 20% interest from RTZ. The Laos Government exercised its option to acquire a 10% interest in LXML in 2006. • In 2008 Oxiana merged with Zinifex Ltd to form Oz Minerals. • In 2009 MMG acquired LXML from Oz Minerals. • The Sepon exploration and resource geology groups remained unchanged throughout the Oz Minerals and MMG takeovers, hence the exploration management and methods have effectively remained constant since Oxiana acquired the project in 2000.
Geology	• The Sepon project area is situated near the eastern margin of the intra-continental Khorat Basin and on the western flank of the Anamite Range fold belt. It lies within the Troungson geological region covering a broad spectrum of rocks ranging in age from Upper Proterozoic to Jurassic. The regional geology is dominated by an Upper Palaeozoic sedimentary belt of arkosic and feldspathic sandstone, variably calcareous and carbonaceous siltstone, shale and limestone which is variably dolomitized and locally marble. There are lesser volcanic rocks, typically comprised of agglomerate, conglomerate, tuffaceous sandstone, and rare coherent volcanics. The belt is cut by plutonic to sub-volcanic bodies of granite, monzodiorite, granodiorite, quartz porphyry, rhyodacite porphyry (RDP) and andesite porphyry. The intrusive rocks are preferentially emplaced along either east or north-west trending well-developed structures. • Several styles of mineralisation have been recognised within the Sepon Mineral District: porphyry-like Cu-Mo-Au mineralisation, skarnoid Cu-Mo-Au mineralisation adjacent to porphyry intrusives, distal skarn related (?) Cu-Au-Ag+/- Pb+/-Zn massive sulphide veins, Carlin type carbonate hosted gold mineralisation and carbonate hosted Mississippi Valley type Pb-Zn-Ag mineralisation. In addition weathering and supergene re-mobilisation has created supergene copper, exotic supergene copper, oxide gold and eluvial gold in karst fill deposits. • All primary deposits are hydrothermal and, at least spatially, related to the RDP intrusives. Supergene copper mineralisation results from the oxidation, dissolution and transport of primary sulphide hosted copper mineralisation to sites where chemical conditions result in copper precipitation (reduced groundwater, replacement of sulphide, reaction with alkali carbonate). Supergene copper mineralisation occurs above and down slope of primary mineralisation. Chalcocite mineralisation replaces massive pyrite immediately above the skarns. Copper carbonate mineralisation occurs where copper rich groundwater reacts with carbonate rocks. The best supergene copper zones occur above higher grade zones of primary mineralisation and have a vertical profile with the best grades immediately above the base of weathering. • Gold mineralisation mostly occurs in the fault zones and adjacent to the

	fault zones at the contact between the dolomite of the Nalou formation and the overlying shales and nodular carbonate of the Discovery Formation. Mineralisation occurs in association with decalcification and partial silica replacement of calcareous mudstones, and typically is best developed within the Discovery formation. But can also occur as a karst-controlled residual or collapse breccia deposit within the underlying Nalou formation, with mineralised jasperoid boulders occurring within a matrix of decomposed rock and clays. Regional WNW-striking, steeply NNE-dipping normal faults are believed to have been the major pathway for ascending mineralizing fluids. • Primary gold mineralisation occurs as Carlin style gold forming distally to the copper skarn systems. Mineralisation occurs in association with decalcification and partial silica replacement of calcareous mudstones ('jasperoid') along steep faults, and is typically best developed at the contact of the Nalou Formation (dolomite) and the overlying Discovery Formation (nodular calc-shale). • Oxide gold mineralisation shows further control by weathering processes with very high grade zones developed as karst fill (mineralised jasperoid boulders occurring within a matrix of decomposed rock and clays) on chemically weathered carbonate rocks.
Drill hole information	• No individual drill hole is material to the Mineral Resource estimate and hence this geological database is not supplied.
Data aggregation methods	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section. • No metal equivalents were used in the Mineral Resource estimation.
Relationship between mineralisation width and intercepts lengths	• Mineralisation true widths are captured by interpreted mineralisation 3D wireframes. • Most drilling was at -60° to -90° angles in order to maximise true width intersections. • Geometry of mineralisation is interpreted as sub- horizontal in the supergene and sub-vertical in the hypogene material and as such current drilling allows true width of mineralisation to be determined.
Diagrams	 **Location of Sepon gold and copper deposits**

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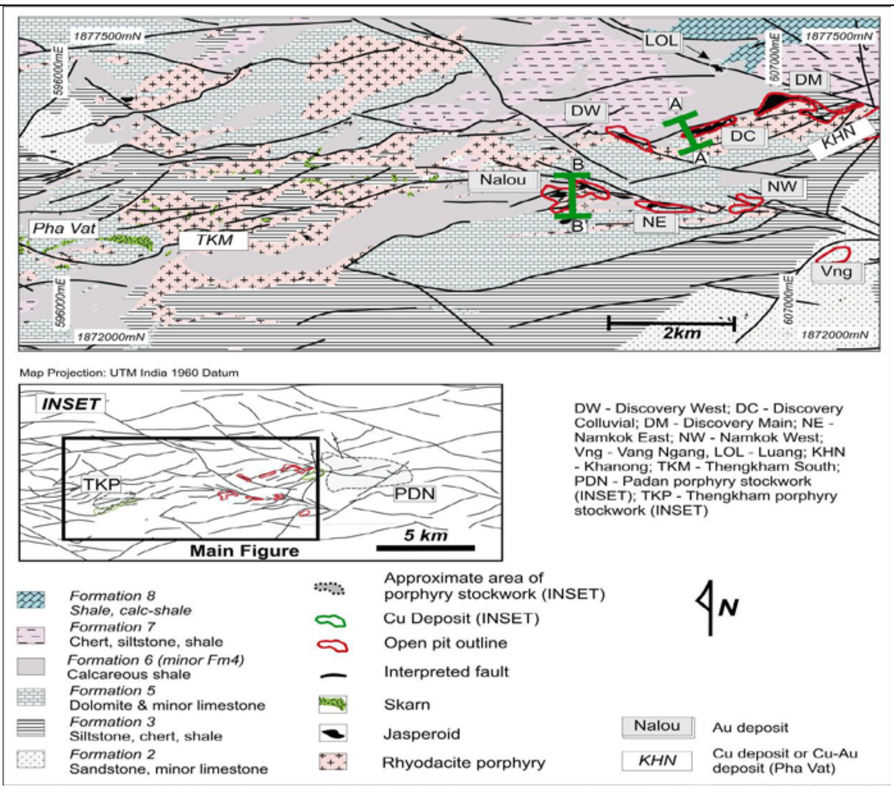
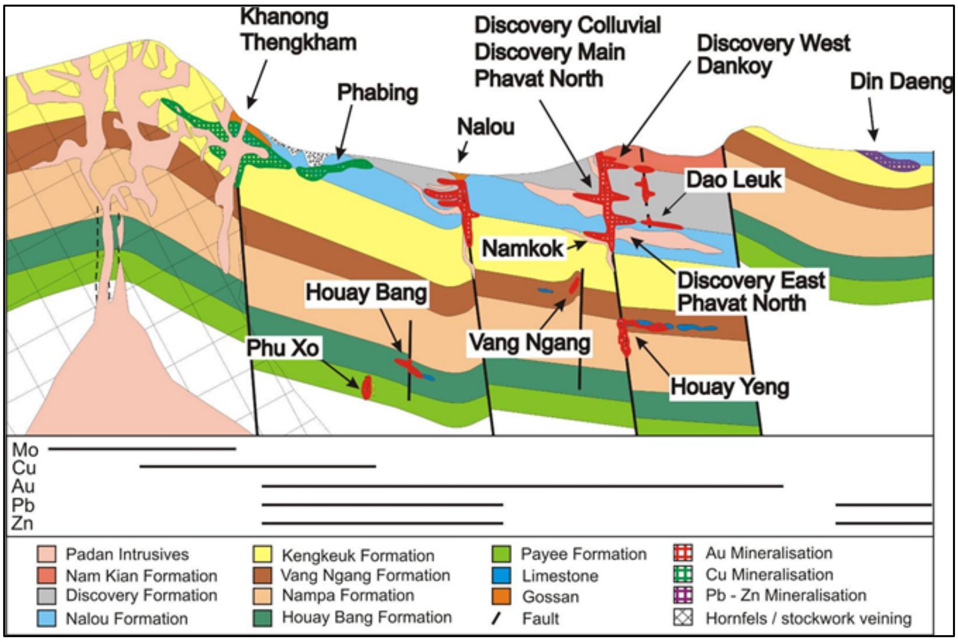


Summary geological map of the Sepon Mineral District (Smith, S.G. et.al, 2005)



A generalised east - west cross section of Sepon deposit is shown above.
</td></tr>
<tr><td>Balanced reporting</td><td>

- This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
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<tr><td>Other substantive exploration data</td><td>

- This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
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Further work	• Exploration within the 2014/2015 drill season's primary focus is to: o Increase the known Mineral Resource base for oxide copper through discovery of new copper deposits and definition of early stage targets to advanced exploration targets. ▪ Drilling of the Padan copper prospects and Katia prospects as priority o Increase the known Mineral Resource base for gold through drilling of advanced gold exploration targets. ▪ Drilling of oxide gold targets that resemble the known Houay Yeng and Nalou/Discovery style mineralisation.
Section 3 Estimating and Reporting of Mineral Resources	
Database Integrity	• The following measures are in place to ensure database integrity: o The Sepon geological database system consists of three components. A manual Field Logging System, a Data Entry Database (DEDB), and a Master Database (LaoDB). Each digital component is configured to run in SQL Server with user access and permissions. The DEDB works as a quarantine and compilation system. o The supervising database geologist reviews all new data against original paper logs, with corrections made prior to loading into LaoDB which is done via SQL Server stored procedures to detect and hold any errors on import. • The GBIS database and logging system was introduced in 2006 and populated from the pre-existing aQuire© database. Ongoing analytical data is uploaded directly from laboratory SIF files. • The measures described above ensure that transcription or data entry errors were minimised. • Data validation procedures include: o Validation routines by database personnel check for overlapping sample, lithological and alteration information, as well as reject criteria such as logging information past EOH depth. o Data used in the Mineral Resource has passed a number of validation checks both visual and software related prior to use in the Mineral Resource.
Site visits	• The Competent Person has undertaken numerous (more than 20) visits to Sepon since 2006 in the course of providing Mineral Resource estimation services.
Geological interpretation	• Prior to Mineral Resource estimation an underlying three dimensional geological model (stratigraphy, structure and intrusives) was made for all deposits. All the domains used for estimation were interpreted using known controls on the domain variable with the geological model as a framework. For example the gold grade domains, whilst interpreted at a nominal gold grade, follow favourable stratigraphic contacts and controlling fault structures. Confidence in the geological (domain) interpretation for all Sepon Mineral Resource estimates is high.

	- For the copper deposits a surface to demarcate the base of supergene mineralisation is interpreted using logged drill hole data and assay data. A boundary cut-off for most copper deposits is 0.1% Cu, with a 1% Cu domain used in the Khanong copper carbonate material. For gold deposits a domain cut-off of 0.2g/t Au – 0.5g/t Au was used. These domain cut-offs were selected by identifying population breaks in the sample data geostatistically. As well, visual investigations ensuring that these cut-offs displayed reasonable continuity in three-dimensional space taking into account the local geology. - Where alternative interpretations of the placement of the interface between supergene and hypogene (primary) material exists, material adjacent to the surface to have been downgraded to Inferred classification. This includes large amounts of hypogene (primary) copper material as the geometry of this material is uncertain due to drill hole density at depth. In the supergene copper zones the logging of key minerals used to distinguish chalcocite mineralisation from copper carbonate mineralisation is at times incompatible with assay data. In these situations the assay data 'over-rides' the logging data. - The underlying geological models were largely interpreted from logged drilling data and deposit scale surface geological mapping. - Where geologically plausible alternative interpretations exist the Mineral Resource category was downgraded. - The geological continuity of mineralisation and ore mineralogy is a key input into Mineral Resource classification with supergene copper mineralisation in the Thengkham area generally requiring closer spaced drilling to achieve the same Mineral Resource category compared to the Khanong deposit. This largely reflects reduced ore mineralogy continuity rather than ore grade continuity.
Dimensions	- Sepon hosts a number deposits, the dimension of each respective deposit included in this Mineral Resource is listed below. Various block models cover the extents, where block model extents may overlap, to prevent the double reporting of Mineral Resources wireframes are created to limit various blocks to only within the wireframe. Most deposits outcrop at or near the surface and can extend down up to 600m. Strike length and width is variable between deposits. o TKN: E16600 - E19650, N73750 - N75502, RL150 - RL600 o TKM: E16454 - E21614, N73160 - N75128, RL50 - RL600 o PHB: E15950 - E17750, N74250 - N75470, RL0 - RL500 o KHN: E26600 - E29125, N74748 - N76523, RL-50 - RL650 o DSW: E23875- E25555, N75250 - N75970, RL0L - RL300 o DSM: E25500 - E28200, N75250 - N77110, RL150 - RL450 o NLU: E22700 - E24500, N73730 - N75350, RL150 - RL325m o NKW; E24500 - E26060, N74000 - N75320, RL0m - RL300m o PVN_DKY: E15300 - E17460, N73700 - N75200, RL-0 - RL650 o PVW: E15300-E17280, N73450-N75010, RL-325- 655

	o VNS: E27100 - E27820, N72400 - N73300, RL-0 -500 o HYN: E18700 - E19975, N 71700 - N 72420, RL-50 – RL400 o LOL: E25500 - E26550, N76600 - N7720, RL-400 - RL350 o PVT: E15000 - E15768, N73100 - N73895, RL75 - RL300
Estimation and modelling techniques	• Mineral Resource modelling was completed in Maptek Vulcan mining software using Ordinary Kriging, exploratory data analysis, variography and search neighbourhood optimisation for each domain was performed using Supervisor or Isatis geostatistical software. Mineral Resource estimation applied the following key assumptions and parameters: o Copper and gold is estimated using Ordinary Kriging (OK) which is considered an appropriate technique for estimating the Sepon Mineral Resource. o Visual assessment of the relationship between grade distribution and underlying geology supports the use of grade-based domains for constraining the Mineral Resource estimation. This is confirmed by statistical analysis which shows a clear grade increase across mineralisation boundaries. o Copper block models: geostatistical domains comprised various combinations of copper grade (nominal 0.1% Cu grade shell), lithology, oxidation (supergene / hypogene), sulphur grade (0.5% S grade shell in supergene) and orientation wireframes. Cu, Au, Ag, Mo were estimated using Ordinary Kriging. o Gold block models: geostatistical domains comprised gold grade domains (0.3g/t Au – 0.5g/t Au)), lithology, oxidation (base of complete oxidation, base of partial oxidation and primary domain) and orientation wireframes. Au, Ag, Cu were estimated using Ordinary Kriging. o A composite length of 2m down hole was chosen, and the compositing process checked and validated. o Separate semi-variogram models were created for all grade, copper species and lithological domains for all estimated elements. o The estimates of copper and gold was undertaken using hard domain boundaries and a series of elliptical search passes orientated in the plane of mineralisation. Estimation was performed using multiple passes. o These search orientations and sizes were derived from domain variography. In general first pass search distances for most deposits range between 30m x 20m x 10m to 100m x 60m x 40m, additional larger passes were used to interpolate less well informed blocks. However this varies from deposit to deposit o The minimum and maximum number of composites allowable to interpolate a block was typically set at 6 and 30 respectively. o Octant searches were used for the first two passes. o Discretisation varies between deposits 4x4x4 and 5x5x2 are common.

- Check estimates on the KHN, TKM and NLU models was undertaken by H&SC. The copper check estimates were unconstrained and employed independent variography and search strategies. These check models were within 10% of the contained metal of the MMG models. The NLU check model indicates that the MMG model underestimated total metal by up to 20% at a 0.5g/t Au cut-off. At 1g/t Au cut-off metal between the check model and the MMG model are comparable. Reconciliation with the Khanong grade control block model was undertaken. For the period July 2013 – September 2014 the Khanong results indicate comparable copper grade but high variability on tonnages. This has resulted in an over-estimation of metal. Globally, the 2014 Khanong block model has shown an improvement in reconciliation compared to previous models. Prior to the oxide gold plant shutting down in late 2013 reconciliations showed some level of inconsistency on predicted grade and tonnage by the Mineral Resource models on a pit by pit basis. The primary gold material has never been mined and as a result, no reconciliation to grade control can be undertaken.
- Sepon does not produce any by-products hence no assumptions regarding the recovery of by-products are made in the estimate or cut-off and reporting.
- Ancillary elements; Ca, Mg, Mn, Fe, total sulphur, sulphide sulphur, sulphate sulphur, total carbon, carbonate carbon and organic carbon were estimated into blocks by OK and inverse distance to the power of two (where there was insufficient data).
- In the copper block models parent block sizes of 10m to 24m x 6m to 24m x 5m [East (X); North (Y); Elevation (Z)] were used. The parent block size took into consideration: the data spacing, likely mining methods and copper variogram models (QKNA). Sub-blocks honouring topography, copper grade domains and the base of supergene were used. The parent block size adequately delineates the ore zones within the block model, without compromising the localised calculated block variances. Using similar methods, parent blocks of 15m x 6m x 2.5m [East (X); North (Y); Elevation (Z)] were used in the gold block models. Estimation was into the parent block.
- No assumptions have been made regarding modelling of selective mining units.
- In various block models assumptions of variable correlations have been made between calcium and magnesium (present in the dolomite) supported by moderate to high (deposit dependent) correlation coefficient (r) values.
- Grade capping was employed in various deposits depending on the results of geostatistical analysis. The typical upper-cut used is the 99th percentile to contain outliers however this may vary depending on the results of geostatistical analysis. For some domains however, high-yield restrictions was applied to contain outliers, these values were generally not less than in the 99th percentile of the data, however this may vary depending on the results of geostatistical analysis.
- The block models and estimate has been validated in the following ways:
    - Visual inspections for true fit with the high and low grade wireframes (to check for correct placement of blocks and sub-

	blocks). o Block model to wireframe volume differences are checked. o Visual comparison of block model grades against composite file grades. o Global statistical comparison of the estimated block model grades against the composite statistics and raw data. o Global and local (on key sections) swath plots through the deposits are undertaken.
Moisture	• Tonnes in the model have been estimated on a dry basis.
Cut-off parameters	• Copper Mineral Resources have been reported at a cut-off grade of 0.5% copper. This cut-off grade is 40% - 50% of the Ore Reserve cut-off grade and allows for various options for processing low grade supergene and primary ores that are currently under investigation. • Gold Mineral Resources have been reported at a cut-off grade of 0.6g/t Au for open pit oxide gold and 1g/t Au for open pit primary gold. Potential underground Primary Gold was reported at 3g/t Au cut-off. This cut-off grade was in use during oxide processing onsite and allows for various options for processing primary ores that have been investigated. • This Mineral Resource cut-off represents material that has reasonable prospects for eventual economic extraction.
Mining factors or assumptions	• The Mineral Resources are further constrained to within pit shells optimised using optimistic pricing and assuming that low grade processing methods currently being investigated prove successful.
Metallurgical factors or assumptions	• That the current copper processing plant will continue to operate treating chalcocite and copper carbonate ores. • That options for treating low grade copper ores, including chalcocite (pre-concentration by flotation), copper carbonate (resin in pulp, beneficiation by removal of high acid consuming gangue in a scrubber) and primary ores (flotation) will prove technically and economically successful. • That the existing oxide gold plant could be re-started to treat oxide gold material. • Those options for treating primary gold material will prove technically and economically successful.
Environmental factors or assumptions	Environmental permitting in the Lao PDR is currently completed through the environmental and social impact assessment (ESIA) process. • The ESIA process is similar in nature to the process followed around the world. In February 2010, the Lao PDR issued the Decree on Environmental Impact Assessment. This decree replaces previous legislation. • In November 2011, the Environmental Impact Assessment Guidelines were released. This document was prepared in partnership with the Environmental Management Support Programme (a joint venture of the Lao and Finnish governments) and the Ministry for Foreign Affairs of the Government of Finland. The EIA Guidelines document provides an interpretation of the Decree and outlines the government expectations for what will be in an ESIA

<table>
<tr><td></td><td>and how the ESIA should be conducted.

These two documents outline the process for environmental assessments in the Lao PDR. The Decree and associated guidelines - change the process for future environmental certificates required sustaining business growth.
The ARD characteristics were assigned to the model item ARD using the lithology domain and sulphur grade as described in table below. The values used were based on a study undertaken by Environmental Geochemistry International.
<table>
<tr><th colspan="4"><i>NAF and PAF values assigned in the modelling process</i></th></tr>
<tr><th>Lithology domain</th><th>S1/2/3/4</th><th>ARD Code</th><th>Description</th></tr>
<tr><td>All except Dolomite</td><td>>0.3 %S</td><td>1</td><td>PAF</td></tr>
<tr><td>Dolomite</td><td>>0.3 %S</td><td>2</td><td>NAF</td></tr>
<tr><td>All</td><td><0.3 %S</td><td>3</td><td>NAF</td></tr>
</table>
Where PAF = potentially acid forming, NAF = not acid forming</td></tr>
<tr><td>Bulk Density</td><td>Samples for bulk density determination are taken from diamond drill core every 10m using wax coated core immersion method to account for void spaces. Global density may be overstated due to the arbitrary choice of sample i.e. only semi-competent material can be used with the current method.
The bulk density determinations were estimated into the TKM block model by inverse distance squared weighting within lithological domains where adequate data exists.
In the other deposits where density data is sparser, density was assigned to the block model using average values within ore domains and lithological domains. Reconciled mined tonnes demonstrate these values are robust, however, recent studies on assignment values based on bulk density determination suggest that the density of supergene copper carbonate mineralisation may be over-estimated.</td></tr>
<tr><td>Classification</td><td>Classification is determined by examination of the following criteria:
Geological: mineralisation continuity including spatial configuration and spatial continuity.
Sample quality: areas of wet RC drilling are downgraded.
Statistical: kriging efficiency and kriging slope of regression.
Data: the relative data density, distance of nearest composite and number of composites used.
Classification is applied using classification wireframes constructed around aggregate areas generally conforming to the classification criteria listed above.
Appropriate account has been taken of all relevant factors to classify the Mineral Resource.
The Mineral Resource classification reflects the Competent Person’s view on the confidence and uncertainty of the Sepon Mineral Resource.</td></tr>
<tr><td>Audits or</td><td>Minerals & Metals Group has an internal ‘Mineral Resource and Ore Reserve Policy’ that requires at a minimum external reviews every three years, and</td></tr>
</table>

reviews	internal company review every interim year by MMG representatives reporting findings to a sub-set of the Minerals & Metals Group Mineral Resource and Ore Reserve Committee. 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. • In 2014 the updated TKM and KHN Copper Mineral Resource estimates were audited by H&SC Consultants. Numerous recommendations were made, the most significant relating to the treatment of high grades at TKM (considered too harsh by H&SC) and the distinction between supergene and primary copper mineralisation, which has allowed high grade mineralisation to be projected into areas that are probably barren waste. These will be addressed at the next update of the relevant Mineral Resource estimates. The NLU estimate was also reviewed, with the major finding that a 0.5g/t Au domain cut-off introduced conditional bias primarily into the oxide material (reported at 0.6g/t Au). • These issues will be addressed in updates to the models.
Discussion of relative accuracy / confidence	• Block model estimation provides a global estimate of tonnes and grade without adjustment for change of support. • Available reconciliation data below shows some level of inconsistency on predicted copper grade and tonnage by the Mineral Resource models on a pit by pit basis. There is some variability in the monthly reconciliation of copper tonnes and grade. With the exception of Khanong there is no clearly defined trend for the Mineral Resource model under/over-estimating tonnage and grade. At Khanong, there is evidence that metal has been over-estimated. • Prior to the oxide gold plant shutting down in late 2013 reconciliations showed some level of inconsistency on predicted grade and tonnage by the Mineral Resource models on a pit by pit basis. The primary gold material has never been mined and as a result, no reconciliation to grade control can be undertaken.

3.4 Ore Reserves – Sepon

3.4.1 Results

The 2014 Sepon Ore Reserve are summarised in Table 5.

Table 5 2014 Sepon Ore Reserve tonnage and grade (as at 30 June 2014)

Sepon Ore Reserve			
Supergene Copper	Tonnes (Mt)	Copper (%)	**Contained Metal** **Copper ('000 t)**
Proved	-	-	-
Probable	8.8	4.3	381
Total	**8.8**	**4.3**	**381**
Copper Stockpiles			
Proved	5.6	1.8	98
Total	**5.6**	**1.8**	**98**
Total Contained Metal			**479**

For sulphide material cut-off is between 1.1% to 1.2% dependent upon pit haul distance to the crusher. For low acid consuming carbonate material cut-off is 1.4% Cu. For high acid consuming carbonate material cut-off is between 2.6% to 3.1% Cu dependent upon pit haul distance to the crusher and average gangue acid consumption per area. Figures are rounded according to JORC Code guidelines and may show apparent addition errors.

3.5 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 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 6 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Sepon Copper Ore Reserve 2014

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of the Ore Reserves. • MMG updated the Sepon Mineral Resource in June 2014 in accordance with the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 edition. The Mineral Resources were estimated and compiled for 18 deposits, however, some estimates were unchanged since June 2012 and others updated due to additional drilling. Mineral Resources are modelled using solid wireframes of geological boundaries and/or a minimum 0.5% Cu cut-off boundary which approximates the natural break between copper and gold mineralisation and background grades. • The Ore Reserves includes ore on stockpiles. • Mineral Resource classification does not take into account the calcium and manganese grade. Classification is only based on the confidence of the copper or gold estimation. Calcium and manganese forms the basis for the gangue acid consumption (GAC) estimate which is a large proportion of the processing costs. As a result, there is a risk to the economics used in the cut-off grade (COG) calculation. Some risk has been removed though the averaging of the GAC.
Site visits	• The Competent Person, Dean Basile, visited the Sepon site 7-11 April 2014 to conduct an Ore Reserve Method Audit. He is now currently contracted by MMG as the mining lead for a Prefeasibility Study. The 2014 Audit concluded that the operational practices were sound and comparable to industry standards. All recommendations from the audit have been addressed in the 2014 Ore Reserves.
Study status	• The mine is an operating entity. The Ore Reserves are based on actual operating data.
Cut-off parameters	• Break even cut-off grades were calculated for both the sulphide and carbonate ores. The COG estimates included all relevant costs incurred post mining and as "from the pit edge". The calculated COG's are approximately 1.1% Cu and vary depending upon pit haul distance to crusher and average GAC per area. • Improvement has been made in the method used to estimate copper cut-off grades, from previous years.
Mining factors or assumptions	• Pit optimisations and designs adhered to recommended geotechnical parameters. The inter-ramp slopes used range between 18° – 40° for the clay material and 35° – 50° for the more competent material. The direct parameters that influence the

Assessment Criteria	Commentary
	inter-ramp slope angle using the current slope design parameters at Sepon are: o Rock type; o Hardness of the material o Geotechnical Sector; and o Groundwater conditions (Wet or Dry). • The mine is an operating entity. The Ore Reserves are based on actual operating data and projected forecasts. Additional pits that are yet to be developed are similar in nature to the current mining environment. • Mining dilution was estimated to be 5% and mining recovery used was 95%. Historical performance and high level dilution modelling were used to support these assumptions. Further work is required to better quantify and define mining dilution and recovery. • The minimum mining width used for optimisations and design consideration was 20m, based on the size of current mining fleet. • No Inferred Mineral Resource has been considered in any part of the derivation of the Ore Reserves • Current mining infrastructure is sufficient to realise the Ore Reserves. • At the time of preparing the 2014 Ore Reserve further investigations were ongoing to refine the geotechnical parameters at one of the main copper mining areas. The outcome from this analysis has the potential to influence overall NPV its potential impact on Ore Reserves is low.
Metallurgical factors or assumptions	• The Sepon mine is an operating entity. The metallurgical process is a hydrometallurgical process involving grinding, tank leaching, autoclave leaching, solvent extraction and electrowinning. The process has been operating successfully since start up in 2005. • Copper recovery is determined by the equation: Cu recovery (%) = (Cu Grade – Tails Grade (0.38%) / Cu Feed Grade) – Soluble Loss (2.6%) • The median fixed tails grade of 0.38% is derived from analysis of historical data as well as from test work of drill core samples. The difference between actual and predicted performance shows a small unfavourable bias of 1.2% for the last 18 months. A program to understand this difference and improve the reliability of the predicted performance is currently in progress. Over the last 5 years actual recovery has averaged over 90%. • The main deleterious component in the ore is dolomite which increases acid consumption in the leaching process. Gangue acid consumption is estimated for oxide ore using the formulas: if Ca/Mg < 2.5 AND Ca>Mg 30.5 + 43.8 x %Ca + 16.5 x %Mn

Assessment Criteria	**Commentary**
	if Ca/Mg > 2.5 30.5 + 43.8 x %Mg x 1.65 + 16.5 x %Mn if Ca/Mg < 2.5 AND Mg>Ca 30.5 + 43.8 x %Mg x 0.1 + 16.5 x %Mn Net acid consumption is then calculated using the formula: NAC (kg/t) = GAC (kg/t) + Acid Lost To Tails (kg/t) – Acid Generated From POX (kg/t) • The NAC formula includes consideration for the acid that is lost to tails in addition to the acid that is generated from an autoclave through oxidation of pyrite. • For sulphide ore, which does not contain much dolomite a gangue acid consumption of 15 kg/t is assumed which is the historical average. • As required, blending of oxide and sulphide ore is used to control the acid requirement. • The inclusion of a term for Mn in the gangue acid equations reflects a small, but significant consumption of acid by manganese wad. • For Ore Reserves, a processing rate of 2 Mtpa of ore and 90 ktpa of copper cathode has been assumed. Both production rates have been demonstrated as sustainable over the last 2 years.
Environmental	• Operations at Sepon are permitted by the Government of Lao (GoL) under the Decree for Environmental Impact Assessment (2010) and the National Agreement on Environment Standards (2010). • Current management of all mineral wastes at Sepon is governed by the MMG Waste Rock Management Sustainability Standard and Waste Rock Management Code of Practice. • Waste rock acid generation is currently based on the sulphur grade. Potential acid forming (PAF) material is defined as material with a sulphur grade above 0.3 %. Waste is separated based on its potential for acid generation, with acid generating material being encapsulated within the waste dump. • The tailings dam is currently at the 295mRL, to provide capacity for the Ore Reserves it needs to be increased to the 305mRL, this cost has been included in the cash flow model.
Infrastructure	• No significant additional site infrastructure is required to realise the open pit Ore Reserves.
Costs	• The site operating costs used in the determination of Ore Reserves were provided by the site Commercial department. Information was sourced from the 2014 Budget, these costs are in line with historical performance. • The mining costs have been based on the historical, contractor rates (rehandle and reclaim) and forecasted costs. All relevant costs have been considered in the derivation of the Ore Reserves. Mining costs have been included in the optimisations and cash

Assessment Criteria	Commentary
	flow model. Relevant costs approximate to a mining cost of US$2.70/t mined, this cost varies with mine area, elevation and the number activities applied to a given mining block. • The processing costs, including pant maintenance used in the determination of Ore Reserves were based on historical and forecasted site cost models. Approximate processing costs of US$60/t of ore and US$370/t copper produced are estimated once all relevant fixed and variable costs have been applied. The specific cost will vary by ore type and GAC. • The Ore Reserves used information supplied by MMG Corporate in regards to metal prices and economic assumptions. The long term copper price assumption of US$3.00/lb was used for evaluating all pits. Metal prices are derived from a combination of broker consensus and internal strategy evaluations • No exchange rate is used in the Ore Reserves estimate as all expenditure and revenue is reported in US dollars. • Copper cathode is produced on site limiting the selling costs to US$79/tonne copper metal. The selling cost includes all onward costs such as transportation and marketing. • A cash flow model was produced based on the detailed schedule. This model includes the aforementioned costs as well as all sustaining capital that is needed to realise the Ore Reserves. • A royalty of 4.5% to be paid to the Government of the Lao P.D.R has been used. • Current general and administration site costs and the mining costs have been used to forecast future costs. All relevant costs have been included in the Ore Reserves estimation, however a greater understanding and separation of fixed and variable costs would refine the cash flow model. Potential changes are not expected to have a material effect on the Ore Reserve estimate.
Revenue factors	• The Ore Reserves used information supplied by MMG Corporate in regards to metal prices and economic assumptions. The long copper price assumption of US$3.00/lb was used for evaluating all pits. Metal prices are derived from a combination of broker consensus and internal strategy evaluations. • Copper cathode is produced on site limiting the selling costs to US$79/tonne copper metal. The selling cost includes all onward costs such as transportation and marketing. • An LME premium of US$100/tonne copper metal is received on Grade A cathode that is produced. It is assumed that 90% of produced copper will receive this premium.
Market assessment	• MMG takes a long term positive view of copper market fundamentals and believes that demand will continue to grow at a faster rate than new supply coming online. While global copper output is forecast to expand, MMG's view is that it will tighten over time due to a reduction in discoveries, higher production costs and

Assessment Criteria	**Commentary**
	declining grades.
Economic	• The inputs that inform the economic analysis include all foreseeable operating and capital costs, resulting in a positive NPV for the Ore Reserve. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit. • The assumptions outside of MMG's direct control i.e. metal price were varied +/-20% with the results indicating that the Ore Reserve is robust. • At the cut-off grades used for the Ore Reserves the Sepon operations have robust economics.
Social	• The Social Management and Monitoring Plan (SMMP) is the guiding document that describes the strategies used by Sepon in cooperation with key stakeholders to manage the social impacts and opportunities for local communities affected by mining operations. The SMMP has been developed in cooperation with external consultations and dialogue with all levels of Government of Lao PDR. The SMMP is designed according to a government approved template. • Where community access agreements to land for mining have not been settled, no Ore Reserves have been declared.
Other	• No naturally occurring risks have been identified. • All necessary legal and marketing arrangements are in place to realise the Ore Reserves. • All government agreements and approvals required to realise the Ore Reserves are current and will be in place until the end of mine life.
Classification	• The Ore Reserves estimate is based on the Mineral Resource estimates classified as "Measured" and "Indicated" after consideration of all mining, metallurgical, social, environmental and financial aspects of the operations. • All Proved Ore Reserves have been derived from the Measured Mineral Resource only where grade control drilling has been carried out on a 5m x 3m pattern and material mined and stockpiled. • All Probable Ore Reserves have been derived from Indicated Mineral Resources based on the supporting data. Indicated Mineral Resources exist where grade control has not been conducted with drilling generally based on a 25m to 50m spacing. • The Ore Reserves do not include any Inferred Mineral Resources in any of Ore Reserves classifications.
Audit or Reviews	• An Ore Reserve Method Audit was completed by Mining One Pty Ltd in April 2014.
Discussion of relative accuracy/ confidence	• Whilst there are a number of parameters for which there is low confidence, the impact of this uncertainty on the remaining Ore Reserves is such that the likelihood of destroying the robust

Assessment Criteria	**Commentary**
	economics of the remaining Ore Reserves is low. • The Ore Reserves are based on a global estimate with the exception of material that has been grade controlled on a 5m x 3m pattern, mined and stockpiled. • This Ore Reserve is based on the results of an operating mine. The confidence in the estimate is compared with actual production data. This data is subject to continual review.

3.5.1 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 – Sepon Ore Reserve

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
EXPERT PERSON / COMPANY	**AREA OF EXPERTISE**
Kerrin Allwood, Resource Estimation Consultant	Geological Resources
Sunil Karwasra, Superintendent - Integrated Mine Plan, Mining, MMG Ltd (Sepon)	Mining/Mining Engineering
Timothy Cribb, Infrastructure Manager – Sepon MMG Ltd (Sepon)	Infrastructure and Capital Projects
Cameron Legg, Senior Mining Engineer MMG Ltd (Melbourne)	Mining Engineering
Richard Horton, Senior Mining Engineer MMG Ltd (Sepon)	Mining Engineering
Erik Laurant , Manager Processing MMG Ltd (Sepon)	Metallurgy
Latdavanh Nhotmanhkhong, Manager - Commercial MMG Ltd (Sepon)	Economic Assumptions
Christian Holland, Geotechnical Engineering Specialist MMG Ltd (Melbourne)	Geotechnical Assumptions
Donna Noonan, Senior Closure Planning Advisor MMG Ltd (Melbourne)	Closure
Simon Ashenbrenner, Concentrate Marketing Manager MMG Ltd (Melbourne)	Marketing

4 KINSEVERE OPERATION

4.1 Introduction and setting

Kinsevere is located in the Katanga Province, in the southeast of the Democratic Republic of Congo (DRC). It is situated approximately 27 kilometres north of the provincial capital, Lubumbashi (Figure 2), at latitude S 11° 21′ 30″ and longitude E 27° 34′ 00″.

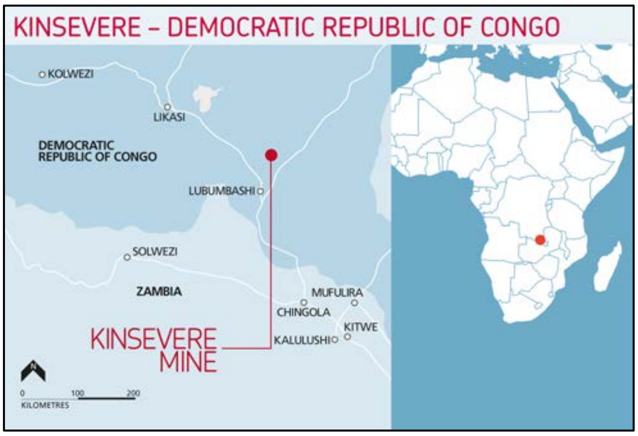


Figure 2 Kinsevere Mine location

Kinsevere is a conventional truck and excavator operation with atmospheric leaching of the oxide ore using a solvent extraction electro-winning (SX-EW) plant. The mine was started in 2006 using heavy media separation (HMS) and an electric arc furnace operation. The electric arc furnace was put on care and maintenance in 2008 with HMS then producing a direct shipping ore product grading 25% copper. The HMS was decommissioned in June 2011 when the Stage II SXEW plant was commissioned. The Stage II plant was designed to process up to 1.6Mtpa of ore and produces approximately 65,000 tonnes of copper cathodes. These design rates are now being exceeded.

4.2 Mineral Resources - Kinsevere

4.2.1 Results

The 2014 Kinsevere Mineral Resource are summarised in Table 8. The Kinsevere oxide Mineral Resource is inclusive of the Ore Reserve.

Table 8 2014 Kinsevere Mineral Resource tonnage and grade (as at 30 June 2014)

Kinsevere Mineral Resource					
				Contained Metal	
Oxide Copper[2]	**Tonnes (Mt)**	**Copper (% TCu[1])**	**Copper (% AsCu[1])**	**Copper TCu ('000 t)**	**Copper AsCu ('000 t)**
Measured	7.0	3.8	3.0	264	212
Indicated	12.2	3.2	2.7	395	332
Inferred	0.5	2.9	2.5	16	14
Total	**19.7**	**3.4**	**2.8**	675	558
Oxide Copper Stockpiles					
Measured	5.3	2.7	2.0	144	108
Total Oxide Copper	**5.3**	**2.7**	**2.0**	**144**	**108**
Primary Copper[3]					
Measured	-	-	-	-	-
Indicated	-	-	-	-	-
Inferred	24.6	2.5	0.6	620	-
Total Primary Copper	**24.6**	**2.5**	**0.6**	620	-
Total Contained Metal				**620**	**666**

1 TCu stands for Total Copper, AsCu stands for Acid Soluble Copper.
2 0.75% Acid soluble Cu cut-off grade contained in US$ 4/lb oxide pit shell.
3 0.75% Total Cu cut-off grade contained in US$ 4/lb sulphide pit shell.
Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Contained metal does not imply recoverable metal.

4.3 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 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling techniques	• The Mineral Resource uses both grade control (GC), reverse circulation (RC) drilling and exploration/resource delineation diamond drilling. Grade control samples are obtained by RC drilling and composited into 2m samples. • Resource delineation and exploration drilling samples are obtained by diamond drilling (DD). Drill core is sampled in 1m intervals while samples in un-mineralised zones are over 4m lengths. Sampling is performed by cutting half core, with half retained on site for future reference. • Each sample was crushed and pulverised to produce a pulp (>85% passing 75 µm) prior to analysis at the site SGS laboratory. • Measures taken to ensure sample representivity include orientation of the drill holes as close as practical to perpendicular to the known mineralised structure, and collection, and analysis of field duplicates. • The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Kinsevere mineralisation (sediment hosted base metal) by the Competent Person.
Drilling techniques	• RC drilling was used to obtain 2m composited RC chip samples. 102,541m or 68% of the sample data used in the Mineral Resource were from RC samples (5.5" hammer). • DD recovered PQ and HQ size DD core was used to obtain nominal 1m sample lengths. DD core was not routinely oriented. 48,597m or 32% of the sample data used in the Mineral Resource were from DD samples (PQ and HQ size). • In the view of the Competent Person sampling is of a reasonable quality to estimate the Mineral Resource.
Drill sample recovery	• Recovery recorded during RC drilling is considered high, with minor losses in broken ground. However no measurements of recovery are recorded for RC drilling. • DD core recovery recorded was generally 100%, with minor losses in broken ground. Diamond drilling uses triple tube core barrels to maximize core recovery. Drill core recovery and run depth are verified and checked by a geological technician at the drill site. This data is recorded and imported in the database. • There is no relationship between core loss and mineralisation or grade - no preferential bias has occurred due to any core loss.

Logging	• RC chips are logged by geologists directly into an Excel logging template with general geological information logged – lithology, stratigraphy, weathering, oxidation, colour, texture, grain size, mineralogy and alteration. This data is then imported into the database. DD core samples have geological and geotechnical information (lithology, stratigraphy, mineralisation, weathering, alteration, geotechnical parameters: strength, RQD, structure measurement, roughness and infill material) recorded. • All RC chip and DD core samples have been geologically logged to a level that can support appropriate Mineral Resource estimation. • Logging captured both qualitative descriptions such as geological details (e.g. rock type, stratigraphy) with some quantitative data (e.g. ore mineral percentages). Core photography is not known to have occurred prior to MMG ownership. Since MMG took control of the site all DD core is photographed. • A total of 589,796.2m of drilled data is contained in the database, of this 44% is geologically logged, and 50% of drilled data contains copper assays.
Sub-sampling techniques and sample preparation	• DD core was split in half or quartered using a diamond saw. • RC samples are collected from a cyclone by a trained driller's assistant. If the sample was dry the sample was passed through a riffle splitter and collected into a pre-numbered calico bag. Residual material was sampled and sieved for chip trays and the remainder returned to the larger polyweave bag. The splitter was cleaned using compressed air or a clean brush and tapped using a rubber mallet. If the sample was wet then the sample was dried in the laboratory oven before being split according to the procedure above (for dry samples). • Samples from individual drill holes were sent in the same dispatch to the preparation laboratory. • Representivity of samples was checked by sizing analysis and duplication at the crush stage. • Field duplicates were inserted at a rate of approximately 7% to ensure that the sampling was representative of the in-situ material collected. Field duplicates in current RC programmes show acceptable levels of repeatability across all elements analysed. • These practices are industry standard and are appropriate for the grain size of the material being sampled. • RC and DD samples were prepared on-site by the geology department, who provide pulp samples to the SGS analytical facility also on site at Kinsevere. The samples were oven dried at 60 to 80°C, crushed to 85% passing -2mm using a jaw crusher and milled to 85% passing 75µm using one of three single sample LM2 vibratory pulverising mills. • The RC and DD sample preparation techniques are considered to be of high-quality and appropriate as sample preparation

	techniques.
Quality of assay data and laboratory tests	• RC samples are currently assayed at the site SGS Laboratory. It is unknown where the RC samples were previously assayed. o Following preparation, 50g pulp samples were routinely analysed for total and acid soluble copper, cobalt and manganese. o A 3 acid digest with AAS finish was used to analyse for total values. o A sulphuric acid digest with AAS finish was used to analyse for acid soluble copper. • All DD core samples prior to 2011 were assayed at: o ALS Chemex Laboratory, Johannesburg o McPhar Laboratory, Philippines o ACTLabs Laboratory, Perth o 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. o From 2011, prepared samples were submitted to the ISO 17025 accredited SGS Laboratory in Johannesburg with the following assay scheme: o ICP-OES method with a 4-acid digest analysing 32 elements including copper from 0.5ppm to 1%. o ICP-OES method using alkali fusion is applied to over-range copper results. o ICP-AES with a 4-acid digest was used for calcium and sulphur analysis o XRF was used for uranium analysis. o Acid soluble copper using a sulphuric acid digest and AAS finish. • No geophysical tools, spectrometers or handheld XRF instruments have been used in the analysis of samples external to the ALS laboratory for the estimation of Mineral Resources. • QAQC employs in house and/or standard reference materials and blanks for every batch of 50 samples analysed in order to check accuracy, precision and repeatability of the assay result. Acceptable levels of accuracy and precision have been established. If control samples do not meet an acceptable level the entire batch is re-analysed. • The analysis methods described above are appropriate for the style and type of mineralisation.
Verification of sampling and assaying	• Verification by independent or alternative company personnel was not undertaken at the time of drilling. • Twinned pre-collars are present in the database. These were used to confirm and check geological intervals and/or assay intervals.

	Twin holes are not used in the Mineral Resource. • Data is collected in Excel spread sheets and imported into industry standard databases that have built in validation systems and QAQC reporting systems. Raw data is imported in the database as received by the laboratory. • Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation. • There are no adjustments to the assay data.
Location of data points	• Prior to 2011 all drill hole collars were located using a hand held GPS. Accuracy of GPS is +/- 5m for x and y coordinates and poor accuracy of the z (elevation) coordinates. Elevations of these holes were later adjusted by using a LIDAR survey method. RC and diamond drill holes collared post-2011 was surveyed by qualified surveyors. Downhole surveys have been carried out using Eastman single-shot cameras or Reflex EZ tools. Surveys are taken at variable intervals and stored in the database. • Coordinates are in Kinsevere Mine Grid, which is related to WGS84 by the following translation: -8000000m in northing and -22.3m in elevation. • A LIDAR survey is 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 by the Competent Person for topographic control.
Data spacing and distribution	• Grade control (RC) drill pattern spacing is 5m x 15m, which is sufficient to adequately define lithology and mineralisation domain contacts and transition zones. • The overall DD pattern spacing is between 25m to 100m, which is sufficient to establish the required degree of geological and grade continuity that is appropriate for the Mineral Resource. • DD samples are not composited prior to being sent to the laboratory however the nominal sample length is generally 1m. RC samples are 2m intervals but compositing up to 4m has occurred in the past.
Orientation of data in relation to geological structure	• The mineralisation strikes north-south, and north-west, south east for Kinsevere Hill. All drill holes are oriented such that drill holes have a high angle of intersection with the dominant strike and dip of bedding and structures, with the local scale of mineralisation also considered. All drill holes are either oriented east or west with dips of- 60° to sub-vertical. • The combination of both east and west orientations likely minimises sampling bias, which, if present, is not considered material.
Sample security	• Measures to provide sample security include: o Adequately trained and supervised sampling personnel. o Samples are stored in locked sea containers under the control of the security department. o Assay laboratory checks of sample dispatch numbers

against submission documents.

Audit and reviews

- Internal visits by the Competent Person and MMG Group Office geologists to the site laboratory; sample preparation area and drill locations did not identify any material risks.

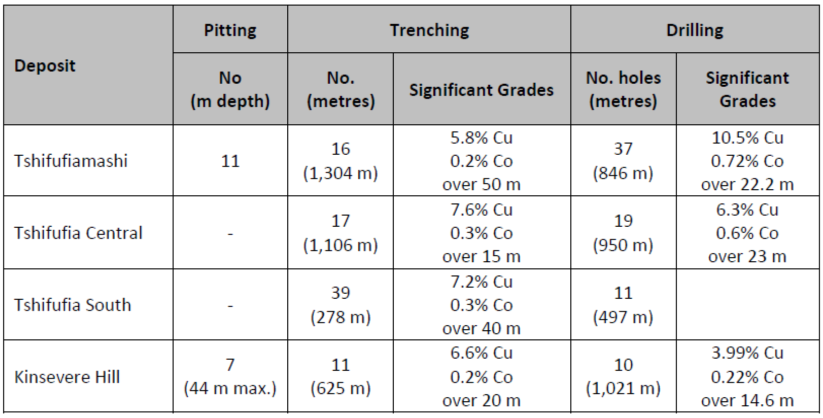
Section 2 Reporting of Exploration Results

Mineral tenement and land tenure status

- The Kinsevere Mining Licence (PE 528) is located approximately 27km north of Lubumbashi, the provincial capital of the Katanga Province, in the southeast of the Democratic Republic of the Congo (DRC).
- The mineral rights of PE 528 are held by La Générale des Carrierés et des Mines (Gécamines), the DRC state-owned copper mining company. Anvil mining, via its subsidiary AMCK Mining s.p.r.l. (AMCK, a joint venture between Anvil (95%) and Mining Company of Katanga s.p.r.l. (5%) has a Contrat d'Amodiation (Lease Agreement) with Gécamines to mine and process ore from PE 528 until 2024, followed by a 15 year extension.
- Anvil Mining sold the Kinsevere project to MMG in 2012.
- A royalty of 2.5% of gross revenue were adopted in January 2009 to reflect revised royalty payments after the Government reviewed all the mining contracts in 2008 where the terms of the Lease Agreement were amended.
- There are no known impediments to operating in the area.

Exploration done by other parties

Summary of Previous Exploration Work by Gécamines and EXACO



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

- In 2004 Anvil Mining carried intense exploration to define the deposits in Kinsevere.
- In 2012 MMG conducted exploration to identify additional mineralisation beyond the Anvil Mining Mineral Resource.
- In 2013/2014 MMG Exploration have been conducting works around the Mine Lease within a 50km radius of the known deposit to explore for additional high-grade oxide material.

Geology

- The Kinsevere copper deposit is a sedimentary hosted copper deposit. The deposit is hosted in moderately to steeply dipping Neoproterozoic sedimentary formation of the Roan group of the Katanga stratigraphy in the Mine Series subgroup of Katangan

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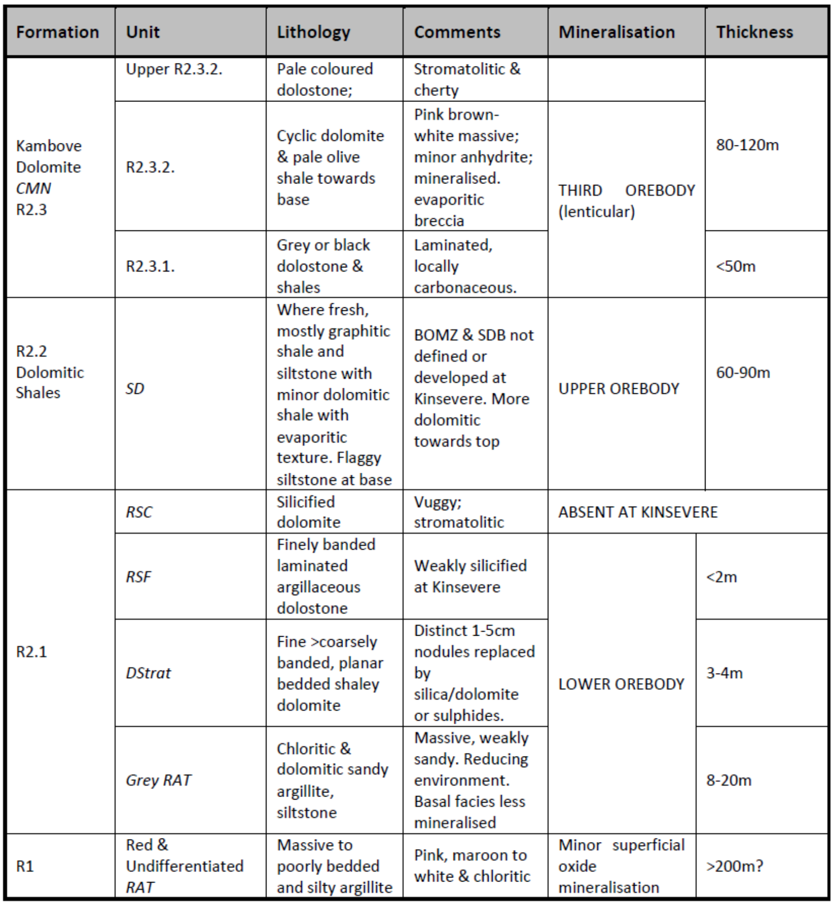
African Copper belt.

- On surface, the Kinsevere copper deposit has been mapped as made of three separate Mine Series fragments (large breccia clasts of the Mine Series) whereby the first two fragments are situated along a major N-S oriented fracture and separated by a sinistral strike-slip fault, while the third fragment, called Kinsevere Hill, is situated along major NW-SE fracture and separated from the other fragments by another sinistral strike-slip fault. All these fragments are affected by fractures and breccias.
- The sulphide and oxide mineralisation in the Kinsevere copper deposit are either disseminated in recrystallized layers or infilling bedding plans, reactivated bedding, fractures and joints. The sulphides include: pyrite, chalcopyrite, bornite and chalcocite. Although in the supergene zone, sulphides are partially or completely replaced by malachite and other copper oxide minerals.

Kinsevere Mine Series Stratigraphy



<table>
<tr><th>Formation</th><th>Unit</th><th>Lithology</th><th>Comments</th><th>Mineralisation</th><th>Thickness</th></tr>
<tr><td rowspan="3">Kambove Dolomite
CMN
R2.3</td><td>Upper R2.3.2.</td><td>Pale coloured dolostone;</td><td>Stromatolitic & cherty</td><td></td><td rowspan="2">80-120m</td></tr>
<tr><td>R2.3.2.</td><td>Cyclic dolomite & pale olive shale towards base</td><td>Pink brown-white massive; minor anhydrite; mineralised. evaporitic breccia</td><td rowspan="2">THIRD OREBODY (lenticular)</td></tr>
<tr><td>R2.3.1.</td><td>Grey or black dolostone & shales</td><td>Laminated, locally carbonaceous.</td><td><50m</td></tr>
<tr><td>R2.2 Dolomitic Shales</td><td>*SD*</td><td>Where fresh, mostly graphitic shale and siltstone with minor dolomitic shale with evaporitic texture. Flaggy siltstone at base</td><td>BOMZ & SDB not defined or developed at Kinsevere. More dolomitic towards top</td><td>UPPER OREBODY</td><td>60-90m</td></tr>
<tr><td rowspan="4">R2.1</td><td>*RSC*</td><td>Silicified dolomite</td><td>Vuggy; stromatolitic</td><td colspan="2">ABSENT AT KINSEVERE</td></tr>
<tr><td>*RSF*</td><td>Finely banded laminated argillaceous dolostone</td><td>Weakly silicified at Kinsevere</td><td rowspan="3">LOWER OREBODY</td><td><2m</td></tr>
<tr><td>*DStrat*</td><td>Fine >coarsely banded, planar bedded shaley dolomite</td><td>Distinct 1-5cm nodules replaced by silica/dolomite or sulphides.</td><td>3-4m</td></tr>
<tr><td>*Grey RAT*</td><td>Chloritic & dolomitic sandy argillite, siltstone</td><td>Massive, weakly sandy. Reducing environment. Basal facies less mineralised</td><td>8-20m</td></tr>
<tr><td>R1</td><td>Red & Undifferentiated *RAT*</td><td>Massive to poorly bedded and silty argillite</td><td>Pink, maroon to white & chloritic</td><td>Minor superficial oxide mineralisation</td><td>>200m?</td></tr>
</table>

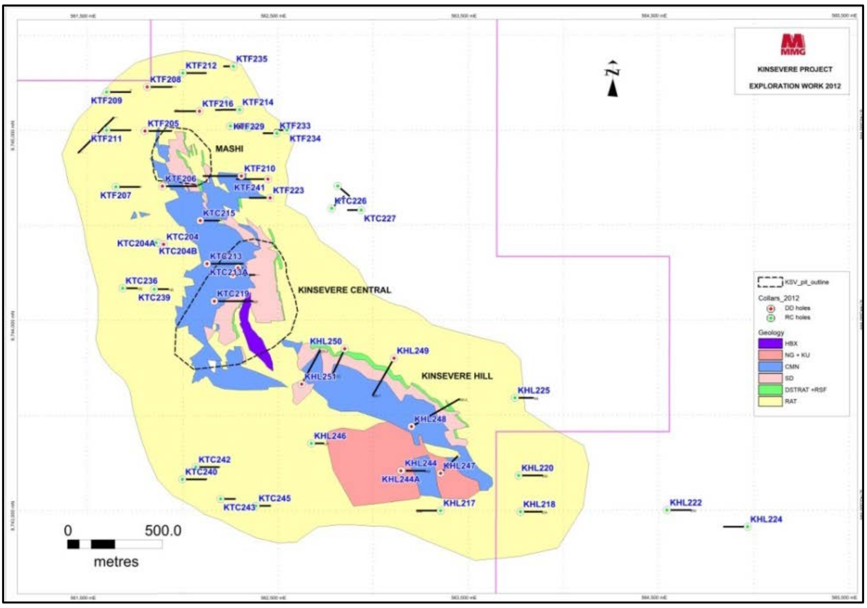
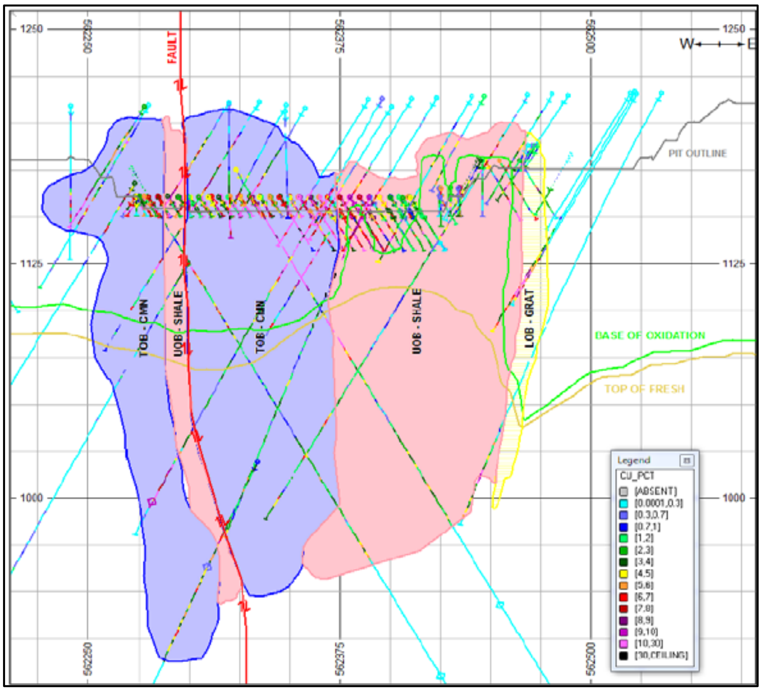
</td>
</tr>
<tr>
<td>Drill hole information</td>
<td>

- 1,698 drill holes including DD, RC, and air-core, along with associated data are stored in the database. No individual drill hole is material to the Mineral Resource estimate hence this geological database is not supplied.

</td>
</tr>
<tr>
<td>Data aggregation</td>
<td>

- This is a Mineral Resource Statement and is not a report on

</td>
</tr>
</table>

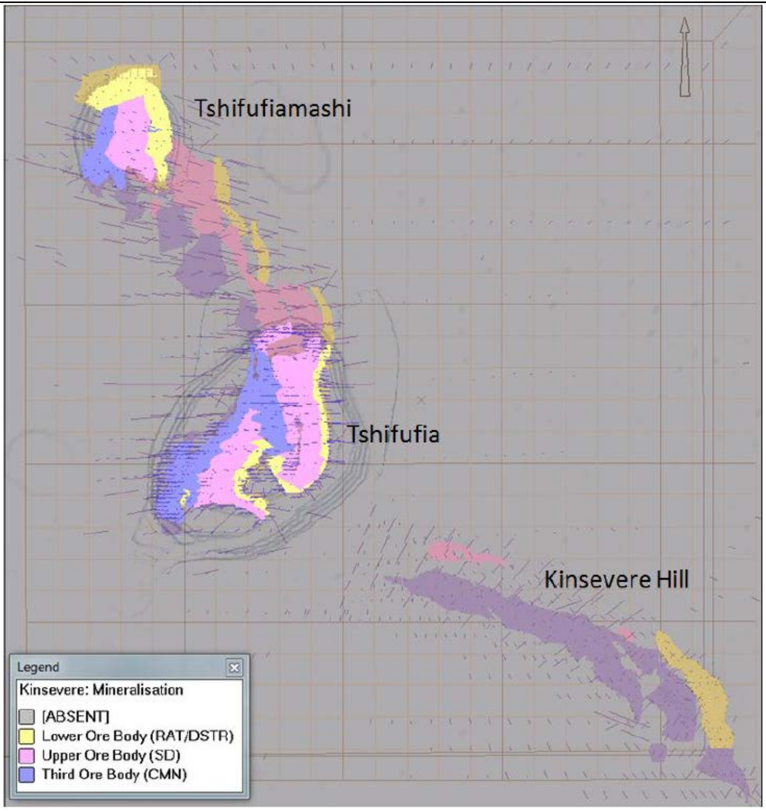
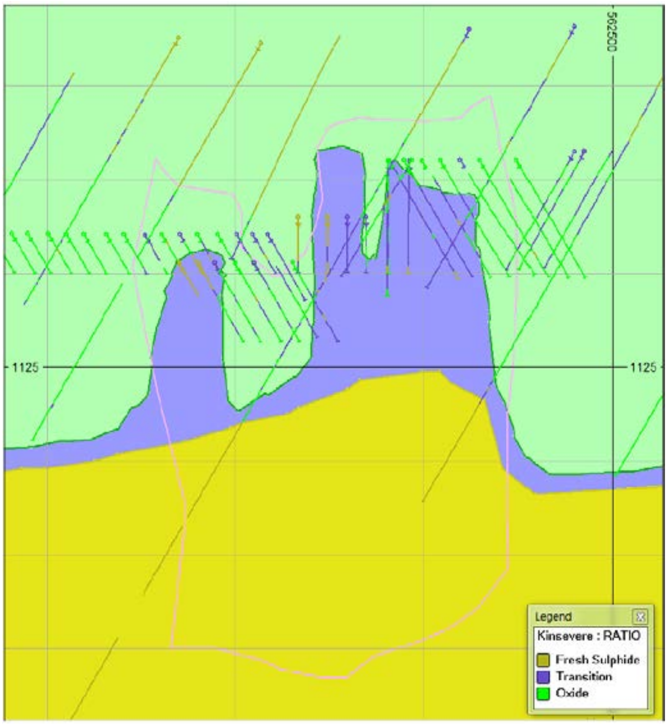
methods	exploration results hence no additional information is provided for this section. - No metal equivalents were used in the Mineral Resource estimation.
Relationship between mineralisation width and intercepts lengths	- Mineralisation true widths are captured by interpreted mineralisation 3D wireframes. - Most drilling was at 50° to 60° angles in order to maximise true width intersections. - Geometry of mineralisation is interpreted as sub- vertical to vertical and as such current drilling allows true width of mineralisation to be determined.
Diagrams	 **Plan view of the Kinsevere deposit showing a selection of drill holes** 

	Typical cross section through Tshifufia pit showing drilling interceptions (TCu%)
Balanced reporting	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Other substantive exploration data	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Further work	• The exploration focus will be within the Mine Lease within a 50km radius of the known deposit to explore for additional high-grade oxide material. • Further drilling is required to increase confidence and upgrade Inferred to Indicated category.
Section 3 Estimating and Reporting of Mineral Resources	
Database Integrity	• The following measures are in place to ensure database integrity: o The complete drill hole database (RC grade control and DD) data is stored in two SQL databases using the DataShed and GBIS front end management systems: o The grade control data (RC) is stored in DataShed and is managed by the onsite Geology team. o The exploration/resource (DD) data is stored in a GBIS database. Management of this database is performed by the Group Technical Services database team o Data is collected in Excel templates and imported into the database. Import routines check for data consistency and errors before the import is successful, thus maintaining data integrity. o The databases offer secure storage and consistent data which is exposed to validation processes, standard logging and data recording codes. • The measures described above ensure that transcription or data entry errors are minimised. • Data validation procedures include: o Internal database validation systems and checks. o Visual checks of exported drill holes in section and plan view, checking for accuracy of collar location against topography, and down hole trace de-surveying. o External checks in Datamine software prior to the data

	used for Mineral Resources. Checks on statistics, such as negative and unrealistic assay values. • Any data errors were communicated to the Database team to be fixed in GBIS/Datashed. • Data used in the Mineral Resource has passed a number of validation checks both visual and software related prior to use in the Mineral Resource.
Site visits	• The Competent Person visited site on various occasions during 2013 and 2014. Site visit work included: o Updating of mineralisation wireframes. o Creating calcium domains. o Visits to the ROM stockpiles, open pit mine, core yard, sample preparation and on-site assay laboratory. o Discussions with geologists (mine and exploration), mine planning engineers and metallurgists.
Geological interpretation	• The geological interpretation is based on a combination of geological logging and assay data (total copper %). There is a relatively high level of confidence in both geological and grade continuity within the oxide zone of the deposit that are drilled to grade control density. There is a level of uncertainty in the geological interpretation for the primary copper Mineral Resource. This is due to the sparse drilling density and localised geological complexities. This is highlighted by the Inferred Mineral Resource category assigned to the primary copper Mineral Resource. • Both grade control RC and DD holes were used in the interpretation of the geological domains that are used in the Mineral Resource. • No alternative interpretations of the Mineral Resource have been used. However, several alternatives were considered during the interpretation and wireframing process, where alternative interpretations exist, the Mineral Resource category has taken this into account. • Wireframe solids and surfaces were created for the domains and zones of similar weathering, stratigraphy and style of mineralisation. • String envelopes were digitised along drill sections using a 0.3% total copper cut-off, which is a good indicator for the mineralisation domains. • Geological logging was used to determine the mineralisation domains : o Lower Ore Body (LOB) is associated with the Dolomite Stratifiee (DStrat), the Roche Siliceuse Feuilletee (RSF) and Roche Argilo-Talqueuse (GRAT). o Upper Ore Body (UOB) is associated with the Shale Dolomitiques (SD).

    - Third Ore Body (TOB) is associated with the Calcaire a Mineraux Noirs (CMN).

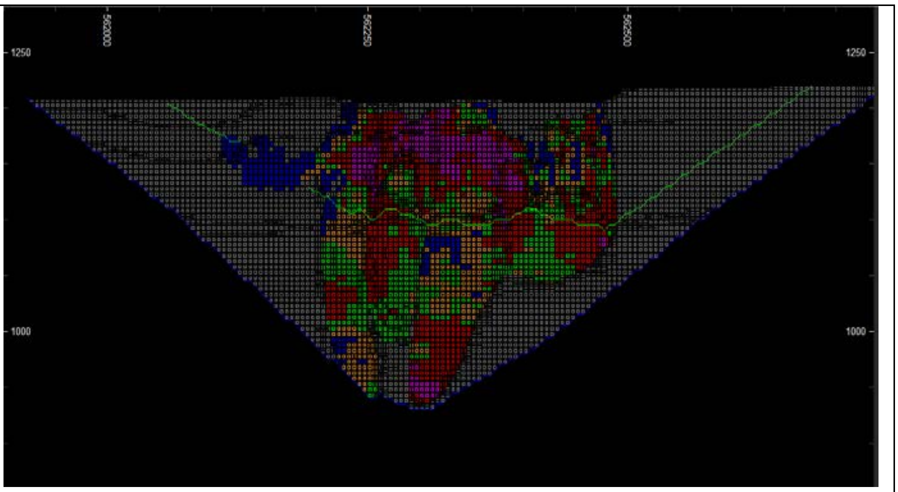
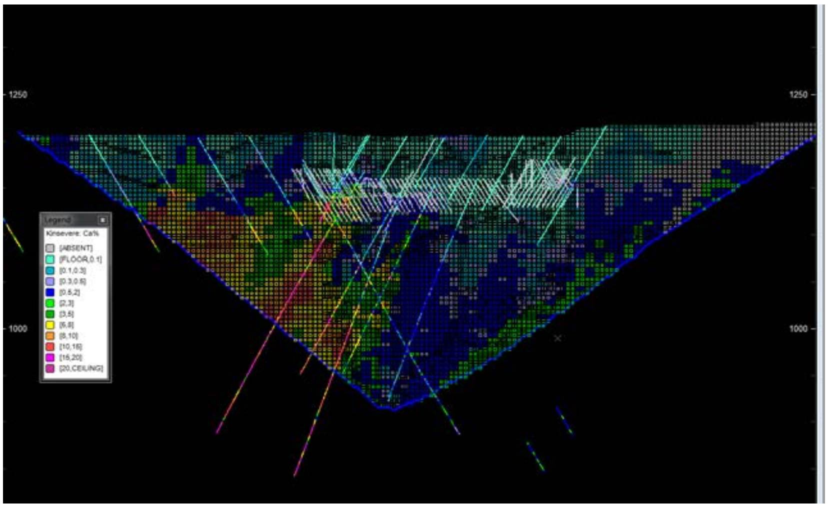
- Each mineralisation domain is influenced by weathering, oxidation and structural features such as faulting. The mineralisation domains were further subdivided into a soil, weathering, oxide, transition and primary sulphide zone.
- Weathering surface wireframes were constructed to define the oxide, transition and primary surfaces. The magnitude of the acid soluble copper/total copper (AsCu/TotCu) ratio has been used as an important criterion for modelling continuous zones of oxide, transition and primary sulphide mineralisation. The following ratios have been used:
    - Oxide > 0.8
    - Transition between 0.3 and 0.8
    - Primary < 0.3
- Calcium domains have been generated in the 2014 Mineral Resource, to allow a more robust calcium estimate to be interpolated.
- The resulting weathering, oxide, lithology and mineralisation domains were combined to code the drill hole data and empty block model used for estimation.
- On a local scale grade continuity is affected by “clasts” or ‘pods’ of un-mineralised RAT that have been incorporated within the main deposit. This internal waste is better defined during the grade control drilling, and mined accordingly. Geological interpretation of the oxide, transition and primary surfaces also require the granularity provided in the grade control drilling. On a global scale, geological continuity can be achieved with 25m drill spacing, but uncertainties still exists in grade continuity that require the grade control drilling and also mapping of the pit benches.
- Structural features provide an important control on the mineralisation and grade continuity. These are not well understood within the primary copper Mineral Resource.

	 **Plan View of Kinsevere Mineralisation Domains**  **Cross section view looking north showing the oxide, transition and fresh domains**
Dimensions	The mineralisation strike length is approximately 1.3km for the Tshifufia and Tshifufiamashi deposits while Kinsevere Hill has a 1km strike length. The mineralisation dips sub-vertically. Mineralisation extends to 400m at depth and it can be up to 300m

	in width. The mineralisation outcrops on Kinsevere Hill, and at the Tshifufiamashi deposit.
Estimation and modelling techniques	• Mineral Resource modelling was completed in Datamine software applying the following key assumptions and parameters: o TCu, AsCu, Co and Ca were estimated using Ordinary Kriging (OK). Ordinary Kriging is considered an appropriate technique for estimating the Kinsevere Mineral Resource. o Mineralisation wireframes and surfaces of the topography, soil, base of weathering, oxide, transition and fresh are used to tag the drill holes by the mineralisation domain used for statistical analysis and grade estimation. o Grade estimation was completed using a combination of hard and soft boundaries. A soft boundary is used between the oxide and transition and also between the transition and primary within the UOB for both the Tshifufia and Tshifufiamashi deposits. The soft boundary is one way (UOB transition can use UOB oxide samples but UOB oxide cannot use UOB transition). A hard boundary is used between the LOB and TOB. Hard boundaries are used for Kinsevere Hill. o The Datamine Dynamic Anisotropy (DA) method was used to honour the mineralisation strike and dip variations. DA allows the estimation to honour the strike and dip of the local mineralisation thus improving the quality of the local estimate. o A composite length of 2m was used as per the grade control sample interval. o Separate variography was performed for TCu, Co and Ca. o Search parameters for TCu, Co and Ca estimate were derived from mineralisation domain variography. Acid soluble copper (AsCu) search and estimation parameters are from the TCu. Fe, Mg, Mo, S and U search parameters based on a generic search of 45m x 20m x 15m and using the deposit code (e.g. Tshifufiamashi). o First estimation pass search radius uses the variogram range. 90% of the blocks are informed in the first pass. Second search set to twice the variogram range. Third pass used to estimate any un-estimated values. This was set to 3 times the variogram. o Minimum of 8 and a maximum of 30 to 48 samples (depending on domain) required for an estimate. o The search neighbourhood was also limited to a maximum of 5 to 8 samples per drill hole for the TCu, AsCu and Co depending on the domain to be estimated. o Octant search and a minimum number of drill holes

	restriction was applied to copper (TCu and AsCu) and cobalt estimates. o Discretisation of 4 points (x direction) x 8 points (Y direction) x 2 points (Z direction). o Kriging variance (KV), kriging efficiency (KE) and kriging regression slope (RS) were calculated during the estimate. o Un-estimated Ca values in blocks that have AsCu >0.3% have been assigned the Ca mean value of the domain and flagged accordingly. • Reconciliation has been conducted between the Mineral Resource and grade control models. The comparisons are for total copper and acid soluble copper and only for the material constrained within the volume of the grade control model. The Mineral Resource model has more tonnes at lower grades. Tonnes can be as much as 8% more. Variance in grades is no more than 2% for the grade control model. 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. • Kinsevere does not produce any by-products hence no assumptions regarding the recovery of by-products are made in the estimate or cut-off and reporting. • Ancillary elements: Fe, Mg, Mo, S and U were estimated by inverse distance squared to the power of two (ID2). • Parent block size in the grade control volume model was set to 5m x 10m x 5m with sub-blocking down to 2.5m. The rest of the Kinsevere block model is 10m x 20m x 5m with sub-blocking down to 2.5m. Estimation was into the parent block. The size of the blocks is appropriate to the spacing of drill holes. • Mining selectivity is supported by close-spaced grade control drilling that enables the estimation of smaller blocks (5m x 10m x 5m). • No further assumptions have been made regarding modelling of selective mining units. • An assumption regarding the correlation between variables has been made such that the variography and search parameters of total copper can be applied to the acid soluble copper. This is because total copper analysis is considered more robust and both methods are looking at the same mineralisation stage. Acid soluble copper variography was investigated to confirm similar ranges to total copper. • The estimation is largely controlled by the geology of the deposit. This is achieved by using domains constructed on geological and analytical observations. This allows the estimation search to use the strike and dip variability of the individual domains. This is done by using the dynamic anisotropy method. • Grade capping was employed and performed post compositing.

	Values greater than the selected cut value were set to the top cut (cap) value and used in the estimation. Variables (by domain) with a coefficient of variation (CV) greater than 1.3 have been capped. • The block model and estimate has been validated in the following ways: o Visual checks in section and plan view against the drill holes. o Cumulative histogram checks between the blocks and the composite drill holes. o Cumulative histogram checks between the 2014 and 2013 model. o Grade trend plots comparing the model against the drill holes. o Grade and tonnes curves and charts comparing 2014 against 2013 model. o Grade and tonnes tabulations between 2014 and 2013 model. o Grade and tonnes comparisons between the Mineral Resource model and grade control model generated by site.
Moisture	• Tonnes in the model have been estimated on a dry basis.
Cut-off parameters	• The oxide Mineral Resource has been reported above an acid soluble copper grade of 0.75%. This has remained unchanged from the 2013 Mineral Resource. • The primary sulphide Mineral Resource has been reported above a total copper cut-off grade of 0.75%. There is no Ore Reserve for the primary copper. This cut-off has remained unchanged from the 2013 Mineral Resource. • These cut-off grades are no more than 70% of the Ore Reserve cut-off grade. The reported oxide and primary copper Mineral Resources have also been constrained within a US$4/lb pit shell, which is based on a 1.3 factor of the Ore Reserve shell of US$3/lb. The reporting cut-off grade and the pit-shell price assumption are in line with MMG's policy on reporting of Mineral Resources which is prospective for future economic extraction.

	 **Oxide and Primary Copper Mineral Resource Contained in the US$4/lb pit shell (cross section)**
Mining factors or assumptions	- Mining of the Kinsevere deposits is undertaken by the open pit method, which is expected to continue throughout the life of mine. - No other mining factors have been applied to the Mineral Resource.
Metallurgical factors or assumptions	- The metallurgical process applied at the Kinsevere Operation applies acid leaching coupled with solvent extraction electro-winning (SXEW) technology to produce copper cathode plates for sale. - Calcium is estimated in the block model as a surrogate for carbonate rock (limestone/dolomite) and is used to predict gangue acid consumption and related cost. Calcium domains have been added for the 2014 block model to improve the estimation of calcium and provide a better understanding of the impact of potential acid consumption with the mineralised zones. - No other metallurgical factors have been applied to the Mineral Resource. 

	Cross Section of central pit showing calcium (%) distribution in the oxide and primary copper Mineral Resource. Mineral Resource constrained by the US$4/lb sulphide pit shell.
Environmental factors or assumptions	• Environmental factors are considered in the Kinsevere life of asset work, which is updated annually and includes provision for mine closure. • Acid rock drainage (ARD) properties of the waste rock and black shales are unknown. Further work is planned to understand the properties of the rock and the required stockpile management policies. • The property is not subject to any environmental liabilities. • Following submission of the EIA (Consultants, July 2007), DRC Government approval of the Kinsevere Copper Project, Stages I and II, was issued by CAMI on 15th October 2007. Approval of a variance to the design and operation of the Stage II tailings storage facility was issued by the DPEM on 28th October 2008 (DPEM, Oct 2008). • In relation to increased groundwater discharge arising from an expansion to the mine dewatering capacity, a Revision No. 1 to the 2007 EIA was prepared by Knight Piésold (Piésold, Dec 2010) and was submitted to the DPEM in December 2010, and finally approved in March 2011. • An Environmental and Social Impact Assessment (ESIA) was prepared by KP (October, 2009) as a condition of the then proposed Project debt financing. Under debt financing circumstances, the lending institution must ensure that the Company complies with the internationally recognised Equator Principles (EP) and the International Finance Corporation (IFC) Principal Standards (PS). The ESIA document is intended to compliment the assessment information presented in the 2007 EIA. It does not overwrite any government approval or conditions of approval in the EIA of 2007 or any other regulatory requirements of the DRC Mining Code. • To comply with the DRC Mining Regulations, it is necessary to manage surface water runoff in such a way that contaminated runoff is contained and sediment loadings (from disturbed catchments) are maintained at acceptable levels. In order to achieve this, a number of strategically placed Sediment Control Ponds (SCPs) and diversion channels will need to be implemented. As at October 2013 these changes have not been implemented, but there is work plan for it to be completed.
Bulk Density	• Density values are determined from 1,696 diamond core density measurements, 4 in-pit bulk sample measurements and 12 in-pit measurements from specific lithologies. • Bulk sample and in-pit measurements account for void spaces and are appropriate for materials that are similar to soil. • Density measurements on drill core did not use a sealed method

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and may be subject to pore-space variations.

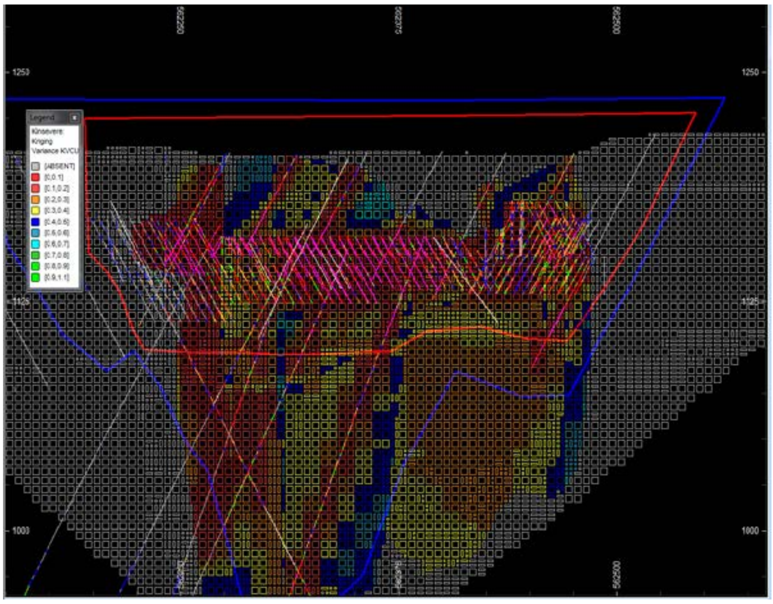
- Density was calculated using the wet and dry method:

Density = Dry Sample Weight/(Dry Sample Weight – Wet Sample Weight)

- Average density values were assigned to the blocks within each domain.
- Bulk density values for the primary sulphide domains have been revised and set to 2.7g/cm^3. This accounts for a 20% increase in the primary copper tonnes compared to the 2013 estimate.

</td>
</tr>
<tr>
<td>Classification</td>
<td>

- Wireframes used for Mineral Resource classification are based on a combination of confidence in assayed grade, geological continuity and kriging metrics (kriging variance, efficiency and slope of regression).
- The Measured Mineral Resource are restricted to the volume covered by grade control drilling and extends no further than 30m below the current base of grade control drilling.
- The Indicated Mineral Resource classification wireframes have remained relatively unchanged from 2013.
- The primary copper mineralisation has been entirely classified as Inferred reflecting the uncertainty of structure, mineralisation vectors, metallurgical properties and extent of mineralisation.
- The Mineral Resource classification reflects the Competent Persons view on the confidence and uncertainty of the Kinsevere Mineral Resource.



Cross section showing Kinsevere Model coloured by kriging variance, drilling density and Measured, Indicated selection polygons

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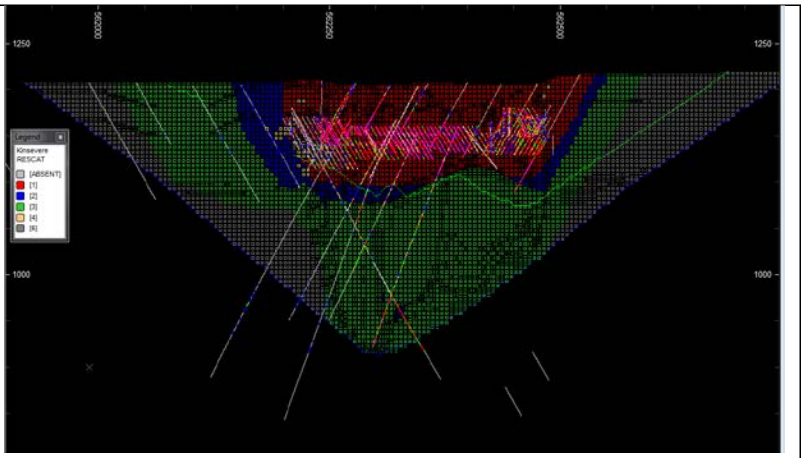
	 **Cross section showing Kinsevere Mineral Resource Classification and Drilling Density**
Audits or reviews	- An external Mineral Resource audit was conducted by Jeremy Witley from MSA (The MSA Group) in June 2014. Overall the review stated that the estimate has been conducted in a competent and professional manner. Recommendations for further improvement included: o Simplifying the estimation process o Alignment of geological modelling processes for Mineral Resource and grade control estimates o Mineralisation boundary conditions o The classification system requires clarification and the classified areas should be updated to reflect the MMG Competent Person's view of the deposit.
Discussion of relative accuracy / confidence	- Close-spaced grade control drilling within the Measured Mineral Resource areas provides suitable estimation on a local scale and supports the requirements of mining selectivity for the Kinsevere operation. - Estimates in the primary copper mineralisation will not be as locally accurate, due to wider spaced drilling and larger 10m x 20m x 5m block size. This level of uncertainty is captured by the Inferred Mineral Resource category. - Reconciliation has been conducted between the Mineral Resource and grade control models. Reconciliation has been conducted between the Mineral Resource and grade control models. The comparisons are for total copper and acid soluble copper and only for the material constrained within the volume of the grade control model. The Mineral Resource model has more tonnes at lower grades. Tonnes can be as much as 8% more. Variance in grades is no more than 2% for the grade control model. 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.

4.4 Ore Reserves - Kinsevere

4.4.1 Results

The 2014 Kinsevere Ore Reserve is based on the 2014 Mineral Resource model.

The 2014 Kinsevere Ore Reserve are summarised in Table 10.

Table 10 2014 Kinsevere Ore Reserve tonnage and grade (as at 30 June 2014)

Kinsevere Ore Reserve					
				Contained Metal	
Oxide Copper	Tonnes (Mt)	Copper (% TCu*)	Copper (% AsCu*)	**Copper TCu[1] ('000 t)**	**Copper AsCu[1] ('000 t)**
Proved	5.2	4.2	3.5	217	181
Probable	6.8	3.6	3.3	245	228
Total	**12.0**	**3.8**	**3.4**	**462**	**409**
Oxide Copper Stockpiles					
Proved	1.6	4.6	3.9	75	63
Probable	2.7	1.5	1.1	39	29
Total Oxide Copper	**4.3**	**2.6**	**2.1**	**114**	**92**
Total Contained Metal				**576**	**501**

[1] TCu stands for Total Copper, ASCu stands for Acid Soluble Copper.

Cut-off grade is 1% AsCu

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

Contained metal does not imply recoverable metal.

The major differences from the 2013 Ore Reserves are:

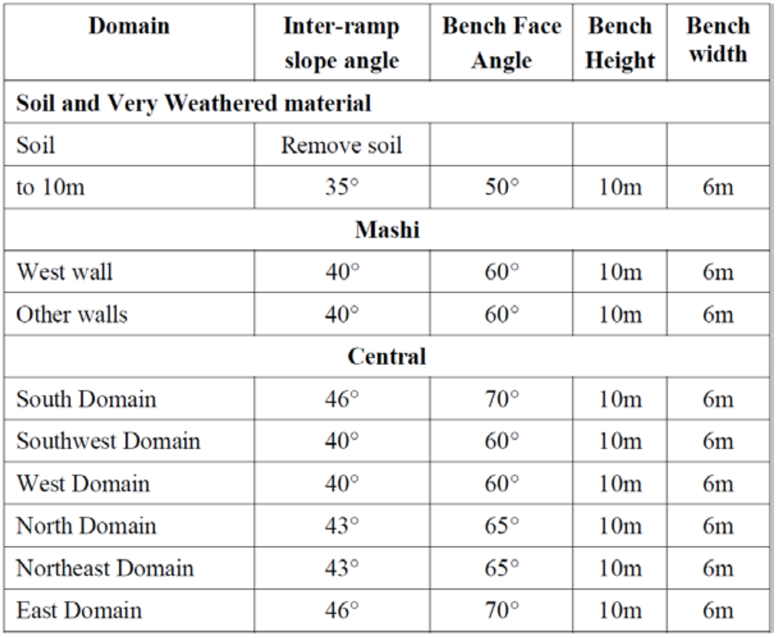
(i) Improved reporting of the black shales in the Ore Reserves.
(ii) A new Mineral Resource model that has resulted in a slight decrease in both tonnes and grade.

4.5 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.

Table 11 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Kinsevere Ore Reserve 2014

Assessment	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of the Mineral Resources used to define the Ore Reserves. • The normal sub-celled Mineral Resource block model named "finmodc_04072014.dm" dated 07-08-2014 was used for the optimisation purposes. • There is a risk that the amount of primary ore is underestimated and the oxides are overestimated. This might result in more un-processable black shale being stockpiled.
Site visits	• The Competent Person is Richard Butcher FAusIMM(CP) who visited the site in early December 2014. • Julian Poniewierski (previous Competent Person) undertook numerous visits to site.
Study status	• The current mine and processing plant configuration have been in operation since September 2011. Ore Reserves inputs are based on actual historical performance data. Although full production ramp-up has been achieved for a number of months, further work is underway to ensure consistency of results and full realisation of the installed capacity.
Cut-off parameters	• Estimated breakeven cut-off grade calculated as per historical practices is 1% Acid Soluble Copper (ASCu) at a US$3/lb copper price. • For the price assumptions please see section "Costs" below.
Mining factors or assumptions	• Kinsevere mine is an open pit operation that is mining and processing oxide copper ore. The operation uses a fleet of excavators and articulated trucks along with a fleet of auxiliary equipment. • This mining method is appropriate for the style and size of the mineralisation. • Pit slope geotechnical parameters:

<table>
<tr><th>Assessment</th><th>Commentary</th></tr>
<tr><td></td><td>

<table>
<tr><th>Domain</th><th>Inter-ramp slope angle</th><th>Bench Face Angle</th><th>Bench Height</th><th>Bench width</th></tr>
<tr><td>Soil and Very Weathered material</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Soil</td><td>Remove soil</td><td></td><td></td><td></td></tr>
<tr><td>to 10m</td><td>35°</td><td>50°</td><td>10m</td><td>6m</td></tr>
<tr><td>Mashi</td><td></td><td></td><td></td><td></td></tr>
<tr><td>West wall</td><td>40°</td><td>60°</td><td>10m</td><td>6m</td></tr>
<tr><td>Other walls</td><td>40°</td><td>60°</td><td>10m</td><td>6m</td></tr>
<tr><td>Central</td><td></td><td></td><td></td><td></td></tr>
<tr><td>South Domain</td><td>46°</td><td>70°</td><td>10m</td><td>6m</td></tr>
<tr><td>Southwest Domain</td><td>40°</td><td>60°</td><td>10m</td><td>6m</td></tr>
<tr><td>West Domain</td><td>40°</td><td>60°</td><td>10m</td><td>6m</td></tr>
<tr><td>North Domain</td><td>43°</td><td>65°</td><td>10m</td><td>6m</td></tr>
<tr><td>Northeast Domain</td><td>43°</td><td>65°</td><td>10m</td><td>6m</td></tr>
<tr><td>East Domain</td><td>46°</td><td>70°</td><td>10m</td><td>6m</td></tr>
</table>

Assumed mining dilution 5%.
The assumed mining recovery 95%.
Minimum mining width (bench size) is 50m.
No Inferred material has been included in optimisation and/or Ore Reserves reporting.
All required infrastructure is in place.

</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>

The Kinsevere mine is an operating entity. The metallurgical process is a hydrometallurgical process involving grinding, tank leaching, counter-current decantation (CCD) washing, solvent extraction and electrowinning. The process has been operating successfully since start up in September 2011.
Copper recovery is determined by the equation:

<p><i>Cu recovery (%) = 0.96*ASCu/Cu</i></p>
<p>where ASCu refers to the acid soluble copper content of the ore which is determined according to a standard test. The ASCu value is typically about 80% 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>

The reconciliation between expected and actual recovery is checked each month. The following table summarizes the outcomes for the last 4 half yearly periods. In all periods, actual recovery has exceeded predicted recovery.

<table>
<tr><th>Period</th><th colspan="2">Recovery of Acid Soluble Copper (%)</th></tr>
<tr><th></th><th>Predicted</th><th>Actual</th></tr>
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<table>
<tr><th>Assessment</th><th>Commentary</th></tr>
<tr><td></td><td>
<table>
<tr><td>H2 2012</td><td>96.0</td><td>97.5</td></tr>
<tr><td>H1 2013</td><td>96.0</td><td>96.6</td></tr>
<tr><td>H2 2013</td><td>96.0</td><td>99.0</td></tr>
<tr><td>H1 2014</td><td>96.0</td><td>99.0</td></tr>
</table>

• The main deleterious components of the ore are carbonaceous (black) shale which increases solution losses in the washing circuit and dolomite which increases acid consumption in the leaching process.
• The effect of black shale is currently controlled by blending which is used to limit the percentage of this component in the feed to less than 25%.
• Total acid consumption is estimated for oxide ore using the formula:
$AC = 27 \times Ca\% + 10 \times Mn\% + 5$
• The inclusion of a term for Mn in the gangue acid equations reflects a small, but significant consumption of acid by manganese wad.
• For Ore Reserves, a processing rate of 1.68 Mtpa of ore and 68.5 ktpa of copper cathode has been assumed. Both production rates have been demonstrated as sustainable over the last 6 months.
• Kinsevere does not produce any by-products.
</td></tr>
<tr><td>Environmental</td><td>• The property is not subject to any environmental liabilities, apart from the standard rehabilitation requirements associated with Closure.
• Following submission of the EIA (Consultants, July 2007), DRC Government approval of the Kinsevere Copper Project, Stages I and II, was issued by CAMI on 15th October 2007. Approval of a variance to the design and operation of the Stage II tailings storage facility was issued by the DPEM on 28th October 2008 (DPEM, Oct 2008).
• An Environmental and Social Impact Assessment (ESIA) was prepared by KP (October, 2009) as a condition of the then proposed Project debt financing. In relation to increased groundwater discharge arising from an expansion to the mine dewatering capacity, a Revision No. 1 to the 2007 EIA was prepared by Knight Piésold (Piésold, Dec 2010) and was submitted to the DPEM in December 2010, and finally approved in March 2011The next update to the EIA is due in 2017, however an minor amendment is currently being prepared for some operational changes associated with the mine plan and new process water infrastructure.
• ARD properties of the waste rock and black shales have been characterised through preliminary studies, with more detailed studies ongoing. However it is obvious on site that sulphides in the</td></tr>
</table>

Assessment	Commentary
	black shale stockpiles is oxidising and generates heat. A mineral waste management plan has been developed for the site, taking into account these results and documenting design controls. A Conceptual Closure Plan has also been developed, with a supporting cost estimate. • To comply with the DRC Mining Regulations, it is necessary to manage surface water runoff in such a way that contaminated runoff is contained and sediment loadings (from disturbed catchments) are maintained at acceptable levels. In order to achieve this, a number of strategically placed Sediment Control Ponds (SCPs) and diversion channels will need to be implemented and completed.
Infrastructure	• The Kinsevere mine site is well established with the infrastructure in place: o The plant is operational o There is an existing accommodation camp o There is sufficient water for the processing, the ground water is discharged into the river o The transportation of the copper cathode is done using trucks o Site has an access road that is partially sealed o There is a power supply from the national grid and from onsite generators o Labour is mostly sourced from the Lubumbashi and surrounding villages with some expats on site o There is no need for additional land for any expansions • The power situation rates this aspect as a high risk, with current mitigation by expensive on site diesel based power generation. The future grid power availability is assumed to be restored and thus the costs have been assumed to be lower. • Timely dewatering of the mining areas will be important since this might affect pit slope stability.
Costs	• Kinsevere is an operating mine and has historical costs that have been used in Ore Reserves estimation. • The future costs will have to be lowered in order to process low grade stockpiled material economically. • Transportation charges used in evaluation are based on the actual invoice costs that MMG are charged by the commodity trading company per the agreement. • The processing costs include variable gangue acid consumption (GAC) that is dependent on calcium grade. • US dollars have been used thus no exchange rates have been applied.

Assessment	Commentary
	• To date there was minimum in-pit blasting. There is a risk that in the future the amount of blasted material might increase which would increase mining costs. • Since the final product is LME grade A copper cathode there are no applicable treatment or refining or any other similar charges • Sustaining capital costs have been included in the pit optimisation. • Allowances have been made for the royalties. • The impact of any future mining tax is unknown.
Revenue factors	• For cost assumptions see section above – "Costs" • The assumed copper price is US$3.00/lbs. The copper price assumption is based on the MMG corporate finance assumption.
Market assessment	• There is an off-take agreement with the trading company in place for all of the copper cathodes produced on site from oxide ore. As a result the product from this operation is not subject to market supply and demand conditions. • No customer and competitor analysis has been completed due to the current offtake agreement. • Price forecast is based on MMG corporate finance assumption while the product demand is irrelevant because of the off-take agreement between MMG and commodity trader.
Economics	• The costs are based on historical actuals. Revenues are based on historical and contracted realised costs and a realistic long-term metal price. • The LOM financial model demonstrates the mine has a substantially positive NPV. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit. • The value associated with the treatment of low grade stockpiles at the end of the project life is negative without substantial fixed costs reduction; however these do not substantially reduce the project NPV. • No sensitivity analyses were undertaken for the Ore Reserves work.
Social	• Kinsevere site provides significant support to community with farming and other social projects financed by the site. It has strong support from the local community. • Lubumbashi is a regional capital of the Katanga region. It has a population of approximately 1.6M people (2012). Lubumbashi has a university that has some mining, geology and processing programs that prepare professionals. • Personnel are recruited from the local villages. The majority of these people are unskilled and require training. Skilled artisans and professional people are recruited from Lubumbashi. • Several hundred artisanal miners were previously active at Kinsevere before the Project commenced. Currently no artisanal

Assessment	Commentary
	miners are active in the area.
Other	• MMG has a Contrat d'Amodiation (Lease Agreement) with Gécamines to mine and process ore from the Kinsevere Project until 2024, followed by an automatic fifteen year extension. • The PE 528 permit covers the three major deposits of Tshifufiamashi, Tshifufia and Kinsevere Hill/Kilongo. • A Contract d'Amodiation is provided for under the DRC Mining Code, enacted by law No 007/2002 of July 11, 2002
Classification	• The Ore Reserves classification is based on the JORC 2012 requirements. The basis for the classification was the Mineral Resource classification and cut-off grade. Due to the uncertainty of the future site costs all material (Measured and Indicated) that is above 1% and below 1.6% ASCu was classified as Probable. The material that is classified as Measured and Indicated and has a grade higher than 1.6% ASCu was classified as Proved and Probable respectively. • The reason for the downgrade of Measured Mineral Resource stockpile to Probable Ore Reserves classification is due to higher uncertainty in the processing economics of lower grade stockpiles in the future.
Audit or Reviews	• An external Ore Reserves audit was completed in 2013. The work was carried out by SRK Consultants African branch. Even though some minor improvements have been suggested, no major issues have been identified.
Discussion of relative accuracy/ confidence	• The most significant factors affecting confidence in the Ore Reserves are: • Reliability of the grid power supply. Although the project NPV might be impacted by ongoing issues of reliable power supply and the costs of that supply, it is not expected much impact on the Ore Reserves; The Risk is Low. • The end of mine life cost reduction possible to enable economic treatment of the low grade stockpiles (however the value associated with these low grade Ore Reserves is minimal); The risk is medium, the impact might be up to 4Mt reduction in low grade ore. • Further work is required to investigate the possible impact of the change in percentage of the processable black shales; the risk is High, impact is unknown. It was observed that there are more Sulphides/Black shales in the pit than it was predicted by the Resource model. • Estimates of gangue acid consumption that rely on calcium grade estimation; Risk is low, impact is Low. • Ore dilution needs further investigation; Potential risk is High; due to the high grade of the deposit possible impact is Low.

4.5.1 Expert Input Table

A number of 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

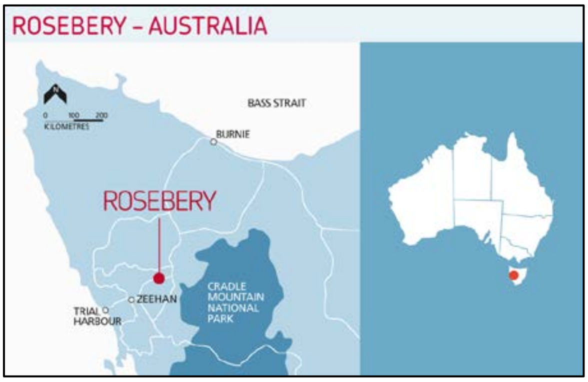
EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Mauro Bassotti, Senior Resource Geologist MMG Ltd (Melbourne)	Mineral Resource model
Ryan Whyte, Processing Manager, Kinsevere	Updated processing parameters and production record
Mike Turner, Consultant Turner Mining and Geotechnical Pty Ltd	Geotechnical parameters
Aurimas Karosas, Senior Mining Engineer MMG Ltd (Melbourne)	Whittle optimisation and pit designs
Kinsevere Geology department	Production reconciliation
Knight Piésold	Tailings dam design
Gavin Marre, Senior Business Analyst MMG Ltd (Melbourne)	Economic Assumptions
Simon Ashenbrenner, Concentrate Marketing Manager, MMG Ltd (Melbourne)	Marketing

5 ROSEBERY

5.1 Introduction and Setting

MMG Limited holds the 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. The Mining Lease is located on the West Coast of Tasmania approximately 120km south of the port city of Burnie. The main access route to Rosebery Township from Burnie is via the B18 and the Murchison Highway (A10), which connect 8km east of Waratah. The mining lease encompasses the township of Rosebery.

Figure 3 Rosebery Mine location



Rosebery is a mechanised long-hole open-stope underground operation with footwall ramp access. The mine currently employs a benching mining method, but has historically also used a cut and fill stoping method. The mine has historically produced approximately 800,000 tonnes of ore per year with plans to increase this going forward. The ore is processed into separate concentrates for zinc, lead and copper. The mine also produces gold/silver doré bullion.

5.2 Mineral Resources – Rosebery

5.2.1 Results

The 2014 Rosebery Mineral Resource are summarised in Table 13. The Rosebery Mineral Resource is inclusive of the Ore Reserve.

Table 13 2014 Rosebery Mineral Resource tonnage and grade (as at 30 June 2014)

Rosebery Mineral Resource											
									Contained Metal		
Rosebery	Tonnes (Mt)	Zinc (%)	Lead (%)	Copper (%)	Silver (g/t)	Gold (g/t)	**Zinc ('000 t)**	**Lead ('000 t)**	**Copper ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Measured	7.7	12.6	3.9	0.4	127	1.6	969	298	31	31	0.4
Indicated	4.3	10.0	3.5	0.3	125	1.5	432	152	14	17	0.2
Inferred	5.2	10.3	3.4	0.6	115	2.2	532	176	31	19	0.4
Total	**17.2**	**11.3**	**3.6**	**0.4**	**123**	**1.7**	**1,933**	**626**	**76**	**68**	**1.0**
South Hercules											
Measured	0.6	4.0	2.1	0.1	164	3.1	25	13	1	3	0.1
Indicated	0.1	2.7	1.3	0.1	168	3.0	3	1	0.1	1	0.01
Inferred											
Total	**0.7**	**3.8**	**2.0**	**0.1**	**165**	**3.1**	**28**	**14**	**1**	**4**	**0.1**
Total Contained Metal							**1,961**	**641**	**76**	**72**	**1.0**

Cut-off grade is based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value (A$122.5/t for Rosebery and A$ 105/t for South Hercules)

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

Contained metal does not imply recoverable metal.

5.3 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 Rosebery Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling techniques	• Diamond drilling (DD) was used to obtain an average 1m sample that is half core split, crushed and pulverised to produce a pulp (>80% passing 75µm). • Diamond core is selected, marked and numbered for sampling by the logging geologist. Sample details are stored in the database for correlation with returned geochemical assay results. • Pulps are delivered to ALS laboratory in Burnie, Tasmania for chemical analysis. • There are no inherent sampling problems recognised. • Measures taken to ensure sample representivity include the collection, and analysis of field and coarse crush duplicates.
Drilling techniques	• The drilling type is diamond core drilling from underground using single or double tube coring techniques. As of January 2014, drill core is oriented. • Drilling undertaken from 2012 is LTK48, LTK60, NQ, NQTK, BQTK and BQ in size. • Historical (pre-2012) drill holes are a mixture of sizes from AQ, LTK (TT), BQ, NQ, HQ and PQ.
Drill sample recovery	• Diamond drill sample recoveries average 98.1% based on 27,144 samples since 2012. Drill crews mark and define lost core intervals with blocks. Sample recovery is measured and recorded in the drill hole database. • Drilling process is controlled by the drill crew and geological supervision provides a means for maximising sample recovery and ensures suitable core presentation. No other measures are taken to maximise core recovery. • There is no known correlation between recovery and grade. Preferential loss/gains of fine or coarse materials are not significant and do not result in sample bias as the nature of mineralisation is massive to semi-massive sulphide, diamond core sampling is applied and recovery is considered high.
Logging	• 100% of diamond drill core has been geologically and geotechnically logged to support Mineral Resource estimation, mining and metallurgy studies. • Geological logging is qualitative and geotechnical logging is quantitative. All drill core is photographed. • All drill holes are logged using laptop computers into the drill hole database.

	• Prior to 1996 diamond drill holes were logged using Lotus spread sheets or on paper.
Sub-sampling techniques and sample preparation	• Geological samples are prepared according to the Rosebery Work Instruction - Diamond Drill Core Sample Preparation. • All samples included in the Mineral Resource estimate are from diamond drill core. • Drill core is longitudinally sawn to give half-core samples within intervals directed by the logging geologist. The remaining half-core is kept and stored in the original sample tray. Un-sampled core is now stored; prior to 2014 the un-sampled core was discarded. • The standard sampling length is one metre with a minimum length of 40cm and maximum of 1.5m. Sample intervals do not cross geological boundaries (checked by database algorithm). o From 2005 geological samples have been processed in the following manner: Dried, crushed, pulverised to 80% passing 75µm, 3-Acid Partial Digest (considered suitable for base metal sulphides), analysis of Pb, Zn, Cu, Ag, and Fe by Atomic Absorption Spectrometry (AAS). o Au values are determined by fire assay o Sizing analysis is carried out on one in twenty pulps • From 2010 geological samples have been processed in the following manner: o Dried, crush to 2mm; cone split to give primary and duplicate samples with the remainder rejected, pulverised to 80% passing 75µm, dispatch to ALS Burnie. o Analysis of 0.2g Pb, Zn, Cu and Fe by lithium borate oxidative fusion, followed by X-Ray Fluorescence (XRF). o Analysis of 0.4g Ag by aqua regia digest and Atomic Absorption Spectrometry (AAS). o Analysis of 30g Au by fire assay, 3 acid digest and flame assay AAS. o Sizing analysis is carried out on one in twenty pulps • Representivity of samples is checked by duplication at the crush stage. • Current crush and pulverise procedures liberate representative sample grain sizes for analytical purposes. • Twelve month rolling QAQC analysis of sample preparation techniques indicate the process is appropriate for high sulphide samples; for Ag and Au the main sources of sample error occur as gravity settling in pulps during transport and storage. • The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Rosebery mineralisation (sediment hosted base metal) by the Competent Person.
Quality of assay data	• The assaying methods currently applied for the Rosebery samples include X-ray Fluorescence (XRF) for Pb, Zn and Cu, Atomic Absorption

and laboratory tests	Spectrometry (AAS) for Ag and fire assay with AAS finish for Au, which is considered suitable for Mineral Resource estimation at Rosebery. All of these analyses are considered total digest. • Assay techniques are considered suitable and representative; a comparison study using ICP techniques was completed to check the XRF accuracy in May 2013. Independent umpire laboratory re-assay of 5% pulps took place in June and September 2013 using the ALS Brisbane laboratory and ICP analysis. Pulps for analysis were re-bagged, shuffled, re-numbered and completely de-identified prior to dispatch. • 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. • ALS laboratory Burnie releases quarterly QAQC data to MMG for analysis of internal ALS standard performance. The performance of ALS internal standards appears to be satisfactory, although the ALS standards applied are high-grade Pb, Zn and Cu that are more appropriate for mineral concentrates. Subsequent to MMG request, two new standards are now inserted into the ALS batches at lower grades. • MMG routinely insert matrix-matched standards, dolerite blanks and duplicates at ratio of 1:25 to normal assays. o Blanks are inserted to check crush and pulverisation performance. o Duplicates are taken after crush and pulverisation. • Sizing analysis of pulverised samples shows that 96% have at least 80% passing 75µm. • Analyses of the control samples have established acceptable levels of accuracy and precision.
Verification of sampling and assaying	• Verification by independent personnel was not undertaken at the time of drilling. However, drilling, core logging and sampling data is entered by geologists; assay results are entered by the resource geologist after data is checked for outliers, sample swaps, performance of duplicates, blanks and standards, and significant intersections are checked against core log entries and core photos. Errors are rectified before data is entered into the database. The personnel completing the above listed checks are not necessarily the Competent Person. • Where drill holes from surface or older holes longer than 400m exist, attempts are made to confirm mineralised intercepts by twinning from newly developed drives. • Database validation algorithms are run to check data integrity before data is used for interpretation and Mineral Resource modelling. • Unreliable data is flagged and excluded from Mineral Resource estimation work. Datamine macros are also used to ensure unreliable data is not included in the modelling and estimation process. • Delineation/infill drilling programs collared from underground commonly target mineralisation that has been intersected by deep (>350m) surface drill holes in order to verify the grade and location of the mineralised lenses.

	• No adjustments have been made to assay data – if there is any doubt about the data quality or location, the drill hole is excluded from the estimation process.
Location of data points	• Collar positions of underground drill holes are picked up by Rosebery mine surveyors using a Leica TPS 1200. Collar positions of surface drill holes are picked up by contract surveyors using differential GPS. All current diamond drill holes are down hole surveyed using a single-shot Reflex Ezi-shot tool at 30m intervals, with a full down hole gyro survey completed at end of hole by the drilling contractor. • Selected surface exploration holes have been downhole surveyed using a SPT north seeking gyro (parent holes only). Multi-shot downhole surveys were completed to check single-shot survey performance on selected drill holes. A total of 37 drill holes had multi-shot data recorded and compared to single-shot in 3D space. A down hole gyro measurement has been recorded from selective drill holes since March 2014 as an independent check of down hole survey accuracy. Initial analysis suggests the single-shot surveys are accurate to 100m hole depth, and then diverge up to 4m at 400m depth. Given this outcome, gyro down hole surveys are now standard for all diamond holes. • The grid system used is the Cartesian Rosebery Mine Grid, offset from Magnetic North by 24°42′ with mine grid origin at AMG E= 378870.055, N= 5374181.69; mine grid relative level (RL) equals AHD + 1.490m + 3048.000m. • Topographic control is updated by five yearly LIDAR overflights carried out and correlated with surface survey datum. The LIDAR survey is considered to be of high quality and accuracy by the Competent Person for topographic control.
Data spacing and distribution	• The Rosebery mineral deposit is drilled on variable spacing dependent on lens characteristics. Drill spacing typically ranges from 100m x 100m to 20m x 20m and is considered sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation processes and Mineral Resource classifications applied. • Drill hole spacing at 20m x 20m is considered sufficient for long term Mineral Resource estimation purposes based on variogram achievement of 70% of the sill variance at 20m lag for all metals. Whilst the 20m spacing is suitable for Mineral Resource estimation, the Rosebery deposit has short scale 5m-10m structural variations that are not captured by the resource infill drill spacing. This localised geological variability is captured by face and backs mapping and transferred to digital grade control models for shorter term mine planning. • DD samples are not composited prior to being sent to the laboratory however the nominal sample length is generally 1m. There has been no reverse circulation drilling at Rosebery.
Orientation of data in relation to geological structure	• Drill hole orientation is planned at 90 degrees to lens strike (north-south) in vertical radial fans. Drill fan spacing and orientation is planned to provide evenly spaced, high angle intercepts of the mineralised lenses where possible, thus minimising sampling bias related to orientation. • Drilling orientation is not considered to have introduced sampling bias.

Sample security	• Measures to provide sample security include: o Adequately trained and supervised sampling personnel. o Samples are stored in a locked compound with restricted access during preparation. o Dispatch to ALS Burnie via contract transport provider in sealed containers. o Receipt of samples acknowledged by ALS by email and checked against expected submission list. o Assay data returned separately in both spreadsheet and PDF formats.
Audit and reviews	• No independent audits of the Rosebery database have been undertaken. • An independent audit of the ALS Burnie laboratory and MMG Rosebery sample preparation area was undertaken in April 2013 by Coffey Mining Pty Ltd. Outcomes from the audit included: o Installation of a Boyd crusher cone splitter and instigation of crush duplicates and minor procedural sampling improvements at the MMG site. During 2013 the sample preparation process was improved with the Boyd crusher output size being reduced from 3 to 2mm. o Confirmation that the ALS analysis methods are sound except for a minor bias (up to 3% relative below expected) in the zinc, lead and copper assays for the MMG submitted certified reference material (CRM). o Sizing analysis shows that 96% of samples have at least 80% passing 75µm.
Section 2 Reporting of Exploration Results	
Mineral tenement and land tenure status	• Rosebery Mine Lease ML 28M/1993 includes the Rosebery, Hercules and South Hercules polymetallic mines. It covers an area of 4,906ha. • ML28M/93 located 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. • Tenure is held by MMG Australia Ltd for 30 years from 1st May 1994. • Lease expiry date is 1st May 2024. • 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 the other at the southern end of the Rosebery Mine Lease, covering a total of 16.07km^2. • The joint venture agreement was between the 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 16th 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 31st December 2001. • There are no known impediments to operating in the area.
Exploration done by other parties	• Tom Macdonald 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 lead by Tom McDonald discovered the main lode through trenching operations, on what is now the 4 Level open cut (Easterbrook, 1962; Martin, 2002). • The Rosebery deposit was operated by several different operations until 1921 when the Electrolytic Zinc Company purchased both the Rosebery and Hercules Mines. • Inadequate metallurgical technology prevented fulfilment of the mine's potential until 1936 when the commissioning of a flotation plant by the Electrolytic Zinc Company enabled successful separation of the fine grained sulphide minerals. • Overall core drilling has steadily increased over time, with the peak of 73,651m during Pasminco's tenure in 1998 when a major surface drilling campaign was underway to delineate K and P lenses. • Surface drilling has been sporadic since 2000 and is currently in hiatus pending target generation. • Underground drilling has been consistently increasing and under MMG's tenure to between 35,000m and 40,000m. • Discovery of the Hercules and South Hercules ore deposits is attributed to A.E. Conliffe in 1891, two years before the Rosebery deposit was discovered. • Hercules mining operations ceased in 1986, having produced over 3.12Mt at 5.7%Pb, 17.8%Zn, 0.42%Cu, 180g/t Ag & 2.94g/t Au. • The South Hercules deposit has had minor early production and is currently in the feasibility stage (Easterbrook, 1962). • No exploration drilling carried out by other parties in the 2014 reporting period.
Geology	• The Rosebery volcanogenic massive sulphide (VMS) deposit is hosted within the Mount Read Volcanics, a Cambrian assemblage of lavas, volcaniclastics and sediments deposited in the Dundas Trough between the Proterozoic Rocky Cape Group and the Tyennan Block. • Sulphide mineralisation occurs in stacked stratabound massive to semi-massive base metal sulphide lenses between the Rosebery Thrust Fault and the Mount Black Thrust Fault; the host lithology and the adjoining faults all dip approximately 45 degrees east.
Drill hole information	• Five underground exploration diamond drill holes were completed in the 2014 reporting period for a total of 1,439m. No individual hole is material to the Mineral Resource estimate and hence this geological database is not supplied.

Data aggregation methods	• All drilling data was treated exactly the same as resource infill drilling described. The drilling results are excluded from this report as they are not considered material by the Competent Person. • No metal equivalents were used in the Mineral Resource estimation. However the Mineral Resource has been reported above an A$122.5 NSRAR cut-off.
Relationship between mineralisation widths and intercept lengths	• No significant mineralisation was intercepted. The drilling results are excluded from this report as they are not considered Material by the Competent Person. • Mineralisation true widths are captured by interpreted mineralisation 3D wireframes. • Drill holes are drilled to achieve intersections as close to orthogonal as possible. • Drill hole dips are generally between -20 and +20 for final resource infill drilling.
Diagrams	• No significant mineralisation was intercepted. The drilling results are excluded from this report as they are not considered Material by the Competent Person. The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location. **Schematic Cross Section of the Rosebery Deposit**

Balanced reporting	• No significant mineralisation was intercepted. The drilling results are excluded from this report as they are not considered Material by the Competent Person.
Other substantive exploration data	• No significant mineralisation was intercepted. The drilling results are excluded from this report as they are not considered material by the Competent Person.
Further work	• Ongoing drill programs will be planned to increase deposit confidence as the need arises. • A program of exploration assessment and targeting is currently underway to identify exploration options for the Rosebery leases.
Section 3 Estimating and Reporting of Mineral Resources	
Database Integrity	• The following measures are in place to ensure database integrity: o All Rosebery drill hole data is stored in an SQL database on the Rosebery server, which is backed up at regular intervals. o Geological logging is entered directly into laptop computers which are uploaded to the database. Prior to 1996 diamond drill holes were logged using Lotus spread sheets or on paper o Assays are loaded into the database from spreadsheets provided from the assay laboratory. Aspects of this process require manual formatting of the data. • The measures described above ensure that transcription or data entry errors are minimised. • Data validation procedures include: o A database validation project was undertaken in March 2010, with a number of relatively minor errors found. o Validation routines in the database check for overlapping sample, lithological and alteration information, as well as reject criteria such as logging information past EOH depth. • The current database is being upgraded to further improve security, capacity and data validation.
Site visits	• The 2014 Competent Person for the Rosebery Mineral Resource is a permanent employee of MMG based at Rosebery full-time.
Geological interpretation	• Geological interpretation is based on massive to semi-massive base metal sulphide lenses located within the Rosebery host sequence, which are readily identified in drill core logs and mapping of underground mine development. • An NSRAR cut-off of A$122.5 is used to approximate this boundary. • The occurrence of massive to semi-massive sulphide in drill core is further verified by assay results of >5% Pb+Zn. • Mineralised lenses are independently interpreted as they are physically separate and differ in mineralogy, chemical and metallurgical characteristics.

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The broad stratiform nature and continuity of the lenses is confirmed by underground mapping of the mining and development exposures.
Geological interpretations are modelled as wireframe solids are peer reviewed within the Rosebery Mine Geology department. There is good confidence on the geological continuity and interpretation of the deposit.
No alternative interpretations have been generated for the Rosebery mineralisation and geology, however, recent 3D structural analysis by consultant Ian Neilson (Model Earth) in 2014 has enhanced the understanding of the ore body kinematics.
Interpretive geological models are updated and cross checked with underground face and backs mapping data. In general, the mapping of development drives confirms major geological boundary placement within 1m-2m of the interpreted location.

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<td>Dimensions</td>
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The Rosebery mineral deposit extends 1400m east-west in plan width; 1400m north-south along strike, and 1500m below surface. The deposit is currently open to the north, south and at depth. Individual lenses vary in size from a hundred metres up to 1000m along strike and/or down-dip.
The minimum, maximum and average thickness of the mineralised lenses are as follows:

<table>
<tr><th>Lens</th><th>Minimum (m)</th><th>Maximum (m)</th><th>Mean (m)</th></tr>
<tr><td>K</td><td>0.2</td><td>36.1</td><td>6.2</td></tr>
<tr><td>N</td><td>0.3</td><td>16.4</td><td>3.8</td></tr>
<tr><td>P</td><td>0.2</td><td>11.8</td><td>2.7</td></tr>
<tr><td>WXY</td><td>0.3</td><td>20.5</td><td>3.3</td></tr>
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<td>Estimation and modelling techniques</td>
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Block modelling with Ordinary Kriging using Datamine software has been applied as the estimation technique for the Rosebery Mineral Resource with the following key assumptions and parameters:

All recoverable elements of economic interest to the Rosebery Operation (Zn, Pb, Cu, Ag, and Au) have been estimated. The metallurgical recovery of these variables is accounted for in the net smelter return after royalty (NSRAR) calculation, which is included in the block model. The NSRAR calculation incorporates current and future mining, commercial and financial assumptions which provide a standardised relative estimate of Mineral Resource value for mining decisions.
Ordinary Kriging is considered an appropriate technique for estimating the Rosebery Mineral Resource.
Domains coded by wireframes based on mineralisation domains.
Separate block models are created for each lens or group of lenses (K, N, P, and WXY).
Estimation is into the parent block and sub-cells are assigned parent block grades.
Assays were composited as close to one metre lengths as possible.
Variography was completed in Snowden Supervisor software. Variogram analysis was undertaken for each element estimated.
Two estimation passes were run with varying search ellipse sizes

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calculated from variogram range analysis.

  - The first pass search ellipse is restricted to prevent the smearing of localised high grade samples within the individual lenses – ellipse dimensions are typically of the order 25m x 25m x 5m.
  - The second search ellipse has a radius factor of 2 to infill the blocks that failed to estimate in the first pass.
  - Unestimated blocks after pass two are allocated default values and are flagged as such within the block model.
  - Minimum sample search number is 8; maximum number is 24.
  - Octant search methods were not used.
  - Discretisation is 2x4x4 (XYZ) points per parent cell volume.

- Monthly reconciliation reports compare block model performance against mill concentrate output. In general, these figures are within 10% of each other throughout the year. Final model Kriged estimates for annual depleted volumes are checked against back-calculated tonnes and grade results from the previous 24 months of mill output. On average, for 2013 the model estimates were 105% of the mill claim with 104% tonnage; for 2014 the model estimates were within 108% of the mill claim with 100% tonnage.
- Assumptions have been made regarding the recovery of all by-products in the NSRAR.
- No deleterious element or non-grade variables of economic significance have been identified – hence they are not estimated.
- Parent block size of 5mE x 10mN x 10mRL with sub-cells allowed. Minimum sub-cell size is 0.625mE x 1.25mN x 1.00mRL. Parent block size approximates half drill hole spacing in northing and RL, and approximates development drive width in easting, where the sample spacing is the closest (predominant drill hole direction).
- No dilution or recovery factors are taken into account during the estimation of Mineral Resources. Selective Mining Units (SMU) are not defined or applied to the Rosebery Mineral Resource estimate.
- All elements are estimated independently. There is an assumed spatial correlation between all estimated elements as only two mineralised domains are created.
- High-grade domains were used to constrain high-grade samples during the estimation. A low grade enveloping domain was used to estimate the remainder of the mineral deposit.
- Grade capping is applied independently for each lens using the length weighted log-normal probability chart for each metal. The minimum cut-off value is set at the 99th percentile; i.e. the top 1% of sample values is reset to the value of the 99th percentile for use in the estimation process. Total metal removed from the samples database as a result of the grade caps applied are: Pb: 0.4%, Zn: 1%, Cu: 0.0%, Ag: 2.4%, Au: 8.3%.
- Block modelling with Datamine software has been used to estimate Mineral Resources for Rosebery since 1999. Various estimation techniques have been used historically at Rosebery including polygonal, nearest

	neighbour, inverse distance and ordinary kriging. Current models for K, N, P, W, X and Y lenses are estimated using Ordinary Kriging; historical models for R/S, V and were also estimated by Ordinary Kriging; historical models for M/Q U and T used the inverse distance method. • Block model validation was conducted by the following processes: o Visual inspections for true fit with the high and low grade wireframes (to check for correct placement of blocks and sub-blocks). o Block model to wireframe volume differences are checked. o Visual comparison of block model grades against composite file grades. o Global statistical comparison of the estimated block model grades against the declustered composite statistics and raw length-weighted data. o Swath plots were generated and checked for K, N, P, W, X and Y lenses.
Moisture	• Tonnes have been estimated on a dry basis. • The NSRAR calculation uses a moisture content of 8% to convert dry concentrate to wet concentrate tonnes in order to calculate freight costs from mill to port.
Cut-off parameters	• Rosebery and South Hercules Mineral Resources were reported above a cut-off Net Smelter Return after Royalties (NSRAR) dollar value. • Rosebery Mineral Resources were reported above an A$122.50/t NSRAR block grade cut-off. This is 70% of the Ore Reserve cut-off of A$175/t NSRAR. • South Hercules Mineral Resource was reported above an A$105/t NSRAR block grade cut-off, which is 70% of the expected economic break-even cut-off. • The reporting cut-off grades are in line with MMG's policy on reporting of Mineral Resources which is prospective for future economic extraction.
Mining factors or assumptions	• Mined voids (stope shapes and development drive as-builts) are depleted from the final Mineral Resource estimate as at 30 June 2014. • No factors are applied nor assumptions made with respect to remnant pillars or unrecovered Mineral Resource; such material remains in the Mineral Resource model. In the upper levels of the mine, there remains an estimated 1.6Mt or 7% of the total Mineral Resource.
Metallurgical factors or assumptions	• Metallurgical processing of ore at Rosebery involves crushing and grinding followed by flotation and filtration to produce saleable concentrates of copper, lead and zinc. Additionally, gold is partly recovered as doré following recovery from a gravity jig. • Metallurgical recovery parameters for all payable elements are included in the NSRAR 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.

Environmental factors or assumptions	• Environmental factors are considered in the Rosebery life of asset work, which is updated annually and includes provision for mine closure. • Net Acid Generating (NAG) studies have been completed for sulphide-rich waste at Rosebery Mine in 2014. Determination of surface treatable and untreatable waste is currently determined by face sampling and is not estimated or included in the 2014 Mineral Resource block models. Prospects to include a NAG estimate are being considered for future models.
Bulk Density	• Rosebery uses an empirical formula to determine the dry bulk density (DBD), based on Pb, Zn, 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 Ordinary Kriging has been completed. The formula applied is: $SG = 2.65+0.0560Pb\%+0.0181Zn\%+0.0005Cu\%+0.0504Fe\%$ • A study was conducted in August 1999 comparing the estimated DBD against values determined using the weight in water, weight in air method and found the formula to be reliable. • The Rosebery mineralisation does not contain significant voids or porosity and the DBD measurement does not attempt to account for any porosity. • No assumptions apart from the use of the empirical formula are applied to the different materials in the Rosebery Mineral Resource estimate.
Classification	• Mineral Resource classifications were based on sample spacing determined by a Datamine macro and then subsequent Mineral Resource classification wireframes were configured to assure the following criteria were met: o **Measured Mineral Resources:** The sample spacing is no more than 30m. At this spacing for Rosebery the knowledge of the geology and grade continuity is confirmed, and distribution of the mineralisation is sufficiently known to allow detailed drive and stope planning. o **Indicated Mineral Resources:** The sample spacing is between 30m and 60m. Historically, drill hole evidence at this spacing at Rosebery is enough to assume geological and grade continuity. o **Inferred Mineral Resources:** The sample spacing is between 60m and 120m. At Rosebery, implied continuity can be demonstrated 50% of the time at this sample spacing. • The Mineral Resource classification reflects the Competent Persons view on the confidence and uncertainty of the Rosebery Mineral Resource.
Audits or reviews	• A self-assessment of all 2014 Resource modelling was completed by the Competent Person and Senior Resource Geologist in July 2014 using a standardised MMG template. An in-house review of the self-assessment was conducted by Group Office personnel in mid-July. • No fatal flaws were detected in the review. Areas identified for improvement included: o greater use of geology to define the mineralised domains

	o improvements to the three dimensional geological model o additional methods of validation of the block model
Discussion of relative accuracy / confidence	• There is high geological confidence that the spatial location, continuity and estimated grades of the modelled lenses within the Mineral Resource. The currently stated Mineral Resource is expected to be similar in nature to the mineralisation historically mined at Rosebery. Minor local variations are expected to occur on a sub-20m scale that is not detectable by the current drill spacing. • Twelve month rolling reconciliation figures for the Ore Reserves model to metallurgical balance are within 10% for all metals, suggesting that the Rosebery Mineral Resource estimation process is robust. The 2014 Mineral Resource model has also been reconciled against the 2012-2013 mined tonnes and grade and found to be within 10% of mill output figures. • Mining and development mapping by mine geologists shows good spatial correlation between interpreted mineralised boundaries and actual geology. • The combination of the Mineral Resource model, mapping, stope commentaries and face inspections provides reasonably accurate grade estimations for mill feed tracked on a rolling weekly basis, and in end of month reports. • The issue of whether remnant mineralisation in the upper and lower levels should still remain within the stated Mineral Resource is currently being addressed. • The accuracy and confidence of this Mineral Resource estimate is considered suitable for public reporting by the Competent Person.

5.4 Ore Reserves – Rosebery

5.4.1 Results

The 2014 Rosebery Ore Reserve are summarised in Table 15.

Table 15 2014 Rosebery Ore Reserve tonnage and grade (as at 30 June 2014)

Rosebery Ore Reserve							Contained Metal				
	Tonnes (Mt)	Zinc (%)	Copper (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Zinc ('000 t)**	**Copper ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Proved	3.2	10.7	0.3	3.4	111	1.4	340	11	109	11	0.1
Probable	2.3	8.2	0.3	3.3	121	1.3	186	6	74	9	0.1
Total	**5.4**	**9.7**	**0.3**	**3.4**	**115.2**	**1.4**	**526**	**17**	**183**	**20**	**0.2**
Total Contained Metal							**526**	**17**	**183**	**20**	**0.2**

Cut-off grade is based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value (A$ 189/t). For stopes with access currently available a cut-off of A$156/t has been applied.
Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Contained metal does not imply recoverable metal.

5.5 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 Rosebery Ore Reserve 2014

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of those Mineral Resources modified to produce the Ore Reserves. • The Ore Reserves estimate has been generated by applying the metallurgical, social, environmental and financial aspects of the operations (the modifying factors) on that portion of the Mineral Resource Estimate, classified as "Measured" and "Indicated".
Site visits	• The Competent Person, David Brown is a full time employee based at Rosebery.
Study status	• The mine is an operating site with on-going detailed Life-of-Mine planning.
Cut-off parameters	• Costs used in assisting with setting of the cut-off value used for the Ore Reserves estimation were based on an assessment of actual costs for 2013. This was considered to be a more accurate representation of costs in comparison to first half of 2014 costs, due to the impact to costs from the seismic event in the W Lens in February resulting in deferred ore tonnes and additional variable costs being incurred from rehabilitation. This analysis is presented in Table 17. Note, unless otherwise stated all dollar values are AUD.

Table 17 Rosebery - cost breakdown for 2013

Mining Costs	**Total Costs**	**% Variable**	**Fixed Costs**	**Variable Costs**
Mine Labour	$20,178	0%	$20,178	
Mine Contracts	$45,921	63%	$16,996	$28,925
Mine Fuels & Utilities	$7,893	84%	$1,279	$6,614
Mine Other	$21,303	87%	$2,750	$18,553
Mine Technical Services (excl. Geology)	$3,630	0%	$3,630	
Mine Technical Services - Geology	$2,022	0%	$2,022	
Asset Management - Mine Maintenance	$19,266	0%	$19,266	
Mining Costs Deferred (Capital Mine Development)	-$23,032	54%	-$10,690	-$12,342
Total Mining Costs	**$97,180**		**$55,429**	**$41,751**
Mill Labour	$5,586	0%	$5,586	
Mill Contracts	$3,518	5%	$3,343	$176
Mill Fuels & Utilities	$4,447	0%	$4,447	
Mill Volume Variables (Stores)	$5,979	100%		$5,979
Mill Other	$749	30%	$524	$225
Total Mill Operating Costs	$20,279		$13,899	$6,379
Asset Management - Mill Maintenance	$12,581	30%	$8,807	$3,774
Total Mill Costs	**$32,860**		**$22,706**	**$10,154**
Support Costs				
General Manager	$4,662	0%	$4,662	

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<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
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<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Commercial</td><td>$4,011</td><td>0%</td><td>$4,011</td></tr>
<tr><td>Human Resources</td><td>$2,777</td><td>0%</td><td>$2,777</td></tr>
<tr><td>Safety, Health, Environment & Community</td><td>$7,650</td><td>0%</td><td>$7,650</td></tr>
<tr><td>Business Development (N/A post 2013)</td><td>$634</td><td>0%</td><td>$634</td></tr>
<tr><td>Total Support Costs</td><td>$19,100</td><td></td><td>$19,734</td></tr>
<tr><td>Sustaining Capital</td><td>$19,630</td><td></td><td></td></tr>
<tr><td>Total 2013 Costs</td><td>$168,770</td><td></td><td></td></tr>
<tr><td>Ore Tonnes to Surface</td><td>893,180</td><td></td><td></td></tr>
<tr><td>Indicated Break-Even NSRAR $/t</td><td>$189</td><td></td><td></td></tr>
</table>

The indicated break-even NSRAR from Table 17 is greater than the cut-off value that was applied in last year’s Ore Reserves estimate which was at A$176/t.
The actual cut-off values used for the 2014 Ore Reserves estimate was an NSRAR value of A$189/t for all ore extraction requiring development, and a marginal stoping cut-off value of A$156/t was used for marginal stopes where development had already been completed to access other parts of the ore reserve. This change was taken following the adoption of a cut-off grade evaluation process that was completed by an external consultant from Mining and Economic Evaluation Pty Ltd.
The cut-off grade evaluation process that was commenced began delineating the cut-off value by lens within the Rosebery ore-body reserve and further work will be completed in 2015 to determine the viability of this practice.

</td></tr>
<tr><td>Mining factors or assumptions</td><td>

Designs are generated around the Mineral Resource and evaluated against cut-off grade to convert the Mineral Resource to an Ore Reserve. The following assumptions are used to generate this design:

Mining production carried out by long-hole open stoping. The majority is longitudinal retreat while some limited areas are by wider transverse stopes.
Lenses are divided into panels and are mined using a bottom-up sequence in a continuous 45 degree retreating front towards the level access drives. The nature of this mining sequence causes fluctuations in the grade profile of the short term schedules. Stoping panels contain between 3 and 5 sublevels with crown pillars left in-situ between the backs of up-hole stopes and the lowest sill drive of the panel above.
Back filling of stope voids is carried out using three methods; Cemented Rock Fill (CRF), Rock Fill (RF) and Paste Fill. Up-hole retreat stopes are left as open void due

</td></tr>
</table>

Assessment Criteria	**Commentary**

to lack of access for fill placement. Cemented Rock Fill and Rock Fill are filling methods adopted in the K, N & P, and already developed W & Y levels. Stoping above the W & Y Lens above the 46 Level is designed and anticipated to be filled using Paste Fill, pending acceptable results from justification studies. Within large areas of CRF a local pillar was left every 60m for stability purposes.

  - Stope design is carried out using the Mineable Shape Optimiser (MSO) process within CAE mining software (Datamine Mine2-4D). The length of each block used in MSO was set at five metres with each stope being a combination of three or four of these blocks giving a stope strike length of 15m or 20m. Stope strike lengths of 15m were used in W and X Lens while the others lenses used 20m. The height was set to 20m (floor to floor) and the minimum mining width to 3.5m. This was adjusted to 4.65m for horizontal width to allow for the low dip of the ore body and to achieve the 3.5m true width.
  - Access to the ore-body is through a Decline 5.5mH x 5.5mW at a 1:7 gradient. The stand-off distance from ore-body and stoping footwall and major infrastructure; stockpiles, vent rises, escape-ways, declines and ancillary development is 40m.
  - Recovery and Dilution Factors are:

Lens	Stope Type	T Factor	R Factor
K	DHS Longitudinal	1.1	0.9
	DHS Transverse	1.15	0.95
	UHS	1.1	0.9
N	DHS	1.1	0.9
	UHS	1.2	0.8
P	DHS	1.1	0.9
	UHS	1.2	0.8
W	DHS	1.12	0.9
	UHS	1.2	0.8
X	DHS	1.12	0.9
	UHS	1.2	0.8
Y	DHS	1.12	0.9
	UHS	1.2	0.8
Development		1.12	1

- Inferred material is not included in the mine design process for Reserve Reporting
- Production of ore is in Measured Mineral Resource only with grade control drilling programs scheduled to convert Indicated Mineral Resource prior to development or stoping activities. Development is strictly under Survey control. Geological development control is currently not implemented at Rosebery.
- The current primary ventilation system supplies approximately 475m3/s of air to the underground mine. An upgrade of the Primary Surface Fan #1 is to begin towards the end of 2014 and be

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>commissioned by May 2015. This is expected to provide 686m3/s which will allow extraction from the multiple ore lenses designed from 2015.</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>

- The Rosebery mine is an operating entity. The metallurgical process is crushing and grinding followed by sequential flotation to produce separate copper, lead and zinc concentrates. Gold doré is also produced from a gravity concentrate collected in the grinding circuit and subject to intense cyanidation.
- Sulphide ore from underground has been processed for over 75 years.
- Metallurgical factors for Ore Reserves are determined from operating plant data using a series of equations. The key equations are:

$\%\ \text{Au recovery} = (-0.144*tph+36.569)/100$

$\%\ Cu\ recovery = (-0.7497*(tph*Cu)^2 + 5.3293*tph*Cu+75.997-0.541*\%CuConc)/100$

$\%\ Pb\ recovery = (-0.0638*(tph*Pb)^2 +1.5882*tph*Pb+75.6266-0.0431*\%PbConc)/100$

$\%\ Zn\ recovery = (-0.0125*(tph*Zn)^2 + 0.5029*tph*Zn+95.4478-1.5338*Fe*Zn-0.1681*\%ZnConc)/100$

- Historic values are used for tph, %CuConc, %PbConc and %ZnConc inputs. Cu, Pb and Zn values are feed assays and come from the block model.
- A recent reconciliation of all production data shows that difference between actual and predicted performance is low for all of these factors. Gold recovery is expected to increase to the level predicted with the installation of a second Knelson concentrator which is about to be commissioned.

<table>
<tr><th></th><th colspan="2">Nov 2013 – June 2014</th></tr>
<tr><th></th><th>Predicted</th><th>Actual</th></tr>
<tr><td>Au recovery</td><td>20.3</td><td>14.8</td></tr>
<tr><td>Cu recovery</td><td>67.3</td><td>67.0</td></tr>
<tr><td>Pb recovery</td><td>77.9</td><td>77.7</td></tr>
<tr><td>Zn recovery</td><td>89.2</td><td>89.0</td></tr>
</table>

- No deleterious elements of any consequence occur in the concentrates.
- No required mineral specifications have been identified for this deposit. The grade of the zinc concentrate is dependent on the Fe content of the sphalerite, but is typically about 53.5% Zn which is more than acceptable for downstream processing.

</td></tr>
<tr><td>Environmental</td><td>

- **Waste Water:** The waste water management at Rosebery involves collecting all potentially contaminated water including storm water, mine water and mill tailings at the Effluent Treatment Plant

</td></tr>
</table>

Assessment Criteria	Commentary
	(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 the Pieman River. The ETP hydraulic capacity is approximately 600 l/sec and the plant is capable to 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. • **Environmental Legacy Sites:** There is a range of environmental legacy sites that are indirectly related to Rosebery that are being managed by Group Office. While these are not directly related to the current operations they are located either on the mine lease or are in the local region. The historic Hercules and South Hercules area has a large impact on the land area along with major water issues. This area is the most significant "legacy site" for Rosebery management. Smaller historic legacy sites include the Zeehan Smelter site and historic mines numbering at least ten known sites, such as Jupiter's, along with a number of small historic workings. • **Waste Rock:** Waste rock is not currently characterised differently for disposal. Work has commenced to collate information in relation to acid forming potential which is ongoing. The majority of waste rock produced is retained underground and used for stope filling, either as straight Rock Fill or as Cemented Rock Fill. Any surplus waste rock is trucked to the surface and unloaded at the current waste rock dump, referred to as Assay Creek and 4 Level. Approval for a new waste rock dump (EPN 8815/1) is currently awaiting approval from regulatory authorities. The proposed dump will be located on 3 Level within the existing open pit. Aspects of the approval for this waste dump have implications in regards to the management of potentially acid forming (PAF) waste rock, hence the work being undertaken to understand the acid forming potential of waste rock. A further area of work being investigated which will impact on waste rock management is the utilisation of paste fill. This will impact on the amount of waste rock required for filling and the amount brought to surface.
Infrastructure	• 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. • Electric power to the site feeds in through No. 1 Substation located adjacent to the Mill Car Park on Arthur Street. There is a contract for the supply to the site with the Electrical Supply Authority for the region. This is managed by the Commercial Department and all responsibilities (such as notification to change in supply by

Assessment Criteria	Commentary
	either party) are detailed in this contract. The Supply Authority's substation currently has an N+1 arrangement which ensures that supply is maintained in the event of a loss of critical equipment (e.g. transformer). This also provides the Supply Authority the ability to manage a potential increase in supply requirement by the site. Further to this, works are currently underway to provide an upgrade to the substation infrastructure, the result of which will provide a significant increase to the security of the supply to the site. • Fresh water for the site is currently sourced from Lake Pieman and the Stitt River, with allotments of 5,500 ML and 1,647 ML respectively. As part of the asset hand back to Cradle Mountain Water, the Stitt River allocation is due to be handed back mid-2015. This will leave Lake Pieman as the sole source of fresh water. • In total, the Rosebery Mine operation employs 275 MMG people, covering all aspects of the operation. Within the mining area there are 184 MMG employees and a further 211 contractors. • Primary communication from the Rosebery Mine site is by phone along with surface mobile phone coverage, provided by Telstra. Phones are available throughout the main office building along with the mill and other surface buildings. There is also an extension of the phone system underground. Along with the phone system there is connection to email and internet services. This is available through the office area through a wireless system. • The main system for communication underground is through radio via a leaky feeder system. The radio system operates on multiple channels with general, extended discussion and emergency channels. • With mining activity taking place underground at Rosebery, access to the operating areas is by the main decline, "The Fletcher Decline". Prior to the decline connecting through to surface to becoming the haulage route, ore was hoisted up the No. 2 shaft, extending from 17L through to discharge on 7 Level. • While there are multiple paths from the certain points underground, only one main route is used to access to 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 return air. Ore is hauled out of the mine in a fleet of 55-60 tonne trucks. • The Rosebery primary ventilation circuit is essentially a series circuit where airflow accumulates airborne contaminants and heat as it progresses deeper into the mine and finally reporting to the return airways and exhausting to surface. The current primary ventilation system supplies approximately 470m3/s of air to the underground mine. The system comprises of three primary fan installations on the surface and two booster fan installations underground. The specifications of these fan installations are

Assessment Criteria	**Commentary**
	detailed below: o PSF1 (New NUC)) are 4 x 280kW Howden 1800mm axial fans. Duty is 240m3/s o PSF 2 (Old NUC) is a single centrifugal fan. Duty is 100m3/s o PSF 3 (SUC) are 2 x 500kW Korfmann KGL 2600mm axial fans in parallel. Duty is 200m3/s o 33P Booster fan is a Flaktwoods 550kW 2600 VP axial fan. o 19B Booster fans are 2 x Twin 90kw CC1454 secondary fans mounted in parallel. • The main intake airways of the mine are the Decline portal, No.2 Shaft and the NDC shaft. • A new crib room and workshop facility was commissioned in the first quarter of 2014 at the 46K Level. This moved the facilities from the 33P and 35 Level to provide these facilities closer to the current and ongoing working areas. • Concentrate is transported using the Emu Bay Railway which is a freight only line that connects the West Coast area to the port in Burnie. • Tailings from the ore treatment are placed in a Tailings Storage Facility (TSF) located to the north of Rosebery at Bobadil. This facility has capacity at current rates through to late 2017. Beyond 2017 there are two options for tailings storage. Potential to implement paste fill to underground operations will have an impact on the life of the current TSF and plans for future sites. • Other Rosebery site infrastructure includes mineral processing facilities (mill, concentrator, filtration and rail load-out), and buildings (offices, workshops, change-house).
Costs	• Costs used in assisting with setting of the cut-off value used for the Ore Reserves estimation were based on an assessment of actual costs for 2013. Costs were inclusive of Operating and Sustaining Capital. • The commodity price and exchange rate assumptions are supplied by MMG Group Finance. These price assumptions are then applied to the period to which the ore is scheduled to be produced to determine the extracted NSR. • All applicable inflation rates, exchange rates, transportation charges, smelting & refining costs, penalties for failure to meet specification and royalties are included as part of the NSRAR calculations evaluated against the block model to estimate projected value. • No deleterious elements of economic significance occur in the concentrates.

Assessment Criteria	**Commentary**
Revenue factors	• The commodity prices and exchange rate assumptions, treatment, refining, royalties and transportation costs for different commodities were supplied by MMG Group Finance and have been included in the NSR calculation. • The formulas and assumptions used in the NSR calculation are based on the historical data provided by Rosebery Metallurgy Department. • The economic evaluation was carried out to verify whether the stope designed using the NSR cut-off generate economic revenue. The mining physicals required to access and mine individual stopes were determined during the mine design process. The cost assumptions were applied to the mining physicals and the revenue was calculated by multiplying the recovered ore tonnes by the applicable NSR value. The profitable and marginal stopes were included in the Ore Reserve.
Market assessment	• The outlook for growth in the metals and mining industry on a global scale remains positive. While demand for metals has been affected by flat economic conditions in the United States and Europe, this has been offset by the strong demand that flows from the expansion of developing economies which are driven by domestic demand. Growth in domestic demand in most emerging economies is projected to continue. The global economy grew 3.0% in 2013, and the IMF-World Bank is forecasting global growth of 3.6% in 2014 and 3.9% in 2015. Advanced economies will account for 1.5 to 2% and emerging economies for 5.5 to 6%. Despite signs of a slowdown in China, the IMF sees China growing 7.5% in 2014 and 7.3% in 2015. • High barriers to entry exist in the mining industry due to the high capital costs of establishing or acquiring operations, heavy market regulation of this sector in many countries and long lead times to production. In recent times, there have been only a small number of discoveries of significant deposits of high grade copper and zinc. The combination of these factors discourages new entrants to this sector which affords a competitive advantage to established operators such as MMG in exploring and developing new deposits. • The copper price has been supported by supply side constraints which have assisted copper's outperformance compared to other commodities. Zinc market tightness will be increasing for short to medium term due to supply and demand, LME inventories have fallen and the zinc metal price has risen 20% since December 2013 • The growth in demand from emerging economies is expected to drive demand for all basic commodities: • Affordable housing and the move toward a consumption-based economy is anticipated to support long-term copper demand growth. • Market expectations of zinc demand growth are in excess of 5% per annum for the next 5 years, underpinned by continued growth

Assessment Criteria	**Commentary**
	in the Chinese steel sector and trend towards value added steels (i.e. galvanised steel for corrosion protection). • Commodity price forecasts are provided by MMG Finance department. • Rosebery does not market any industrial minerals.
Economics	• Rosebery is an established operating mine. Costs detailed used in the NPV calculation are based on historical data. Revenues are calculated based on historical and contracted realisation costs and realistic long-term metal prices. • The mine is profitable and life-of-asset economic modelling shows that the Ore Reserves are economic. The LOM financial model demonstrates the mine has a positive NPV. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit.
Social	• The West Coast area of Tasmania has a strong long history with mining. There are a large number of people employed by the mine from the town of Rosebery and the local area. • Community issues and feedback associated with the Rosebery mine are generally received through the MMG Community Liaison Office in Agnes Street, Rosebery. All issues are reported on a Communication and Complaints form and forwarded to the Stakeholder Relations Officer for action as soon as practicable. The Stakeholder Relations Officer makes direct contact with the complainant to understand the issue. Once details are understood the Stakeholder Relations Officer then communicates with the department concerned to resolve the matter. All complaints are registered on Stake Tracker (formally RIMS), where if required, corrective actions are initiated and monitored. • During the 2012/13 reporting period, a total of ten feedback/complaints were received regarding noise. As a result, the Stakeholder Relations Officer conducted two meetings with the local residents and a door knocking exercise in the area of complaints. A noise impact assessment has been completed by Aurecon concluding the Concrete Batching Plant is the main source of nuisance noise. MMG has since constructed a noise attenuation wall that has reduced the noise impacting on the community.
Other	• The status of approvals and communication with the government is provided in following tables. All projects have been approved in a timely manner with close communication maintained with the Environmental Protection Agency (EPA). • The current Tailings Storage Facility (TSF), Bobadil, is designed for a total of 9 stage lifts with stage 8 currently in construction. Investigation into the future TSF has begun to support life of mine.

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>
Approvals between Rosebery and EPA (2013/14)
<table>
<tr><th>ACTIVITY</th><th>APPROVAL REFERENCE</th><th>APPROVAL DATE</th><th>DETAILS</th></tr>
<tr><td>Level 4/7/8 Rehabilitation</td><td>H176466</td><td>26/07/2013</td><td>Environmental measures proposed by MMG Rosebery to manage the rehabilitation of the 4 Level, 7 Level and 8 Level portal and drives.</td></tr>
<tr><td>PSF1 Fan Upgrade</td><td>H201156</td><td>10/10/2013</td><td>Request to clear vegetation on Mining Lease 28M/1993 as part of preliminary road widening works during October 2013.</td></tr>
</table>
Changes between Rosebery and EPA (2013/14)
<table>
<tr><th>NATURE OF CHANGE</th><th>STATUS</th><th>DETAILS</th></tr>
<tr><td>Stage 9 embankment lift</td><td>Planned</td><td>To commence in 2015, subject to approvals from EPA and Assessment Committee for Dams Construction (ACDC).</td></tr>
<tr><td>New tailings storage facility to replace Bobadil</td><td>Planned</td><td>Notice of Intent (NOI) submitted, and scoping requirements have been received back from the EPA. MMG Rosebery is currently determining final scope requirements.</td></tr>
</table>
</td></tr>
<tr><td>Classification</td><td>

Ore Reserve classification follows the Mineral Resource classification where Proved Ore Reserves are only derived from Measured Mineral Resources and Probable Ore Reserves are only derived from Indicated Mineral Resources. No Inferred Mineral Resources have been converted to Ore Reserves.
The Competent Person deems this approach as being in accordance with the JORC code and is appropriate for the classification of the Rosebery Ore Reserve.
Where stopes contain more than one Mineral Resource category then the individual classification components have been reported as outlined above.

</td></tr>
<tr><td>Audit or Reviews</td><td>

The Geology Department at Rosebery reviewed the NSRAR script to ensure correct operation for each model. Detail has been added to the script and background document to track when and who has made changes.
Mineral Resource block models were validated during the design and evaluation process.
There have been no independent internal or external review or audit carried out on the Ore Reserves process during the past year.

</td></tr>
<tr><td>Discussion of relative accuracy/ confidence</td><td>

The key risks that could materially change or affect the Ore Reserve estimate for Rosebery include:

Tailing storage plans to be finalised to support tailings storage beyond 2017. At present studies are well advanced and approvals processes being followed. Studies are well advanced on this project.

</td></tr>
</table>

Assessment Criteria	**Commentary**
	o Potentially acid forming (PAF) waste rock characterisation to support a proposed waste rock dump. o Seismicity: The Rosebery mine has had several seismic events in the past. Potential exists for future seismic events to occur that may potentially impact on the overall recovery of the Ore Reserves. • Close-spaced drilling is applied to locally define tonnage and grade before mining. Ore Reserves are based on all available relevant information. o Proved Ore Reserve is based on local scale and is suitable as a local estimate. o Probable Ore Reserve is based on local and global scale information. • Ore Reserves accuracy and confidence that may have a material change in modifying factors are discussed above. • This Ore Reserve is based on the results of an operating mine. The confidence in the estimate is compared with actual production data.

5.5.1 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 18.

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 18 Contributing Experts – Rosebery Ore Reserves

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
David Brown, Technical Services Manager, MMG Ltd (Rosebery)	Mining Engineering
Andrew Francis, Technical Services Superintendent, MMG Ltd (Rosebery)	Mining Engineering
Peter Murray, Senior Mining Engineer MMG Ltd (Rosebery)	Mining Engineering
Carl Sakuringwa, Mining Engineer MMG Ltd (Rosebery)	Mining Engineering
Alastair Kerr, Mining Engineer MMG Ltd (Rosebery)	Mining Engineering
Mark Aheimer, Geology Superintendent, MMG Ltd (Rosebery)	Resource Geology
Darrin Evans, Resource Geologist, MMG Ltd (Rosebery)	Resource Geology
Ben Reimers, Metallurgy Superintendent, MMG Ltd (Rosebery)	Metallurgy
William Downie, Senior Metallurgist, MMG Ltd (Rosebery)	Metallurgy
Willard Zirima, Senior Geotechnical Engineer, MMG Ltd (Rosebery)	Geotechnical Engineering
Mitchell Budgen, Senior Business Analyst, MMG Ltd (Rosebery)	Economic Assumptions
Yao Wu, Director, Mining & Economic Evaluation Pty Ltd	Cut-Off Grades

6 GOLDEN GROVE UNDERGROUND OPERATIONS

6.1 Introduction and Setting

The Golden Grove mining operations is 100% owned and operated by MMG Limited through its Australian subsidiary Golden Grove Pty Ltd. The operations are located within the Yalgoo Local Government Area (Shire of Yalgoo) in the Mid-West Region of Western Australia.

Golden Grove is approximately 56km south of the township of Yalgoo, 375km north-northeast of Perth and 225km due east of the coastal port town of Geraldton. Access to site is via sealed roads from Perth to Paynes Find and from Geraldton to Yalgoo.

The Golden Grove operation comprises underground and surface operations at Gossan Hill and Scuddles, located 4km apart. Volcanogenic Hosted Massive Sulphide (VHMS) mineralisation was discovered at Gossan Hill in 1971 and at Scuddles in 1979. Scuddles underground operations began in 1990 and Gossan Hill underground operations started producing in 1998. Copper oxide ore is mined from an open pit at Gossan Hill that started in early 2012.

Figure 4 Golden Grove Mine location

The underground mines are operated by MMG employees and the open pit is operated by a mining contractor. Gossan Hill ore is trucked to surface and crushed at the Gossan Hill ROM pad, before being transported approximately 3km overland by conveyor to the treatment plant at Scuddles (refer Figure 5). Scuddles ore undergoes primary crushing underground before being hoisted to surface.

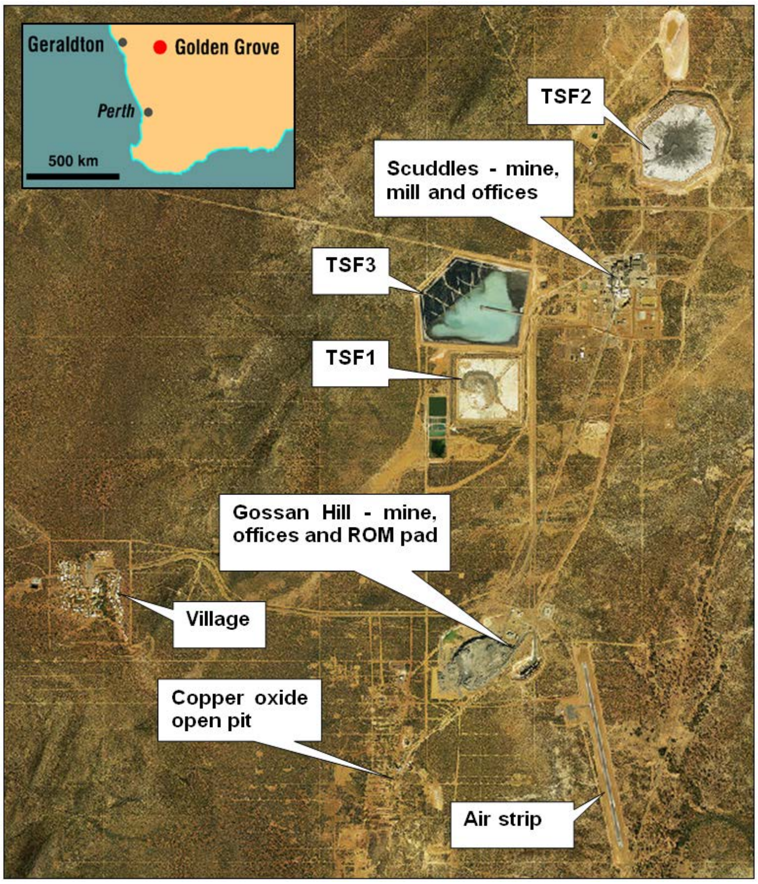
The open pit operations are an adjunct to the main underground operations of Golden Grove. The open pit operations area is located on the northern flank of Gossan Hill, directly over the current underground mining operations at Gossan Hill.

Mining is carried out using conventional truck and shovel methods using a mining contractor under the supervision of the MMG Golden Grove Open Pit department. When completed, the pit will extend over an area of approximately 15.7ha and reach a maximum vertical depth of approximately 120m. The mined ore will comprise oxide, transitional and primary sulphide material.

Copper oxide ore currently being mined is stockpiled on the existing run-of-mine (ROM) pad adjacent to the pit and conveyed to the Scuddles processing plant for treatment on a campaign basis, supplementing sulphide ores from Gossan Hill and Scuddles underground operations. Sulphide ores will be mined in the later parts of the operation and will also be stockpiled separately.

The treatment plant consists of a two-stage semi-autogenous grinding circuit followed by flotation using air agitation to recover the valuable minerals. Each ore type is treated separately to produce either zinc concentrate, heavy precious metals (HPM) concentrate, copper sulphide concentrate or copper oxide concentrate. These concentrates are transported by road-train to the storage and loading facility at Geraldton for shipment to smelters in Asia and Europe.

Figure 5 Aerial view of Golden Grove Operations showing location of key surface infrastructure



6.2 Mineral Resources – Golden Grove Underground

6.2.1 Results

The 2014 Golden Grove Mineral Resource are summarised in Table 19. The Golden Grove Mineral Resource is inclusive of the Ore Reserve.

Table 19 - 2014 Golden Grove Underground Mineral Resource tonnage and grade (as at 30 June 2014)

Golden Grove Underground Mineral Resource											
							Contained Metal				
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Copper ('000)**	**Zinc ('000)**	**Lead ('000)**	**Silver (Moz)**	**Gold (Moz)**
Gossan Hill											
Primary Copper											
Measured	3.2	2.7	0.7	0.1	25	0.5	84	22	3	3	0.1
Indicated	1.6	2.9	1.9	0.2	36	1.5	46	30	4	2	0.1
Inferred	8.2	3.1	0.4	0.1	25	0.2	257	33	4	7	0.1
Total	**13.0**	**3.0**	**0.7**	**0.1**	**26**	**0.5**	**387**	**85**	**11**	**11**	**0.2**
Primary Zinc											
Measured	1.1	0.3	12.9	1.8	116	1.5	3	139	19	4	0.05
Indicated	1.4	0.4	15.6	1.8	102	3.6	6	221	25	5	0.16
Inferred	2.8	0.5	12.8	1.4	93	1.0	14	359	38	8	0.09
Total	**5.3**	**0.4**	**13.6**	**1.6**	**100**	**1.8**	**23**	**720**	**83**	**17**	**0.3**
Gossan Hill Total							**411**	**804**	**94**	**28**	**1.0**
Scuddles											
Primary Copper											
Measured	2.8	2.9	0.3	0.0	13	0.4	80	9	1	1	0.03
Indicated	0.6	3.0	0.3	0.0	11	0.2	17	2	0	0	0.00
Inferred	1.3	2.3	0.3	0.0	18	0.3	30	4	0	1	0.01
Total	**4.7**	**2.7**	**0.3**	**0.0**	**14**	**0.4**	**127**	**15**	**1**	**2**	**0.05**
Primary Zinc											
Measured	0.4	0.4	13.9	1.2	99	1.0	2	60	5	1	0.01
Indicated	0.1	0.1	10.1	1.0	72	0.8	0	6	1	0	0.00
Inferred	0.5	0.7	13.4	0.9	42	1.0	4	71	5	1	0.02
Total	**1.0**	**0.6**	**13.4**	**1.0**	**68**	**1.0**	**6**	**137**	**10**	**2**	**0.03**
Scuddles Total							**133**	**153**	**12**	**4**	**0.09**
Gossan Valley											
Primary Copper											
Inferred	1.8	2.6	0.6	0.0	22	0.6	45	11	0	1	0.0
Total	**1.8**	**2.6**	**0.6**	**0.0**	**22**	**0.6**	**45**	**11**	**0**	**1**	**0.03**
Primary Zinc											
Inferred	2.1	0.1	12.8	0.2	8	0.4	3	266	4	1	0.02
Total	**2.1**	**0.1**	**12.8**	**0.2**	**8**	**0.4**	**3**	**266**	**4**	**1**	**0.02**
Gossan Valley Total Contained Metal							**48**	**276**	**5**	**2**	**0.1**
Underground Total Contained Metal							**591**	**1,233**	**110**	**34**	**0.7**
Surface Stockpiles											
Primary Copper											
Measured	0.2	2.2	0.4	0.0	12	0.3	3.3	0.6	0.1	0.1	0.0
Primary Zinc											
Measured	0.0	0.4	12.6	1.2	103	1.4	0.0	1.1	0.1	0.0	0.0
Surface Stockpile Total							**3**	**2**	**0.2**	**0.1**	**0.0**
Total Contained Metal							**595**	**1,235**	**111**	**34**	**0.7**

Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Cut-off grade is based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value A$100/t.
Contained metal does not imply recoverable metal

6.3 Mineral Resources – Golden Grove Open Pit

6.3.1 Results

The Golden Grove Open Pit Mineral Resource is inclusive of the Ore Reserves are summarised in Table 20 and Table 21.

Table 20 2014 Golden Grove Open Pit Mineral Resource tonnage and grade (as at 30 June 2014) (Gossan Hill)

Golden Grove Open Pit Mineral Resource											
							Contained Metal				
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Copper ('000 t)**	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Gossan Hill Copper Pit[1]											
Oxide Copper											
Indicated	0.02	1.7					0.3				
Inferred											
Total	**0.02**	**1.8**					**0.3**				
Partial Oxide Copper											
Indicated	0.10	3.5					3.6				
Inferred											
Total	**0.11**	**3.5**					**3.8**				
Primary Copper											
Indicated	0.30	2.2					6.6				
Inferred	0.01	2.4					0.1				
Total	**0.31**	**2.2**					**6.7**				
Gossan Hill Gold Pit											
Oxide Gold[2]											
Indicated	0.47				87	3.7				1.3	0.06
Inferred	0.29				25	2.1				0.2	0.02
Total	**0.76**				**63**	**3.1**				**1.5**	**0.07**
Partial Oxide Gold[2]											
Indicated	0.14				177	2.9				0.8	0.01
Inferred	0.05				74	2.1				0.1	0.00
Total	**0.19**				**149**	**2.7**				**0.9**	**0.02**
Primary Copper[3]											
Indicated	0.13	1.7	0.3	0.0	22	0.7	2.3	0.5	0.01	0.09	0.00
Inferred	0.18	1.6	0.0	0.0	4	0.1	2.8	0.0	0.03	0.02	0.00
Total	**0.31**	**1.6**	**0.1**	**0.0**	**12**	**0.4**	**5.1**	**0.5**	**0.03**	**0.12**	**0.00**
Primary Zinc[4]											
Indicated	0.36	0.3	10.5	0.9	109	1.6	1.2	38	3.4	1.3	0.02
Inferred	0.12	0.1	7.1	0.4	59	0.4	0.1	9	0.5	0.2	0.00
Total	**0.48**	**0.3**	**9.6**	**0.8**	**97**	**1.3**	**1.3**	**46**	**3.9**	**1.5**	**0.02**
Primary Gold[2]											
Indicated	0.09				39	1.8				0.11	0.01
Inferred	0.04				28	1.5				0.03	0.00
Total	**0.12**				**35**	**1.7**				**0.14**	**0.01**

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

[1] 1% Cu cut-off grade contained in US$3.3/lb pit-shell.

[2] 1.1g/t Au cut-off grade.

[3] 0.7% Cu cut-off.

[4] 3% Zn cut-off grade.

[5] 1.1g/t Au cut-off grade contained in US$1710/oz pit-shell.

[6] 1% Cu cut-off grade contained in US$3.0/lb pit-shell.

Contained metal does not imply recoverable metal

Table 21 2014 Golden Grove Open Pit Mineral Resource tonnage and grade (as at 30 June 2014) (Scuddles and Stockpiles)

							Contained Metal				
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Copper ('000 t)**	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Scuddles Gold[5]											
Oxide Gold											
Indicated	0.31					3.4					0.03
Total	0.31					3.4					0.03
Scuddles Copper[6]											
Oxide Copper											
Indicated	0.37	2.0				0.1	7.3				0.00
Inferred	0.01	1.7				0.0	0.2				0.00
Total	0.38	2.0				0.1	7.5				0.00
Partial Oxide Copper											
Indicated	0.04	2.4				0.1	1.0				0.00
Total	0.04	2.4				0.1	1.0				0.00
Primary Copper											
Indicated	0.00	2.3				0.0	0.02				0.00
Total	0.00	2.3				0.0	0.02				0.00
Stockpiles											
Oxide Copper											
Measured	0.17	3.3					5.6				
Partial Oxide Copper											
Indicated	0.37	4.1					15.0				
Total	0.54	3.8					20.6				
Open Pit Total Metal[7]							92.4	93.6	7.9	8.4	0.3

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

[1] 1% Cu cut-off grade contained in US$3.3/lb pit-shell.

[2] 1.1g/t Au cut-off grade.

[3] 0.7% Cu cut-off.

[4] 3% Zn cut-off grade.

[5] 1.1g/t Au cut-off grade contained in US$1710/oz pit-shell.

[6] 1% Cu cut-off grade contained in US$3.0/lb pit-shell.

[7] Totals of both Table 20 and 21

Contained metal does not imply recoverable metal

6.4 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 22 complies with the 2012 JORC Code requirements specified by "Table-1 Section 1-3" of the Code.

Table 22 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Golden Grove Underground and Open Pit Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling techniques	• Samples have been collected by reverse circulation (RC) and diamond drilling (DD), both from surface and underground. • Sample length ranges from 0.5m to 1.2m of half core. Sample intervals do not cross geological boundaries; this ensures samples were representative of the lithological unit without mixing of grade at lithological boundaries. • Current sampling practice is to collect half-core samples from NQ2 or LTK60 diamond drilling, which is crushed and the entire sample pulverised to 85% passing 75µm. • Historical sampling practices are comparable with the current practice, the only difference being primary core diameter for the underground drilling. • During surface Aircore and RC drilling before 1994, samples were captured in a bag attached to the cyclone. These samples were then split using a 40mm or 50mm PVC pipe spear. • Post 1994 surface RC samples were captured in a bag attached to the cyclone and subsequently split using a triple stage riffle splitter. • Current grade control RC drilling involves taking a 2m sample, captured in the cyclone with subsequent cone splitting. • Measures taken to ensure sample representivity include the collection, and analysis of field and coarse crush duplicates
Drilling techniques	• DD core and minor RC data was used in the Mineral Resource estimation for Gossan Hill, Scuddles and Gossan Valley. • 6,563 drill holes used in the Gossan Hill Mineral Resource model. • 3,281 drill holes used in the Scuddles Mineral Resource model. • 361 drill holes used in the Gossan Valley Mineral Resource model. • 1,169 drill holes were used in the Open Pit Mineral Resources (comprised of 77 Aircore, 162 Diamond Core and 930 RC holes). • The SQL database contains 23,331 drill holes, totaling 2,422,107m, consisting of 75% diamond core, 18% RAB drill holes, 5% RC holes, minor air core holes and water bores. • The Reflex Act II™ tool is used for core orientation marks on DD holes.
Drill sample recovery	• Surface and underground recoveries of DD core are recorded as percentages calculated from measured core versus drilled metres. The intervals are logged and recorded in the database. Average core recovery was greater than 99.5%. • Drilled core is reconstructed into a continuous run on an angled iron

	cradle for orientation marking. Depth is checked against depth provided on core blocks. • All RC drill holes drilled before 2000 have no recovery data except for the 1994 RC program. Recovery data is not used in the Mineral Resource estimation. • Preferential loss/gains of fine or coarse materials are not considered significant. • There is no known relationship bias between recovery and grades.
Logging	• All drill core and chips are logged geologically using codes set up for direct computer input into the Micromine Geobank™ database software package. • All DD cores are geotechnically logged to record recovery, RQD, roughness, fill material. Structural logging is recorded for all oriented core. • Logging is both qualitative and quantitative (percentage of sulphide minerals present). • All drill holes are logged in full detail from start to finish using laptop computers directly into the drill hole database. • 1,229,642.3m of logged drillcore was used in the Mineral Resource, of which 517,365m was sampled. Total length logged and assayed.
Sub-sampling techniques and sample preparation	• All DD core is half-cut onsite using an automatic core saw with samples always taken from the same side. Half core is used for routine sampling and quarter core for field duplicates. Current sample length ranges between 0.5 and 1.2m (historically this can have been from 0.2m to 1.3m) and is adjusted to geological boundaries. Historic DD core has been sampled using whole, half, quarter and third core. • RC drilled samples have been cone split and dry sampled. Wet sampling only conducted when drill holes intersected the water table. All routine and duplicate samples were 2m composites. • Historical RAB, AC and RC drilling has been sampled using spear, grab, riffle and other unknown methods but none of these were used in the Mineral Resource estimation. • The sample preparation of RC chips and DD core adheres to industry best practice. A commercial laboratory is used which involves: o Weighing o Oven drying at 90° C o Coarse crushing to 6mm o Samples > 3kg crushed to 2mm and split using a rotary splitter (this represent < 0.01% of total sample used for Mineral Resource estimation). o Pulverising in an LM5 to a grind size of 85% passing 75µm. o Collection of 300g pulp from each sample; rejects kept or discarded depending on drilling programme. • It is assumed best practice was also followed at the time of historic

	sampling. RC field duplicate sampling is carried out at a rate of 1:50 taken directly from the on-board cone splitter at the same time as the routine sample. These are subject to the same assay process as the routine samples and the laboratory is unaware of such submissions. • Duplicate DD core samples are taken from core at a rate of 1:50 and the half core is cut into quarter core. In addition, duplicates are taken after coarse crushing and pulverisation at a rate of 1:50 alternating between the two. These are subject to the same assay process as the routine samples. • Sampling conducted by previous holders is assumed to be industry standard at the time. • Field duplicates show good reproducibility across the grade range for Cu, Zn and Au although there are few outliers. Sample sizes of 3kg are considered to be representative given that the entire sample is pulverised to give a final grain size of 85% passing 75µm.
Quality of assay data and laboratory tests	• A four acid "near-total" digestion is used to determine concentrations for silver, copper, iron, lead, sulphur and zinc. It uses a 0.4g sample in a HF-HNO3-HClO4 digestion, with HCl leach and finished using ICP-AES. This is an ore grade method suitable for use in VHMS deposits. • A 30g fire assay with AAS finish is used to determine the gold concentration for RC chips and DD core samples. This method is considered most suitable methods for determining gold concentrations in rock with sulphide rich material and is a total digest method. • Historic analysis includes fire assay, aqua regia, four acid digest and AAS or ICP. • No geophysical tools, spectrometers or handheld XRF instruments have been used in the analysis of samples external to the laboratory for the estimation of Mineral Resources. • Matrix matched certified reference materials (sourced from Golden Grove and prepared by Ore Research Pty. Ltd.) with a wide range of values are inserted at a rate of 1:25 into every RC and DD to assess laboratory accuracy, precision and possible contamination. A certified blank is inserted at a rate of 1:50. These are not identified to the laboratory. • QAQC data returned are checked against pass/fail limits once the results have been loaded into the database. QAQC data is reported monthly and demonstrates sufficient levels of accuracy and precision. • Sizing tests ensure the grind size of 85% passing 75µm is achieved. • The laboratory performs internal QC including standards, blanks, repeats and checks. • Oxide grade control analysis: o Standards have been used in most programs. o Base metals assay method: 4 acid digest followed by ICP MA-ICPOES for the first program with XRF applied for subsequent programs. Checks showed no bias between analysis methods.

	o Gold and silver assay method: fire assay, AAS FA-AAS.
Verification of sampling and assaying	• Significant intersections are reviewed by a senior geologist and other site geologists. Where there is a significant intersection, in the oxide zones specifically, holes have either been twinned or scissored. • No specific twinned holes have been drilled at Golden Grove for the underground deposit. However nearby and scissor drill holes show compatible geology and results. • A Program of twinned holes was drilled for the Gossan Hill Copper Oxide deposit to check correlation with historic data. Good correlation was established. A full report of these twinned holes was written. • Underground DD logging is recorded directly in a secure Geobank Database which has inbuilt validation functions plus additional triggers to prevent incorrect data capture and importation. • Exploration DD are graphically logged on paper before entry into the database. All paper logs are scanned to pdf and hardcopies kept in labelled folders. Periodic review is undertaken to ensure data has been correctly transcribed. • All underground logging, sample and geotechnical data is captured using Panasonic Toughbook™ computers and entered directly into the database via wireless network. • Assay data is retained in text files (.SIF) and stored once loaded into the database. • Samples of RC drill holes are retained in chip trays and the remaining drill core is stored in core trays at the core yard. • The database has grown as each previous owner added data to it. During the 1990's the database was in Explorer III, a Microsoft Access™-based application. In 2008 the data was migrated to a Micromine Geobank™ database. Validation of data has during each migration and is periodically reviewed against hardcopy records • An additional field in the results table is used to ensure all data is displayed in the appropriate units. This allows comparison of the data in standard units and aids in calculating Mineral Resource models. • All re-assayed data will replace original results that failed QAQC; both results are retained in the database, with the results that failed QC being excluded from general use and export. • Use of both DD and RC indicates there is no significant bias between drilling methods • All assay data remains in its original state and has not been adjusted.
Location of data points	• All underground drill hole collars are picked up by MMG surveyors using a Leica TS-15 (total station) with an expected accuracy of 10mm. Surface exploration drill hole collars are picked up by company surveyor using a Trimble RTK R8 GPS with an expected accuracy of 40mm. • All drill holes are down hole surveyed gyroscopically by the drilling companies (currently DDH1 and Swick Mining Services) once each drill hole is completed. Surveys are also carried out every 30m downhole

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during diamond drilling using an Eastman single shot camera.

The accuracy and quality of historic surveys is generally unknown.
A local grid system (GGMINE) is used. It is rotated 52.4 west of MGA94 zone 50. The two point conversion is as follows:

Mine Grid to MGA94 Two-Point Convertion
<table>
<tr><th>Point</th><th>GGMINE East</th><th>GGMINE North</th><th>MGA East</th><th>MGA North</th></tr>
<tr><td>1</td><td>3644.47</td><td>10108.13</td><td>502093.5</td><td>6810260.7</td></tr>
<tr><td>2</td><td>9343.2</td><td>29162.02</td><td>490480.1</td><td>6826394.2</td></tr>
</table>

All historic data is in the GGMINE local mine grid.
Topographic measurement on most of the Exploration leases is by 1m contour generated from aerial photography, however topographic measurement on mining leases is by GPS with surface control point with an accuracy of 10mm.

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<tr>
<td>Data spacing and distribution</td>
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Drill data spacing ranges from less than 10m x 10m in the active mining areas to greater 80m x 80m in exploration areas.
Data spacing is sufficient to establish geological and grade continuity for the appropriate classification of the Mineral Resources.
Drill holes greater than 80m x 80m may not necessarily be classified as Mineral Resources. This will be dependent on the geometry of the drill holes and the ore body under study.
DD samples are not composited prior to being sent to the laboratory however the sample lengths range from 0.5m to 1.2m.
Current gold pit RC grade control drilling is sampled on 1m intervals. Current copper pit RC grade control drilling is sampled on 2m intervals. Past RC samples (gold and copper) up to 5m has occurred.
Underground drive mapping below the surface deposits supports understanding of geological structure and strike continuity

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<tr>
<td>Orientation of data in relation to geological structure</td>
<td>

Drilling has mostly been oriented on sections that are orthogonal to the strike of mineralisation. Drill holes frequently overlap and are scissored as drilling is oriented from both footwall and hanging-wall directions.
No significant sampling bias has been recognised due to orientation of the drilling in regards to mineralised structures.

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<tr>
<td>Sample security</td>
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Measures to provide sample security included:

Adequately trained and supervised sampling personnel.
Half-core samples placed in a numbered and tied calico sample bags.
Bag and sample numbers are entered into Geobank database.
Samples are couriered to assay laboratory via truck in plastic

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<tr><td></td><td>bulker containers.
o Assay laboratory checks off sample dispatch numbers against submission documents and reports any inconsistencies.
o Remaining DD core is stored within the Golden Grove core yard.</td></tr>
<tr><td>Audits or Reviews</td><td>• Regular auditing of external lab has been performed in the last 12 months. Regular laboratory audits have been completed by the Geological Database Administrator with support from Resource, Senior Mine, and Mine Geologists. No major areas of concern have been raised. The most recent laboratory audit was conducted on 24th March, 2014.
• An internal review of RC and DD core sampling procedures were completed during the year. The sampling procedures were found to meet industry standards.
• In 2012 Paul Blackney and David Gray of Optiro completed a review of the Gossan Hill Gold Oxide data. The review found there was no historic QAQC data (1990 to 2000) around Gossan Hill. This has now been rectified.</td></tr>
<tr><td colspan="2">Section 2 Reporting of Exploration Results</td></tr>
<tr><td>Mineral tenement and land tenure status</td><td>The mineral tenement and land tenure status of the Golden Grove operations are listed in the below table.

Mineral tenement and land tenure status for Golden Grove operations
<table>
<tr><th>Tenement No.</th><th>Prospect Name</th><th>Date Expires</th><th>Term Years</th><th>Date Granted</th></tr>
<tr><td>M59/03</td><td>Scuddles</td><td>08/12/2025</td><td>21</td><td>28/01/2005*</td></tr>
<tr><td>M59/88</td><td>Chellews</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/89</td><td>Coorinja</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/90</td><td>Cattle Well</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/91</td><td>Cullens</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/92</td><td>Felix</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/93</td><td>Flying Hi</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/94</td><td>Bassendean</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/95</td><td>Thundelarra</td><td>18/05/2030</td><td>21</td><td>20/04/2009*</td></tr>
<tr><td>M59/143</td><td>Bassendean</td><td>09/05/2031</td><td>21</td><td>21/04/2009*</td></tr>
<tr><td>M59/195</td><td>Gossan Hill</td><td>17/05/2032</td><td>21</td><td>17/06/2011*</td></tr>
<tr><td>M59/227</td><td>Crescent</td><td>07/05/2033</td><td>21</td><td>08/05/2012*</td></tr>
<tr><td>M59/361</td><td>Badja</td><td>01/03/2016</td><td>21</td><td>02/03/1995</td></tr>
</table></td></tr>
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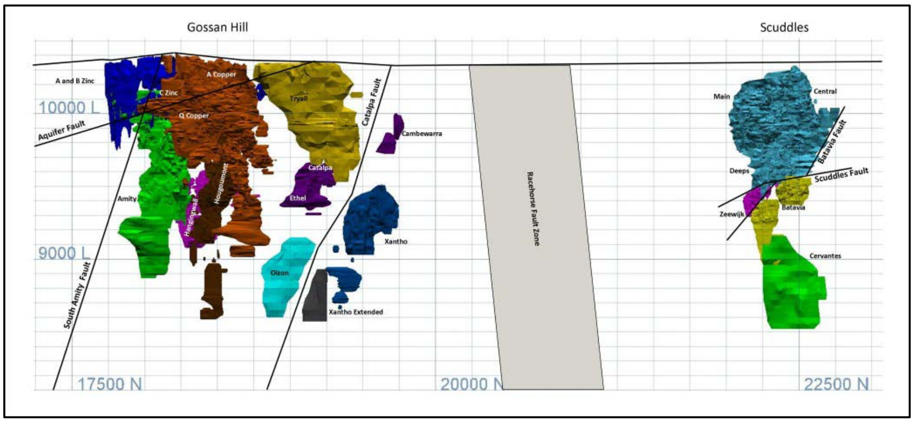
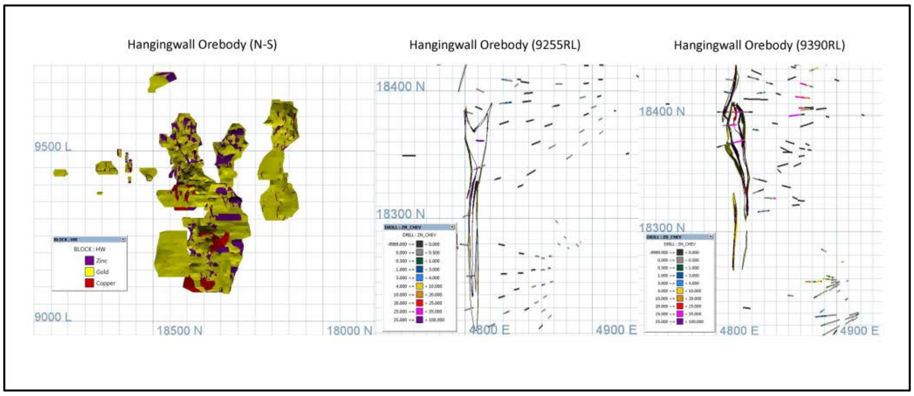
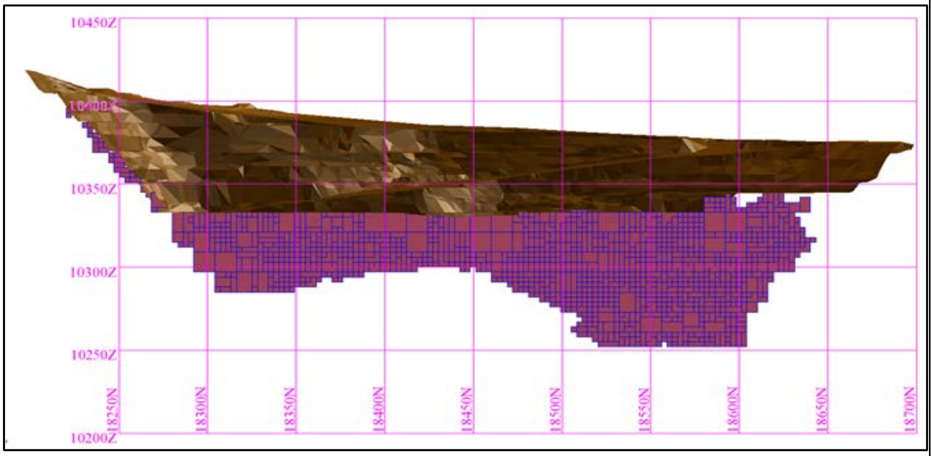
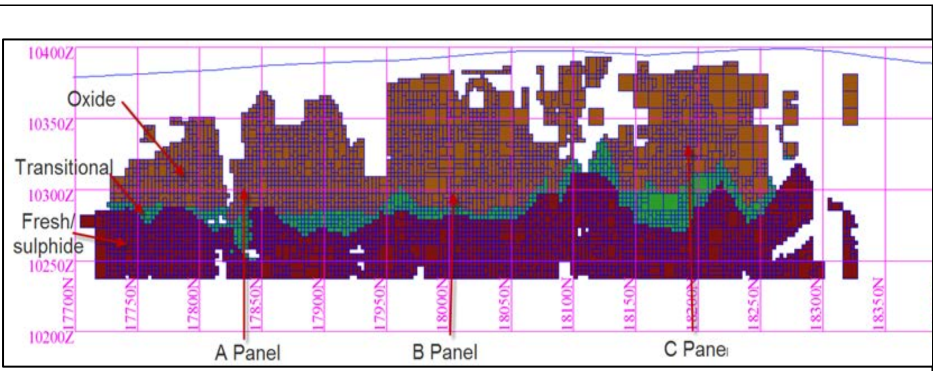
<table>
<tr><td></td><td><table>
<tr><td>M59/362</td><td>Badja</td><td>01/03/2016</td><td>21</td><td>02/03/1995</td></tr>
<tr><td>M59/363</td><td>Badja</td><td>01/03/2016</td><td>21</td><td>02/03/1995</td></tr>
<tr><td>M59/543</td><td>Walgardy</td><td>04/02/2023</td><td>21</td><td>05/02/2002</td></tr>
<tr><td>M59/480</td><td>Marloo</td><td>01/07/2029</td><td>21</td><td>02/07/2008</td></tr>
</table>
* Renewal date
• There are no known impediments to operating in the area but the operation is subjected to environmental conditions pertaining to land and water management, as well as adherence to cultural sensitivity pertaining to the local indigenous people.
• All tenements are 100% owned by MMG-Golden Grove.</td></tr>
<tr><td>Exploration done by other parties</td><td>• Original definition and exploration drilling was performed by Joshua Pitt, of Aztec Exploration , in 1971
• From 1971 until 1992 multiple joint ventures continued the definition of the Mineral Resource, with highlights being the Scuddles, A Panel Zn, B Panel Zn, C Panel Zn and Cu discoveries. Parties involved include Amax Exploration, Esso Exploration, Australian Consolidated Minerals and Exxon.
• Newmont, Normandy, Oxiana, OZ Minerals and MMG have all been involved with the drilling and exploration of the Golden Grove leases since 1991.
• The exploration and resource geology groups remained unchanged throughout the Oz Minerals and MMG takeovers; hence the exploration management and methods have effectively remained constant since Oxiana acquired the project in 2005.</td></tr>
<tr><td>Geology</td><td>• The mineralisation style is volcanogenic hosted massive sulphide (VHMS) which occurs as sub-vertical lenses within layered sediments and volcanics.
• The Golden Grove deposits are located in the Murchison Province in the North-Western part of the Achaean Yilgarn Craton in Western Australia within the Yalgoo Greenstone Belt. Mineralisation occurs at the base of the Warriedar Fold Belt ("WFB") within a sequence of felsic to intermediate volcaniclastic sediments, lavas and associated autoclastic breccias.
• The Golden Grove Domain that hosts the Gossan Hill and Scuddles deposits lies along the northeast flank of the WFB. The Mougooderra Fault (west), recrystallised monzogranite (east) and post folding granites (north and south) bound the domain. The current interpretation of the structure places the Golden Grove Domain on the eastern limb of a syncline. The stratigraphy has a westerly younging direction and dips steeply west.</td></tr>
<tr><td>Drill hole information</td><td>• Over 23,300 drill holes and associated data are held in the database. No individual drill hole is material to the Mineral Resource estimate and hence this geological database is not supplied.</td></tr>
<tr><td>Data</td><td>• This is a Mineral Resource Statement and is not a report on</td></tr>
</table>

aggregation methods	exploration results hence no additional information is provided for this section. - No metal equivalents were used in the Mineral Resource estimation.
Relationship between mineralisation widths and intercept lengths	- Drilling has been targeted to achieve intersections as close to the true thickness as possible. The intercepts are modeled in three-dimensions for Mineral Resource estimation.
Diagrams	 **Long-section Of the Golden Grove mining area: Gossan Hill and Scuddles**  **Long section and representative cross-sections of Hangingwall orebody**
Balanced reporting	- This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Other substantive exploration data	- This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Further work	- Exploration and delineation drilling will continue underground and the results will be modelled and reported in subsequent Mineral Resource estimates. - Surface exploration activities including RC and DD drilling will continue on the exploration leases and the mining leases.
Section 3 Estimating and Reporting of Mineral Resources	

Database Integrity	• The following measures are in place to ensure database integrity: o The Golden Grove uses an SQL database system. o Data is logged directly into Micromine Geobank™ (front-end software) utilising wireless transfer protocols on Panasonic Toughbook™ portable computers. A limited number of primary tables have read/write privileges to the geologist and geotechnicians. User profiles restrict the data that any individual can access and alter. o The database is fully backed up each night with hourly log backups during the day. Data backups from the previous seven days are stored on the database server. Data older than seven days is backed up onto tape and stored securely. o Assays are imported electronically from files(.sif) received from the laboratory o Drill holes are checked and locked from users modifying data whenever assays are received. • The measures described above ensure transcription or data entry errors are minimised. o Data validation procedures include: o Data is validated on-entry using library of codes and key fields which ensure intervals cannot duplicate or overlap. o Collar co-ordinates and drilling direction (azimuth and dip) are validated via comparison of planned data to surveyed data. o Deviations of more than 1 degree over 30m of drill hole depth are flagged and evaluated for re-drilling. All data attributed to a given drill hole undergoes final validation and sign-off procedure. Any errors found are rectified prior to releasing the data for Mineral Resource estimation.
Site Visits	• The Competent Person has visited the Golden Grove site multiple times within the financial year. The Competent Person is satisfied with standard of the procedures instituted by the site.
Geological interpretation	• Geological interpretation of the mineral deposits and associated lithologies is considered to be moderate to good. • Data used for the interpretation included geological mapping of development drives, assay results and geological logging of all DD holes. • Alternate interpretations have not been considered. • Geological interpretations have been modelled as three-dimensional wireframes of mineralisation and other lithologies, which have been used to construct block models and to control grade estimation as hard boundaries. • Primary sulphide interpretation: o Zinc rich mineralisation occurs as massive to semi-massive sulphide lenses that are generally characterised above 4%

	Zn. These lenses also contain moderate copper, lead, silver and gold mineralisation. o Copper rich mineralised lenses are composed of zones of chalcopyrite-rich stringers within quartz-rich domains generally characterised above 1% Cu. These domains have moderate grades of gold and silver but are weakly mineralised with zinc and lead. o Zinc and copper lenses are each surrounded by low-grade mineralisation haloes that are generally characterised above grades of 0.4% Zn and 0.2% Cu respectively. Low-grade domains have been constructed for some of the deposits. o Intrusive rocks and faults have been interpreted that cut-across and displace mineralisation and stratigraphy. o These domains were derived plotting of log probability plots to determine the different sample populations. Grades below these cut-offs were included in areas to honour the geology. o Wireframes have been constructed from interpreted polygons snapping to drill hole intersections on 10m spaced plan sections. Interpretations account for all available geological information. • Oxide copper interpretation: o Oxide copper mineralisation generally occurs as mineralised bodies above 0.2% Cu that cuts across stratigraphy. Interpretation was undertaken using all drilling and mapping on east-west sections. Transitional and fresh (primary sulphide) ore is constrained by lithology though the ore lenses do join and bifurcate in places. o The stratigraphy dips steeply to the west (mine grid). o Confidence in geological interpretation of Inferred mineralisation is at a lower level than Indicated mineralisation due to the limited sampling in these areas, hence implied but not verified geological and grade continuity occurs. o 0.2% Cu was selected as the domain boundary by observing the distribution of sample data in 3D and consideration of geology. The 0.2% Cu shape maintains a consistent mineralisation shape after considering the geology and assay data. o Wireframes have been constructed from interpreted polygons on 10m spaced plan sections. Interpretations account for all available geological information. • Oxide gold, silver and zinc interpretation: o Mineralisation occurs as steep westerly dipping stratabound lenses that have been modelled separately based on the

	following general grades: ▪ Gold: 0.3g/t Au ▪ Silver: 15g/t Ag ▪ Zinc: 0.1% Zn o The basis for each of the above domain boundaries were selected by observing the distribution of sample data in 3D and consideration of geology. These domains maintain a consistent mineralisation shape after considering the geology and assay data. o Wireframes have been constructed from interpreted polygons on 20-metre spaced plan sections. Interpretations account for all available geological information. • Confidence in geological interpretation of Inferred mineralisation is at a lower level than Indicated mineralisation due to the limited sampling in these areas, hence implied but not verified geological and grade continuity occurs.
Dimensions	• The primary sulphide mineralisation at Gossan Hill and Scuddles comprises multiple steeply dipping zones. Each zone varies from 200m to 400m along strike, 200m to 700m down-dip and 3m to 20m in thickness. The current Mineral Resource is located from 200m to 1,500m below surface. • The oxide copper mineralisation consists of two lenses with a strike length of 100m, joined by a 100m long low grade zone. • Depth is constrained by a large flat dolerite and underground production stoping beneath the pit.  **Gossan Hill copper oxide pit, elevation looking west** • Oxide gold mineralisation is approximately 600m long and was reported above the 10200mRL



Gossan Hill Ag, Au, Zn oxide resource, elevation looking west

Estimation and modelling techniques

- Mineral Resource estimation for the primary sulphide Mineral Resource has been undertaken in Vulcan (Maptek) mining software with the following key assumptions and parameters:
    - Ordinary Kriging interpolation has been applied for the estimation of Cu, Zn, Pb, Ag, Au, Fe and density.
    - The estimation method is considered appropriate for the estimation of Mineral Resources at Golden Grove.
    - Copper and zinc domains were modelled as separate three-dimensional wireframes and used as hard boundaries in the estimate. Further detail is provided in the geological interpretation section.
    - Cross-cutting intrusive dykes are barren and have been modelled as such.
    - Data compositing for estimation was set to 1m, which matches the majority of drill hole sample lengths and provides good definition across interpreted domains.
    - Variogram analysis was reviewed and updated for new interpretations and for existing domains materially affected by new drill data. Variogram analysis was undertaken in Supervisor (Snowden) software.
    - Interpolation was undertaken in four passes as summarised in the following table):

Search Ellipse and Sample parameters for Estimation:

Pass	Ellipse Dimensions			Samples Per Estimate	Samples Per Estimate	Samples Per Octant	Samples Per Octant	Octants with Samples
	Major axis	Semi-major axis	Minor axis	Min	Max	Min	Max	Min
1	40	30	10	8	24	2	3	4
2	80	60	20	8	24	2	3	4
3	80	60	20	4	24	1	3	4

4	160	120	40	2	24	-	3	-

  - Discretisation was set to 4 x 4 x 4.

- Alternate check estimates have not been undertaken. However results are comparable with previous Mineral Resource estimations for the site. Reconciliation of block model against mill production for stoped volumes in 2014 shows tonnes have been under estimated (3% and 13% for copper and zinc stope blocks respectively) as has grade (10% and 20% for copper and zinc stoping blocks respectively). Further work is planned to improve reconciliation at Golden Grove.
- Assumptions about the recovery of by-products is accounted in the net-smelter return after royalty (NRSAR) calculation which includes the recovery of Cu, Zn, Pb, Ag and Au along with the standard payable terms.
- Iron has been estimated as it is related to the recovery of payable elements. Sulphur is modelled within a 0.2% sulphur domain for environmental considerations. No other deleterious or ancillary elements have been modelled.
- The block size ranges from 20m x 50m x 50m in the waste domains down to 2m x 10m x 10m (with 1m x 5m x 5m sub-cells) in well drilled areas where drilling has been undertaken on a 10m x 10m pattern with samples taken on 1m intervals.
- The selective mining unit size is based on the smallest regular stope shape of 3m x 10m x 15m. No other selective mining unit size assumptions were made in the estimation process.
- No assumptions have been made about the correlation between variables. All variables are comparably informed and independently estimated.
- Non-sampled intervals in drill holes have been flagged with values of -99 in the primary database, which are then assigned detection limit values for grade interpolation in waste areas. This is undertaken to ensure that any sampled and mineralised grades in these domains are not over-represented in the estimate.
- Extreme 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 cap value.
- Mining voids are 'stamped' onto the block model to ensure depleted material is excluded from the Mineral Resource report. As well, mined stope voids are translated east and west between 3m to 5m to ensure material in the "skins" of stopes (not able to be mined) are also excluded from the Mineral Resource report.
- The estimation validation process included the following steps:
  - Visual checking of block model estimated grades against the input drilling data.
  - Comparison of block model and sample statistics.

  - Drift plots comparing block model against input samples by easting, northing and RL.
  - Reconciliation data as described.
- Block modelling for the oxide Mineral Resource has been undertaken in Datamine Studio (CAE) software with the following key assumptions and parameters:
  - Ordinary Kriging interpolation has been applied for the estimation of Cu, Zn, Pb, Ag, Au, Fe and density.
  - Copper and zinc domains were modelled as separate three-dimensional wireframes and used as hard boundaries in the estimate.
  - Data compositing for estimation was set to 1m, which matches the majority of drill hole sample lengths and provides good definition across interpreted domains.
  - Variogram analysis was reviewed and updated for new interpretations and for existing domains materially affected by new drill data. Variogram analysis was undertaken in Supervisor (Snowden) software.
  - Interpolation was undertaken in three passes as summarised in the following table:

Search Ellipse and Sample parameters for Estimation:

Pass	Ellipse Dimension			Number of Samples	
	Major axis	Semi-major axis	Minor axis	Min	Max
1	40	30	10	8	28
2	80	60	20	8	28
3	160	120	40	4	32

  - Discretisation was set to 3 x 3 x 3.
- Alternate check estimates have not been undertaken. However results are comparable with previous Mineral Resource estimations for the site.
- The gold oxide Mineral Resource has not been reconciled. Reconciliation of the copper oxide block model against mill production for mined bench volumes in 2014 shows tonnes have been under estimated (2% for copper oxide) as has grade (5% for copper oxide). Further work is planned to improve reconciliation at Golden Grove.
- There have been no assumptions made regarding the recovery of by-products.
- For the gold oxide material, copper and silver has been identified as deleterious for Carbon in Pulp (CIP) gold extraction. Material with more than 0.2% Cu and 50g/t Ag is separately stockpiled. For copper oxide material, chlorine has been identified to be the deleterious.

	Material with more than 150ppm chlorine is stockpiled separately. Sulphur is modelled within a 0.2% sulphur domain for environmental considerations. • The parent block size for the gold oxide model block size is 6m x 12m x 12m with 1.5m x 3m x 3m sub-cells. The parent block size for the copper oxide is 6m x 10m x 10m with 1.5m x 2.5m x 2.5m sub-cells. • The current mining fleet is composed of a Komatsu PC1250 digger and 100t trucks. Mining is carried out on 3m high benches. The selective mining unit size is based on the smallest regular digger bucket dig of 2.5m x 2.5m x 3m. No other selective mining unit size assumptions were made in the estimation process. • No assumptions have been made about the correlation between variables. All variables are comparably informed and independently estimated. • The mineralisation domains do not cut across major stratigraphic units i.e. mineralisation domains do not cut-over from GG6 to GG5. Within the oxide zone, mineralisation domains has been modelled into intrusive units i.e. dolerites and dacites. This relationship has been validated in the field. • Extreme 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 cap value. • The block models and estimate has been validated in the following ways : o Visual checking of block model estimated grades against the input drilling data o Comparison of block model statistics against sample statistics o Swath plots comparing average block model estimated grades against input samples by easting, northing and RL.
Moisture	• All tonnages have been estimated on a dry basis.
Cut-off parameters	• Primary sulphide Mineral Resources were reported above a cut-off Net Smelter Return after Royalties (NSRAR) dollar value. • The Golden Grove Mineral Resources were reported above an A$100/t block grade cut-off. This is 70% of the Ore Reserves cut-off. • A minimum width of mineralisation of 3m is applied to ensure narrow mineralised zones which have very low potential of eventual economic extraction have been excluded from the report. • Oxide copper Mineral Resources were reported at a cut-off grade of 1% Cu for all copper open pit Mineral Resources • Oxide gold Mineral Resources were reported at a cut-off grade of 1.1g/t Au for all gold open pit Mineral Resources. • The reporting cut-off grades are in line with MMG's policy on

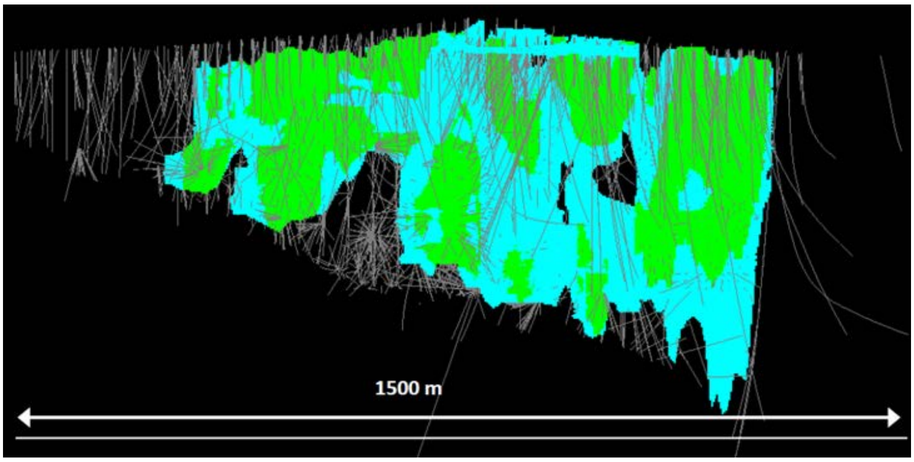
	reporting of Mineral Resources which is prospective for future economic extraction.
Mining factors or assumptions	• Underground mining at Golden Grove comprises long-hole open stoping and ore is hauled or hoisted to the surface. The minimum mining width is 3m, which is based on the minimum spacing for a dice five drill hole pattern. • Surface mining is applied to the oxide and partial oxide copper and the oxide gold mineralisation and involves the open pit mining method. • Future mining factors and assumptions have been based on current mining practices using 100t trucks and 15t diggers. • The Mineral Resources are further constrained to within pit shells optimised using optimistic pricing. o The Scuddles Mineral Resource was reported within: ▪ Copper: US$3.0/lb pit-shell ▪ Gold: US$1710/oz pit-shell o The Gossan Hill Mineral Resource was reported within: ▪ Copper: the current mine design based on US$3.33/lb pit-shell ▪ Gold: was not reported within a pit-shell
Metallurgical factors or assumptions	• Metallurgical processing of ore at Golden Grove has been in operation since 1990 and involves crushing, grinding, sequential froth flotation followed by filtration before being transported to market as concentrates of copper, zinc and lead (including high-precious metals). • Primary sulphide material: o Metallurgical factors are incorporated into model block values via the calculation of the NSR value. o Recovery of payable minerals is dependent on iron ratios. Lower iron mineralisation is more amenable to copper and zinc recovery. o Higher grade zinc mineralisation is amenable to better precious metal (which is projected to be about 66%) recoveries. • Copper oxide material: o Pyrite within the transition material frequently has a thin layer of copper sulphide, which results in lower grade concentrates with high iron and sulphur concentration. o Au, Ag and Zn oxide material: o The gold and silver in the oxide material will be recovered at approximately 90% through a carbon in pulp (CIP) circuit. In the CIP process, copper is considered to be a deleterious element. Currently the model only contains ore grade assays for copper, no geochemical or cyanide soluble assays have

<table>
<tr><td></td><td>been performed.
o The transitional material can cause issues as it contains a mixture of oxides and secondary sulphides. Composition changes throughout the deposit. At best a mixed concentrate will be produced.
o Lead oxide will be produced from the transition ore.
o Fresh “copper oxide material“ will behave in the plane in a similar manner to underground material - 90% recovery is expected from the copper oxide material.</td></tr>
<tr><td>Environmental factors or assumptions</td><td>• No environmental assumptions have been used in the classification of the Golden Grove Mineral Resources.
• Material from underground and the open pit is sent to a designated stockpile based on material classification of either potentially acid forming (PAF) or non-potentially acid forming (NAF) material. Waste material with less than 0.2% sulfur is classified NAF while material with 0.2% sulfur or more is classified PAF. PAF/NAF classification is based on recommendation from Coffey Environment after their test work on-site.</td></tr>
<tr><td>Bulk Density</td><td>• All core samples are measured for bulk density in the on-site core processing facility. The bulk density method used is the Archimedes' principle (weight in air and weight in water). The core is air dried and generally has low permeability and so the results are considered suitable for Golden Grove.
• No wax coating or sealing of core is applied. Density values in the Mineral Resource models are estimated using Ordinary Kriging within the mineralised domain shapes.</td></tr>
<tr><td>Classification</td><td>• Primary sulphide Mineral Resources:
o A multidisciplinary approach to Mineral Resource classification, involving geology, geostatistics and mining, was undertaken. This was used in conjunction with an overriding consideration in grade confidence and geological continuity.
o Drill hole density, estimation run, number of samples and drill holes used in estimation for each given block also influenced the classification. A summary of the guidelines are presented in the following table.

Quantitative Mineral Resource Classification Criteria
<table>
<tr><th>Classification</th><th>Drill hole spacing</th><th>Estimation run filled</th><th>Number of drill holes</th><th>Number of samples</th></tr>
<tr><td>Measured</td><td>10mx10m to 15mx15m</td><td>1-2</td><td>>=5</td><td>10-15</td></tr>
<tr><td>Indicated</td><td>20mx30m to 30mx30m</td><td>2-3</td><td>2-5</td><td>5-15</td></tr>
<tr><td>Inferred</td><td>Wider spacing</td><td>3-4</td><td><=2</td><td>1-15</td></tr>
</table>
• As well as the quantitative approach taken to the Mineral Resource</td></tr>
</table>

classification, subjective qualification was also used. This included decisions to include, or not, areas that did not strictly meet the quantitative criteria.

- The Competent Person is satisfied that the stated Mineral Resource classification reflects the geological domains interpreted and the estimation constraints of the deposits.
- Oxide Mineral Resources:
    - Classification of the Mineral Resource was primarily based on confidence in the assayed grade, geological continuity and the quality of the resulting kriged estimates.
    - Geological confidence is supported by nearby underground exposures including geological mapping and drill hole data, which in turn reinforces drill hole sample results and domain volumes. Confidence in the Kriged estimate is associated with drill hole coverage, analytical data integrity, kriging variance and efficiency and regression slope statistics.
    - Indicated Mineral Resources was considered appropriate with a drill hole grid spacing of 10m to 40m.
    - Inferred Mineral Resource was considered appropriate with a drill hole grid spacing greater than 40m and within the mineralisation domain.
    - The Gossan Hill oxide gold deposit has good potential for upgrading a large portion of the Indicated Mineral Resource into a Measured Mineral Resource. Requirements for this rely upon improvement/assurance of sample quality (recoveries) and QAQC, together with supporting studies for defining a cut-off grade and the eventual economic extraction of this mineralisation.
    - Long section view (looking east) of the estimated gold deposit block model showing Mineral Resource classification categories (green = Indicated, blue = Inferred)



Long section view (looking east) of the estimated gold deposit block model, with classification categories (green = Indicated, blue = Inferred)

- Copper oxide Mineral Resources (specific only to the Cu Ox):

	o No material was classified as Measured due to insufficient bulk density information and the highly variable nature of the ore body's bulk density. Bulk density has been sampled on a 20m x 20m pattern. o Indicated is classified within the copper ore wireframe and covered by 10m x 10m grade control pattern. Inferred is classified to be inside the copper ore wireframe but outside of the grade control area
Audits or reviews	• Internal audits were conducted in 2013 and 2014 which included MMG group office and site personnel. No material issues with the Mineral Resource estimates were identified.
Discussion of relative accuracy/ confidence	• The Mineral Resource data collection, data analysis and estimation techniques used for the Golden Grove deposits are consistent with the currently mining areas both underground and open cut and there has not been any known major discrepancies between the mined grades and the milled grades. • The Competent Person is satisfied with the accuracy and the confidence of the Mineral Resource estimates. At this time confidence limits of grade and tonnage have not been calculated.

6.5 Ore Reserves – Golden Grove Underground

6.5.1 Results

The 2014 Golden Grove Underground Ore Reserve are summarised in Table 23.

Table 23 2014 Golden Grove Underground Ore Reserve tonnage and grade (as at 30 June 2014)

Golden Grove Underground Ore Reserve											
							Contained Metal				
	Tonnes (Mt)	Copper (%)	Zinc (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Copper ('000 t)**	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Gossan Hill											
Primary Copper											
Proved	0.7	2.7	0.3	0.1	22	0.6	20	2.5	0.4	0.5	0.0
Probable	0.5	3.3	6.0	0.7	57	3.8	15	28	3	0.8	0.1
Total	**1.2**	**2.9**	**2.5**	**0.3**	36	**1.9**	**35**	**30**	**4**	**1.4**	**0.1**
Primary Zinc											
Proved	0.6	0.5	12.7	2.0	157	2.0	3	78	13	3.1	0.0
Probable	1.0	0.7	12.4	1.5	81	4.0	7	123	15	2.6	0.1
Total	**1.6**	**0.6**	**12.5**	**1.7**	**110**	**3.2**	**10**	**201**	**28**	**5.7**	**0.2**
Gossan Hill Total							**45**	**231**	**31**	**7.1**	**0.2**
Scuddles											
Primary Copper											
Proved	1.3	3.0	0.4	0.0	14.5	0.5	40	6	0.4	0.6	0.02
Probable	0.3	3.0	0.3	0.0	11.1	0.2	9	1	0.1	0.1	0.00
Total	**1.6**	**3.0**	**0.4**	**0.0**	**13.9**	**0.4**	**49**	**7**	**0.5**	**0.7**	**0.02**
Primary Zinc											
Proved	0.2	0.3	11.5	1.0	90.1	0.9	1	29	2.5	0.7	0.01
Probable											
Total	**0.3**	**0.3**	**11.5**	**1.0**	**89.3**	**0.9**	**1**	**29**	**2.5**	**0.7**	**0.01**
Scuddles Total							**50**	**36**	**3.0**	**1.5**	**0.03**
Total Contained Metal							**95**	**267**	**34**	**8.5**	**0.3**

Reserve numbers are inclusive of surface stockpiles.
Cut-off grade is based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value A$145/t.
Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Contained metal does not imply recoverable metal

6.6 Ore Reserves 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 4" of the Code.

Table 24 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Golden Grove Underground Ore Reserve 2014

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of the sub-set of the Mineral Resources used to define the Ore Reserves. The Ore Reserves are derived from Mineral Resources using the geological database current as at 1 January 2014. The Ore Reserves are based on detailed development and stoping designs and have been economically evaluated according to current metal price forecasts, recent operational costs, and mining and metallurgical recoveries. • An average of 44% of the Measured and Indicated current Mineral Resources estimate was converted into Ore Reserves for both Gossan Hill and Scuddles mine.
Site visits	• The Competent Person (Wayne Ghavalas) is based on site in his capacity as underground mining manager.
Study status	• Gossan Hill and Scuddles mine are operating mines, Mineral Resources to Ore Reserve conversion was carried out based on the latest Mineral Resource model using the geological database as of 1 January 2014. Ore Reserves inputs parameters have been estimated based on historical performance data.
Cut-off parameters	• Due to the polymetallic nature of Golden Grove, all the factors relating to the value of the ore (representative of cash costs to mine gate) are combined into a NSRAR value. Based on the economic assumptions and cost review, the NSRAR cut-off is A$145/t. The NSR calculation includes metallurgical recovery, milling cost, financial assumptions which include metal price and exchange rate, concentrate road and sea transportation costs (both dollar value and concentrate loss), royalties' payable, and treatment and refining charges. • The cut-off was used as a guide to generate the Ore Reserves shapes; however each stope is assessed individually for the development, haulage distance, backfilling requirements and any other additional costs to ensure that it is profitable to mine. These costs are considered on an individual stope basis and stopes that make a loss have not been included in the Ore Reserves.
Mining factors or assumptions	• Gossan Hill and Scuddles mine are operating mines, therefore all of the mining factor assumptions are using the historical performance data. • Geotechnical parameters applied in the design process are based on each stoping areas given an estimate of stable Hydraulic Radius (HR). This is based on Q' values, experience with similar mine areas and numerical modelling. The table below shows base values of allowable hydraulic radius for different ore-bodies.

Assessment Criteria	Commentary

Orebody	Maximum HR, m					
	Unsupported			Supported		
	HW	FW	Crown	HW	FW	Crown
Amity	9	9	5	11	11	6
Catalpa	8	9	5	9	12	7
Ethel	9	10	7	12	13	9
Hougoumont rhyodacite	8	8	5	9	10	6
Hougoumont dolerite	6	6	3	7	7	4
Hougoumont sediments	9	9	6	10	10	8
A Copper	9	9	7	11	11	9
Q Copper	12	12	8	15	15	10
Xantho	5	7	3	7	9	5

- The Ore Reserves are derived from Mineral Resources using the geological database current as at 1 January 2014. The Ore Reserves are based on detailed development and stoping designs and have been economically evaluated according to current metal price forecasts, recent operational costs, and mining and metallurgical recoveries.
- Mining dilution and recovery factors used are different for each orebody, based on the historical performance data. See the Mining dilution and recovery factors for each orebody in the table below.

Orebody	Recovery	Dilution			
		Zn Dil	Grade*	Cu Dil	Grade*
ABCZinc	95%	10%	2%	10%	10%
ACopper	95%	15%	2%	15%	10%
Amity	90%	15%	2%	15%	10%
Camberwarra	90%	10%	2%	10%	10%
Catalpa	90%	10%	2%	10%	10%
CCopper	95%	10%	2%	10%	10%
DZinc	90%	10%	2%	10%	10%
Ethel	90%	10%	2%	10%	10%
Hougoumont	95%	20%	2%	20%	10%
Hougoumont HW	95%	20%	2%	20%	10%
Oizon	90%	20%	2%	20%	10%
QCopper	95%	15%	2%	15%	10%
Scuddles	95%	10%	2%	10%	10%
Tryall	90%	10%	2%	10%	10%
Xantho	95%	10%	2%	10%	10%
Xantho Extended	90%	20%	2%	20%	10%

**Note the dilution grade is expressed a percentage of the original grade*

- Based on historical performance data and current equipment capability, the minimum mining width used for the design is 4m with level interval generally 30m.
- Inferred Mineral Resource is not included in the Ore Reserve.

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

The infrastructures required have been established for both Gossan Hill and Scuddles mines.

</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>

The Golden Grove mine is an operating entity. The metallurgical process is crushing and grinding followed by flotation. Sulphide ore from underground has been processed for over 15 years. Oxide ore from the open pit has been processed for over 2 years. For oxide ore, sodium hydrosulphide is used as an activator for flotation which is the standard practice for ores of this type. Transition ore from the open pit is yet to be processed.
For underground (sulphide) ore, the metallurgical factors for Ore Reserves were determined from operating plant data using a series of equations.

<p>The key equations are:</p>
<p>$\%\ Pb\ recovery = (-0.2133*\%PbConc)-(0.059*tph)-(0.6695*Fe/Pb)-(12.885*Cu/Pb)+100.25$</p>
<p>$\%\ Pb\ conc = (0.03289*P80)-(0.2955*Fe/Pb)-(34.593*Cu/Pb)+45.1094$</p>
<p>$\%\ Zn\ recovery = -(0.01369*P80)-(4.14137*Fe/Zn)-(0.36383*\%Zn\ conc)+117.7911$</p>
<p>$\%\ Zn\ conc = -(0.00638*tph)-(2.37226*Fe/Zn)+54.946$</p>
<p>$\%\ Cu\ recovery =-(0.0516*tph)-(0.6136*Fe/Cu)+106.544$</p>
<p>$\%\ Cu\ conc = 22.8-(0.23*Fe/Cu)$</p>

A reconciliation of all production data since 2011 shows that difference between actual and predicted performance is less than 1% for all of these factors.

<table>
<tr><th></th><th colspan="2">Jan 2011 – June 2014</th></tr>
<tr><th></th><th>Predicted</th><th>Actual</th></tr>
<tr><td>Pb recovery</td><td>68.9</td><td>68.3</td></tr>
<tr><td>% Pb concentrate</td><td>36.9</td><td>35.7</td></tr>
<tr><td>Zn recovery</td><td>92.8</td><td>91.9</td></tr>
<tr><td>% Zn concentrate</td><td>50.8</td><td>50.6</td></tr>
<tr><td>Cu recovery</td><td>89.8</td><td>89.8</td></tr>
<tr><td>% Cu concentrate</td><td>20.5</td><td>20.7</td></tr>
</table>

No deleterious elements of any consequence occur in concentrates produced from underground. The mineral talc is sometimes present in small amounts and the operating practice is then to use a pre-float to reject this mineral. The recovery equations above take the relevant valuable mineral losses into account.
No required mineral specifications have been identified for this deposit. The grade of the zinc concentrate is dependent on the Fe content of the sphalerite, but this dependence is taken into account by the algorithms.

</td></tr>
<tr><td>Environmental</td><td>

Waste rock from underground shall preferentially remain underground where it is used to as a source of backfill. The waste

</td></tr>
</table>

Assessment Criteria	Commentary
	rock that is transported to surface is either returned to underground as road base, or is encapsulated in the dedicated ROM Pad Potential Acid Forming Encapsulation Facility. • Tailing is directed to a Tailings Storage Facility, some of the mill tailings are returned underground as Cemented Hydraulic Fill (CHF) for backfilling. Water from this facility is decanted after the tailings has settled and is returned to the Processing plant for recycling in the process. Golden Grove currently has two tailings storage facilities.
Infrastructure	• Being an operating site, the infrastructure required to mine and process ore from both Gossan Hill and Scuddles mines is well established. • Access to Golden Grove mine site is via sealed roads from Perth to Paynes Find and from Geraldton to Yalgoo. The Yalgoo to Paynes Find road is sealed between Yalgoo and Golden Grove while the remainder between Golden Grove and Paynes Find is a formed gravel road that can be closed to traffic during periods of wet weather. • The site airstrip was sealed in 2007 and is serviced by flights from both Perth and Geraldton. The current site facilities and short commute (1 hour flight time from Perth and 45 minutes from Geraldton) has seen Golden Grove maintain a steady workforce with current employee turnover less than 10%, a solid result in a FIFO environment. • Drawing labour from both the Perth labour market and from Mid-West country centres such as Geraldton and towns close to the mine such as Yalgoo, Golden Grove operates with a work force of approximately 650 full time equivalent employees. This includes both people employed directly through MMG and contractors providing both contracting services and/or labour hire. • Accommodation village located 5km to the south-southwest of the mine offices and accessed via a sealed road. • Electricity is supplied from the WA grid through a southern distribution centre at Three Springs. Power consumption is typically around 14 MW. Three of 1.15MW power generators are installed to enable essential services and underground fans to operate and to prevent bogging of tanks and thickeners. • Water supply for the operations is secure with sufficient groundwater supply. The majority of the groundwater is supplied through dewatering of both the Gossan Hill and Scuddles underground mines. The site equipped two backup potable water bores to ensure the sites potable demand can be met.
Costs	• The operating and capital costs were determined using the historical cost data. • Deleterious element such as high iron was included in the NSR calculation. High iron content level could impact the copper and

Assessment Criteria	**Commentary**
	zinc recoveries. • The commodity price and exchange rate assumptions are supplied by Melbourne office. The majority of 2014 Ore Reserve is assessed as a medium-term Ore Reserve scenario. The ore scheduled to be mined after 2017 is assessed by long-term Ore Reserve scenario. • Treatment, refining, royalties and transportation costs for different commodities were supplied by Melbourne office and have been included in the NSR calculation.
Revenue factors	• The commodity prices and exchange rate assumptions, treatment, refining, royalties and transportation costs for different commodities were supplied by Melbourne office and have been included in the NSR calculation. • The formulas and assumptions used in the NSR calculation are based on the historical data provided by Metallurgy Department. • The economic evaluation was carried out to verify whether the stope designed using the NSR cut-off generate economic revenue. The mining physicals required to access and mine individual stopes were determined during the mine design process. The cost assumptions were applied to the mining physicals and the revenue was calculated by multiplying the recovered ore tonnes by the applicable NSR value. The profitable and marginal stopes were included in the Ore Reserve.
Market assessment	• The outlook for growth in the metals and mining industry on a global scale remains positive. While demand for metals has been affected by flat economic conditions in the United States and Europe, this has been offset by the strong demand that flows from the expansion of developing economies which are driven by domestic demand. Growth in domestic demand in most emerging economies is projected to continue. The global economy grew 3.0% in 2013, and the IMF-World Bank is forecasting global growth of 3.6% in 2014 and 3.9% in 2015. Advanced economies will account for 1.5 to 2% and emerging economies for 5.5 to 6%. Despite signs of a slowdown in China, the IMF sees China growing 7.5% in 2014 and 7.3% in 2015. • High barriers to entry exist in the mining industry due to the high capital costs of establishing or acquiring operations, heavy market regulation of this sector in many countries and long lead times to production. In recent times, there have been only a small number of discoveries of significant deposits of high grade copper and zinc. The combination of these factors discourages new entrants to this sector which affords a competitive advantage to established operators such as MMG in exploring and developing new deposits. • The copper price has been supported by supply side constraints which have assisted copper's outperformance compared to other commodities. Zinc market tightness will be increasing for short to medium term due to supply and demand, LME inventories have

Assessment Criteria	**Commentary**
	fallen and the zinc metal price has risen 20% since December 2013 • The growth in demand from emerging economies is expected to drive demand for all basic commodities; • Affordable housing and the move toward a consumption-based economy is anticipated to support long-term copper demand growth. • Market expectations of zinc demand growth are in excess of 5% per annum for the next 5 years, underpinned by continued growth in the Chinese steel sector and trend towards value added steels (i.e. galvanised steel for corrosion protection). • Commodity price forecasts are provided by MMG Finance department. • Golden Grove underground does not market any industrial minerals.
Economics	• Golden Grove is an established operating mine. Costs detailed used in the NPV calculation are based on historical data. Revenues are calculated based on historical and contracted realisation costs and a realistic medium to long-term metal prices as supplied by MMG corporate. The contracted realisation costs are not inflated. • The LOM financial model demonstrates the mine has a positive NPV. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit.
Social	• MMG Golden Grove is located within the Shire of Yalgoo in the Murchison Region of Western Australia. The nearest community to Golden Grove is the Yalgoo Township, which is situated approximately 56km to the north of the site. The key stakeholders include the local government and community, pastoralists, employees and the Geraldton Port Authority. • Golden Grove owns the Muralgarra Pastoral Station leasehold land which was purchased in 2007. Golden Grove is currently developing a strategic and diversified management plan with a focus on carbon sequestration and biodiversity offset project opportunities that were implemented from 2012. • Stakeholder consultation was initiated when mining was first proposed for the Golden Grove operations. Consultation has evolved since mining commenced and occurs during additional approval work and through routine and ad-hoc engagement. • Golden Grove continues to fulfil its statutory heritage responsibilities in line with the Aboriginal Heritage Act (1972) and the Aboriginal and Torres Strait Islander Heritage Protection Act (ATSHIP 1984) • Golden Grove has committed to a range of Indigenous Relations investment initiatives including; the Bayalgu Indigenous Pre-Employment Training program; the Yalgoo Centacare Indigenous Children's Program (ICP); a Cross Cultural Awareness (CCA)

Assessment Criteria	**Commentary**
	program delivered by a local service provider; and an Indigenous Employment Implementation Plan (IEIP). • MMG Golden Grove is located in an area that is under claim by two Indigenous Native Title claimant groups.
Other	• The Golden Grove Mine has been established since 1980 all necessary regulatory approvals exist and there is no known risk that could jeopardize the realization of the remaining Ore Reserve. • There is no material naturally occurring risks identified. • Gossan Hill and Scuddles mines tenement and land tenure status are listed in the table below. • The Gossan Hill and Scuddles mines operate under license L8593/2011/2 issued by the Western Australian Department of Environment and Regulation (DER) as required by the Environmental Protection Act 1986. This license was issued 11 September 2014 and expires on 15 September 2019.
Classification	• Ore Reserve is classified as Proved and Probable. Proved Ore Reserve category is determined when Mineral Resource confidence level is Measured and financially satisfied which is either "Profitable" or "Marginal". Probable Ore Reserve category is determined when Mineral Resource confidence level is Indicated and financially level is either "Profitable" or "Marginal". • An average of 44% of the Measured and Indicated current Mineral Resources estimate was converted into Ore Reserves for both Gossan Hill and Scuddles mine (it should be noted that the Mineral Resources cut-off grade is A$100/t versus Ore Reserve cut-off grade is A$145/t).
Audit or Reviews	• No external audits were undertaken on the Ore Reserve.
Discussion of relative accuracy/ confidence	• Some identified factors which could affect the accuracy and confidence of the estimate; o Ore Reserve estimation was carried out based on different term of forecast metal prices, however the mining cost assumptions used in the current Ore Reserve estimation are fixed over the mine life. Any significant changes in the mining costs over the coming years could have an impact on the Ore Reserve estimation. o Lack of geological and in-situ stress information at such depth may affect the stope and development

Tenement and land tenure status (within the "Other" row):

Tenement No.	**Prospect Name**	**Date Expires**	**Term Years**	**Date Granted**
M59/03	Scuddles	08/12/2025	21	28/01/2005*
M59/195	Gossan Hill	17/05/2032	21	17/06/2011*

Assessment Criteria	Commentary
	performances as the mining horizon progress deeper for example; inaccuracies in ore and intrusive modelling, inability to identify suitable dynamic ground support and the mining sequence modification. o The recent seismic events at the bottom of the Scuddles mine may affect the Ore Reserve, some action plans have been put in place to minimise the risks. o Hougoumont Hanging Wall is a high precious metal ore-body. Initial indicative results suggest that Cu and Pb recoveries are high at 90% and 66% respectively, whilst Zn recovery was low at 81%. However open circuit cleaning test work was conducted and the open circuit cleaning showed that 11% of the Zn was lost to tailings. Locked cycle test work is underway with higher recoveries expected. o Mining remnants next to the open, rock filled or hydraulic filled stopes could affect the mining recovery and or dilution. • Close spaced drilling is applied to a locally defined tonnage and grade before mining selection. Ore Reserves are based on all available relevant information. o Proven Ore Reserve is based on local scale. o Probable Ore Reserve is based on local and global scale. • Ore Reserves accuracy and confidence that may have a material change in modifying factors are discussed above. • This Ore Reserve is based on the results of an operating mine. The confidence in the estimate is compared with actual production data. The operating mine data is subject to continual review.

6.6.1 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 25.

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 25 Contributing Experts Golden Grove Underground Ore Reserve

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Kiki Kosmara, Senior Mining Engineer, MMG Ltd (Golden Grove)	Underground Mining
Wayne Ghavalas, Underground Mine Manager MMG Ltd (Golden Grove)	Underground Mining
Paul Boamah , Resource Geologist MMG Ltd (Golden Grove)	Geology, (2014 Mineral Resource Estimation – Gossan Hill)
Lauren Stienstra, Senior Mine Geologist MMG Ltd (Golden Grove)	Geology, (2014 Mineral Resource Estimation – Scuddles)
Andrew Dowling, Senior Metallurgist MMG Ltd (Golden Grove)	Metallurgy and general processing
Dario Krmek, Project Metallurgist MMG Ltd (Golden Grove)	NSRAR Metallurgical formulas
Stephen Ross, Commercial Manager MMG Ltd (Golden Grove)	Operating costs
Ben Ryan, Environment Superintendent MMG Ltd (Golden Grove)	Environment
Chris Pennisi, Geotechnical Engineer MMG Ltd (Golden Grove)	Geotechnical
Danae Sheldrick, Community Relation Specialist MMG Ltd (Golden Grove)	Social and Community Relation Agreements

6.7 Ore Reserves – Golden Grove Open Pit

6.7.1 Results

The 2014 Golden Grove Open Pit Ore Reserve are summarised in Table 26.

Table 26 2014 Golden Grove Open Pit Ore Reserve tonnage and grade (as at 30 June 2014)

Golden Grove Open Pit Ore Reserve											
							Contained Metal				
Oxide Copper*	Tonnes (Mt)	Zinc (%)	Copper (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Zinc ('000 t)**	**Copper ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Proved	0.2	-	3.3	-	-	-	-	6	-	-	-
Probable	0.0	-	0.0	-	-	-	-	-	-	-	-
Total	**0.2**	**-**	**3.3**	**-**	**-**	**-**	**-**	**6**	**-**	**-**	**-**
Partial Oxide Copper**											
Proved	0.4	-	3.7	-	-	-	-	17	-	-	-
Total	**0.4**	-	**3.7**	**-**	**-**	**-**	**-**	**17**	**-**	**-**	**-**
Total Contained Metal								**22**			

* 1.3% Cu cut-off grade.

** 1.4% Cu cut-off grade.

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

6.8 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 27 Golden Grove Open Pit Ore Reserve JORC 2012 Table 1

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of those Mineral Resources modified to produce the Ore Reserves. • The Ore Reserves estimate has been generated by applying the metallurgical, social, environmental and financial aspects of the operations (the modifying factors) on that portion of the Mineral Resource Estimate, classified as "Measured" and "Indicated".
Site visits	• The Competent Person fulfills the permanent site based role of Open Pit Manager for MMG.
Study status	• The Golden Grove Open Pit commenced in January 2012 following a Feasibility Study undertaken in 2011. The open pit is 93% mined by volume. • Minor pit design changes have been made following completion of close-spaced grade control drilling and resultant updates to the Mineral Resource. The Ore Reserves quoted are the result of an internal MMG reassessment of the Mineral Resources contained within the designed pit for changes in the modifying factors since the February 2011 Feasibility Study and using the end of June 2014 topographic surface.
Cut-off parameters	• Break even cut-off grades (COG) were calculated for oxide, transition, and primary ores. The COG estimates included all relevant costs incurred post mining. The calculated COG's are 1.3% Cu for oxide ore and 1.4% for transition and primary ore. • Revenue factors used in the cut-off grade calculation include forecast copper price, moisture content of concentrate, freight and shipping costs, insurance, royalty payments, treatment and refining charges. • Fixed costs to process the ore and revenue factors are well understood.
Mining factors or assumptions	• The pit is over 93% mined by volume consequently there exists a good understanding on site of the orebody and how to mine it. The intention is to continue mining using the same equipment and techniques. • Mining is carried out using a 120T class backhoe excavator and 100T rigid dump trucks. All material is drilled and blasted prior to mining occurring. The orebody is surveyed prior to mining and all ore is mined on dayshift under direct geological supervision. The orebody has clear visual ore waste interfaces and the waste is first stripped off the ore prior to the ore being mined. • The pit over its life has experienced very minor geotechnical issues with no significant failures. The pit walls are now moving into fresh

Assessment Criteria	Commentary
	rock. Wall angles are determined by an independent geotechnical consultant who models defects and predicts likely failure modes carrying out a range of analyses. Batter angles vary from 55 degrees to 70 degrees with an 18m vertical interval. Overall slope angles are between 48 degrees and 52 degrees. Actual geotechnical performance against design is reviewed by the external consultant on an annual or greater frequency if required. • The Ore Reserve is based on grade control drilling results; grade control is carried out using reverse circulation drilling on a 10m by 10m staggered pattern. • The mining dilution factor is zero and the mining recovery factor is 100%. This is consistent with the approach used in the feasibility study. The impact of the modelling process is assumed to compensate for any additional impact from either dilution or ore loss. The orebody is wide typically 60 m to 90m has clear ore-waste boundaries and no internal waste. There is no reconciliation data to support using alternative numbers. • Inferred Mineral Resources are excluded from the Ore Reserve. • No minimum mining widths are applied this is irrelevant as the orebody dimensions are much larger than the physical size of the excavator bucket. • The infrastructure is established for the selected mining method.
Metallurgical factors or assumptions	• For open pit (oxide) ore, a constant recovery of 65% is used which compares with an average recovery of 66.2% for all oxide ore treated in 2014. The average grade of copper oxide concentrate produced in 2014 is 21.8% Cu. Chlorine has from time to time been present in elevated levels in concentrates, which has resulted in some concentrates incurring small penalties. The instances of these events have diminished with depth of mining and are now infrequent. • For transition ore from the open pit, a series of bench tests was completed to determine the metallurgical factors for Ore Reserves. A total of 15 composite samples, stated to be representative of the transition ore, were supplied for testing and were floated using a standard procedure for the Golden Grove flow sheet. • Feed grades were highly variable as the data in Table 28 show. In particular, the proportion of copper which was acid soluble varied from 6 to 43% and sulphide sulphur values varied from 0.6 to 24.7%. • Accordingly, the flotation results were highly variable (Table II), with recoveries varying from 58% to 94% and concentrate grades varying from 5% Cu to 32.4% Cu. • In the absence of other data, the decision was to use a form of constant tail model to describe recovery for transition ore: % Cu recovery = max (100 - 53/feed % Cu, 0%)

Assessment Criteria | **Commentary**

Table 28 Feed Grades of Transition Ore Provided for Metallurgy Testing

Test no.	Float feed				
	Feed % Cu	Feed % S^{2-}	S^{2-}/Cu	ASCu	ASCu/Cu
	%	%	ratio	%	ratio
Min	1.4	0.6	0.3	0.14	6%
Max	5.0	24.7	11.3	1.54	43%
Average	2.7	6.2	2.4	0.78	28%

Table 29 Metallurgy Results for Transition Ore

Test no.	Cu concentrate			
	Cu rec	Conc % Cu	Conc F	Conc Cl
	%	%	ppm	ppm
Min	57.6	5.4	128	111
Max	93.6	32.4	1432	754
Average	82.0	20.0	700	394

- Applying the above listed equation to the data set used for Table 29 gives a mean recovery of 78.2% which compares with an actual mean of 82.0%. In addition, the model ascribes increasing lower recoveries as the head grade decreases which means that large amounts of low grade material are not included in the Ore Reserves.
- Ideally, an algorithm for recovery would have been developed, but too few tests were available to take this approach and probable key explanatory variables such as acid soluble copper and sulphide sulphur were not assayed for in drill core and hence were not included in the block model.
- Accordingly, some significant risks to recovery remain with transition ore including higher than expected levels of acid soluble copper and higher than expected levels of pyrite. Ore oxidation is also a risk given the presence of large amounts pyrite in some parts of the deposit and the friable nature of the ore.
- The data in Table 29 do not indicate any particular issues with chlorine in transition ore though fluorine levels were elevated for some samples.

Environmental

- Progressive rehabilitation of the waste dump is continuing with excellent results. During the year potentially acid forming waste (PAF) was encountered and this was delivered to the PAF storage facility adjacent to the Gossan Hill ROM Pad as planned. Areas of PAF waste are identified from grade control drilling and marked up in the field for mining; a sulphur grade of 0.2% is used to define PAF material.
- Open Pit mining complies with the MMG Waste Rock Management Sustainability Standard and Waste Rock Management Code of Practice.

Assessment Criteria	**Commentary**
	• Engagement is underway and an addendum is presently being sought from the Regulator, to the existing Mining Proposal for the Construction of Tailings Storage Facility 3 (Registration ID 23922), to allow for the construction of the next lift.
Infrastructure	• Being an operating site, the infrastructure required to mine and process ore from the Gossan Hill open pit mine is well established. • Access to Golden Grove Operation is via sealed roads from Perth to Paynes Find and from Geraldton to Yalgoo. The Yalgoo to Paynes Find road is sealed between Yalgoo and Golden Grove while the remainder between Golden Grove and Paynes Find is a formed gravel road that can be closed to traffic during periods of wet weather. • The site airstrip was sealed in 2007 and is serviced by flights from both Perth and Geraldton. The current site facilities and short commute (1 hour flight time from Perth and 45 minutes from Geraldton) has seen Golden Grove maintain a steady workforce with current employee turnover less than 10%, a solid result in a FIFO environment. • Drawing labour from both the Perth labour market and from Mid-West country centres such as Geraldton and towns close to the mine such as Yalgoo, Golden Grove operates with a work force of approximately 650 full time equivalent employees. This includes both people employed directly through MMG and contractors providing both contracting services and/or labour hire. • Accommodation village located 5km to the south-southwest of the mine offices and accessed via a sealed road. • Electricity is supplied from the WA grid through a southern distribution centre at Three Springs. Three of 1.15MW power generators are installed to enable essential services and underground fans to operate and to prevent bogging of tanks and thickeners. • Water supply for the operations is secure with sufficient groundwater supply; the majority of the groundwater is supplied through dewatering of both the Gossan Hill and Scuddles underground mines. The site equipped two backup potable water bores to ensure the sites potable demand can be met. • Additional infrastructure includes waste dumps (including potentially acid forming materials), ore pad/stockpile, workshop facility, bulk fuel storage, explosive magazines, ammonium nitrate storage facility, and offices for technical staff, metallurgical processing plant and tailings storage facility. • All required infrastructure are in place to realize the mining and processing of the open pit Ore Reserve.
Costs	• The open pit is being mined by a contractor using a schedule of rates. The schedule of rates has a fixed and variable component. The fixed costs are 15% of the overall monthly expenditure.

Assessment Criteria	**Commentary**
	Variable costs are applied to load and haul and drill and blast. The load and haul payment is paid according to volume and what bench it a mined from. The drill and blast payment is based on volume, penetration rate and powder factor. As 85% of the monthly invoice from the contractor is based on the volume of work actually performed there is a high incentive and hence certainty when predicting the mining costs. • Milling, administration, and other costs are based on historical site and budget forecast costs. • The Ore Reserves used information supplied by MMG Corporate in regards to metal prices and economic assumptions. The ultra-short term copper price assumption of $3.00/lb was used. Metal prices are supplied by MMG corporate and are derived from a combination of broker consensus and internal strategy evaluations. • Chlorine has from time to time been present in elevated levels in concentrates, which has resulted in some concentrates incurring small penalties. The instances of these events have diminished with depth of mining and are now infrequent. No deleterious cost has been included in the Ore Reserve • An exchange rate of $0.90 was used A$ to US$ supplied by MMG Corporate. • Freight, shipping and insurance, charges are based on historical site and budget forecast costs and have been included in the NSR calculation. • The source of treatment and refining charges are based on historical site and budget forecast costs, and have been included in the NSR calculation. Penalties for failure to meet specification are not included as they are thought to be non-material and have not been included in the NSR calculation. • Applicable Royalties payable and have been included in the NSR calculation. • There is no additional capital expenditure required to mine and process the Ore Reserve.
Revenue factors	• Revenue factors were based on ultra-short–term pricing. The remaining Ore Reserve has a high profit margin and short life insulating the pit from fluctuations in revenue factors. The freight, shipping, insurance, treatment and refining charges, penalties and net smelter returns are based on historical and budget forecast costs. • The metal prices are as supplied by MMG corporate.
Market assessment	• The outlook for growth in the metals and mining industry on a global scale remains positive. While demand for metals has been affected by flat economic conditions in the United States and Europe, this has been offset by the strong demand that flows from the expansion of developing economies which are driven by

Assessment Criteria	Commentary
	domestic demand. Growth in domestic demand in most emerging economies is projected to continue. The global economy grew 3.0% in 2013, and the IMF-World Bank is forecasting global growth of 3.6% in 2014 and 3.9% in 2015. Advanced economies will account for 1.5 to 2% and emerging economies for 5.5 to 6%. Despite signs of a slowdown in China, the IMF sees China growing 7.5% in 2014 and 7.3% in 2015. • High barriers to entry exist in the mining industry due to the high capital costs of establishing or acquiring operations, heavy market regulation of this sector in many countries and long lead times to production. In recent times, there have been only a small number of discoveries of significant deposits of high grade copper and zinc. The combination of these factors discourages new entrants to this sector which affords a competitive advantage to established operators such as MMG in exploring and developing new deposits. • The copper price has been supported by supply side constraints which have assisted copper's outperformance compared to other commodities. • The growth in demand from emerging economies is expected to drive demand for all basic commodities; o Affordable housing and the move toward a consumption-based economy is anticipated to support long-term copper demand growth. o Market expectations of zinc demand growth are in excess of 5% per annum for the next 5 years, underpinned by continued growth in the Chinese steel sector and trend towards value added steels (i.e. galvanised steel for corrosion protection). • Commodity price forecasts are provided by MMG Finance department. o The transition Ore Reserves have been shown by metallurgical testing to produce variable grade concentrates depending on the amount of pyrite in the feed and how much of this reports to the concentrate. Concentrate below 20% Cu will require blending with higher grade concentrate to satisfy customer requirements or risk incurring penalties. • Golden Grove does not market any industrial minerals.
Economics	• A cash flow model was produced based on a bench by bench analysis of physical mining quantities, all costs and revenue factors to generate a cumulative cash flow bench by bench. There is no additional capital expenditure required to mine and process the Ore Reserve. The cash flow model indicates a surplus with copper produced at US$2/lb. Revenues are calculated based on historical and contracted realisation costs and a realistic ultra-short term metal price. An ultra-short-term cash flow should not attract CPI.

Assessment Criteria	**Commentary**
	• The LOM financial model demonstrates the mine has a positive NPV. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit.
Social	• MMG Golden Grove is located within the Shire of Yalgoo in the Murchison Region of Western Australia. The nearest community to Golden Grove is the Yalgoo Township, which is situated approximately 56km to the north of the site. The key stakeholders include the local government and community, pastoralists, employees and the Geraldton Port Authority. • Golden Grove owns the Muralgarra Pastoral Station leasehold land which was purchased in 2007. Golden Grove is currently developing a strategic and diversified management plan with a focus on carbon sequestration and biodiversity offset project opportunities that were implemented from 2012. • Stakeholder consultation was initiated when mining was first proposed for the Golden Grove operations. Consultation has evolved since mining commenced and occurs during additional approval work and through routine and ad-hoc engagement. • Golden Grove continues to fulfil its statutory heritage responsibilities in line with the Aboriginal Heritage Act (1972) and the Aboriginal and Torres Strait Islander Heritage Protection Act (ATSHIP 1984). • Golden Grove has committed to a range of Indigenous Relations investment initiatives including; the Bayalgu Indigenous Pre-Employment Training program; the Yalgoo Centacare Indigenous Children's Program (ICP); a Cross Cultural Awareness (CCA) program delivered by a local service provider; and an Indigenous Employment Implementation Plan (IEIP). • MMG Golden Grove is located in an area that is under claim by two Indigenous Native Title claimant groups. • All existing government approvals are in place for the continued mining of the Reserve. The two key approvals are Operating Licence L5175/1988/9 and Mining Proposal ID 29469. • All mining activities occur on tenement M59/195 expiry date May 2032.
Other	• The Golden Grove Mine has been established since 1980 all necessary regulatory approvals exist and there is no known risk that could jeopardize the realization of the remaining Ore Reserve. • There are no material naturally occurring risks identified • There are no outstanding material legal agreements. Marketing agreements are in place for the life of the open pit asset. • All mining activities occur on tenement M59/195 expiry date May 2032.

Assessment Criteria	**Commentary**
Classification	• The in-pit Ore Reserves are classed as Probable only, in line with Mineral Resources classification of Indicated. • Stockpiled ore has been classified as Proved, in line with Mineral Resources classification of Measured. • Inferred Mineral Resources are not included in the Ore Reserves.
Audit or Reviews	• No external audits or reviews have been undertaken. • An informal internal review was undertaken by MMG Group Technical Services during compilation of this report.
Discussion of relative accuracy/ confidence	• Uncertainty on the remaining Ore Reserves is such that the likelihood of destroying the robust economics of the remaining Ore Reserves is extremely low. • Golden Grove open pit has on occasions over supplied the processing facility. This oversupply has resulted in a stockpile of Ore Reserve. The classification of this stockpile has been set at Probable. The stockpile grade variability has not been tested. There may be a material risk associated with a possible variable grade. • Golden Grove open pit stockpile Ore Reserve has possibly degraded in respect to recoverable copper. The acidic nature of the transitional Ore Reserve in stockpile poses a material risk. There is a possibility that the ore may have oxidized once exposed to the elements, which may cause a decrease in recoverable copper. This risk is further supported by the inconclusive but probable decrease in copper recovery during recent stockpile processing. The full effect of the possible copper recovery is not yet understood. The likelihood of destroying the robust economics of the remaining Ore Reserves is low. • Close spaced drilling is applied to a locally defined tonnage and grade before mining selection. Ore reserves are based on all available relevant information • Proven and Probable Ore Reserve is based on local scale for the Golden Grove open pit. The extent of the Ore Reserve is supported by good well understood drilling. This is further supported by the ease of defining ore and waste and the ability to selectively process all the available Ore Reserve. • Ore Reserves accuracy and confidence that may have a material change in modifying factors are; • The variable grade within the Ore Reserve stockpile. • There is a possibility that the Ore Reserve in stockpile may have oxidized once exposed to the elements. This may affect the recovery of copper. • This Ore Reserve is based on the results of an operating mine. The confidence in the estimate is compared with relevant actual production data where available. This data is subject to continual

Assessment Criteria	Commentary
	review to assess any material Risk.

6.8.1 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 30.

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 30 Contributing Experts Golden Grove Open Pit Ore Reserve

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Rob Oakley MMG Golden Grove	Geology and Mineral Resources
Stephen Ross MMG Golden Grove	Commercial Input, Operating costs, revenue factors
Peter O'Bryan & Associates	Geotechnical

7 CENTURY OPERATION

7.1 Introduction and Setting

The Century zinc-lead-silver mine is located in the remote lower Gulf region of north-west Queensland, approximately 250km north-west of Mount Isa. The mine is 100% owned by MMG Limited and has been in operation since 1999. Century operations comprises of two sites: the mine at Lawn Hill, and associated concentrate dewatering and ship-loading facilities at Karumba on the Gulf of Carpentaria connected by a 300km slurry pipeline. Century's regional location is shown in Figure 6.

Figure 6 Century Mine location

Century is a conventional open pit mining operation using drilling and blasting with large excavators loading off-highway trucks and produces separate zinc and lead concentrates that are delivered by a dedicated slurry pipeline to the port of Karumba, where they are loaded onto ships and exported.

7.2 Mineral Resources - Century

7.2.1 Results

The Century Mineral Resource estimate for June 30 2014 was carried out by Quantitative Group (QG) utilising geological interpretations and data provided by MMG geologists in 2013. There have been no changes to the assumptions in 2013 model or Mineral Resource estimation parameters in 2014.

The Mineral Resource at the Century Mine as of the 30th of June 2014 is summarised in Table 31. The Century Mine Open Pit Mineral Resource is reported within the current final pit shell design. The Century Mineral Resource is inclusive of the Ore Reserve.

Table 31 2014 Century Mineral Resource tonnage and grade (as at 30 June 2014)

Century Mineral Resource

					Contained Metal		
Century Pit	Tonnes (Mt)	Zinc (%)	Lead (%)	Silver (g/t)	**Zinc ('000)**	**Lead ('000)**	**Silver (Moz)**
Measured	-	-	-	-	-	-	-
Indicated	7.9	9.3	1.7	41	739	132	10
Inferred	0.5	9.1	1.5	38	46	7	1
Total	**8.4**	**9.3**	**1.7**	**41**	**786**	**140**	**11**
Century East Block							
Measured	-	-	-	-	-	-	-
Indicated	0.5	11.6	1.1	48	58	5	1
Inferred	-	-	-	-	-	-	-
Total	**0.5**	**11.6**	**1.1**	**48**	**58**	**5**	**1**
Stockpiles							
Measured	1.1	5.7	2.3	51	64	25	2
Total	**1.1**	**5.7**	**2.3**	**51**	**64**	**25**	**2**
Total Contained Metal					**907**	**171**	**14**

Cut-off grade is based on a 3.5% ZnEq (zinc equivalent cut-off). Where ZnEq equals Zn+Pb * 1.19 contained in the Century final pit shell.

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

Contained metal does not imply recoverable metal.

7.3 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information contained in Table 32 is provided to comply with the "Table-1 Section 1 to 3" of the Code.

Table 32 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Century Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling Techniques	• The majority of assay results for the Mineral Resource are from diamond drill (DD) core HQ and NQ size drill core. A total of 84 reverse circulation (RC) and percussion drilling drill holes intersected the deposit and were used for their geological information, however assay samples from RC or PD drilling were not considered robust and therefore were not used in grade estimation. Samples from RC and PD drilling are typically 1m or 2m in length and are not able to achieve the resolution required in the mineralised sequence to avoid smearing of grade across Unit boundaries. • Channel samples were excluded from the Mineral Resource estimate due to concerns about their accuracy and repeatability. The concern about using channel samples was derived from the low repeatability displayed by channel sample field duplicate data. • Measures taken to ensure sample representivity include collection, and analysis of field duplicates.
Drilling techniques	• The geological interpretation was based on 534 DD holes (NQ and HQ size core), of which 436 contained valid intersections and were used in grade estimation. • 14 DD holes intersect the Eastern Fault Block mineralisation.
Drill Sample Recovery	• Recovery was recorded for all DD holes. The difference between the length of the recorded drilling interval and the recovered length of the physical core was defined as core loss. Where core loss = 0, core recovery = 100%. • Drill core recovery within the mineralised sequence is approximately 100%. • No bias was identified between sample recovery and grade as recovery approximated 100%.
Logging	• All DD drill core has been geologically logged by experienced geologists and the following data was recorded - recovery, RQD, BPM, stratigraphy, lithology, structure, colour, weathering, mineral proportion estimate and sample intervals. The stratigraphy was logged as developed by Solid Geology (2002). Logs were then uploaded into the GBIS database. • Logging captured both qualitative descriptions such as geological details (e.g. stratigraphy) with some quantitative data (e.g. mineral proportions) • Drill core was photographed and catalogued in both wet and dry states as a record of the drill hole. • In total 91,724m of drill core was logged and used in the 2013 Mineral Resource model update (and subsequent 2014 report).
Sub-sampling techniques and sample preparation	• Half-core and quarter-core samples were taken from DD core using a diamond core saw. • No RC samples were used in the Mineral Resource. • Sampling for the initial drill holes up to LH083 was completed on 1m intervals

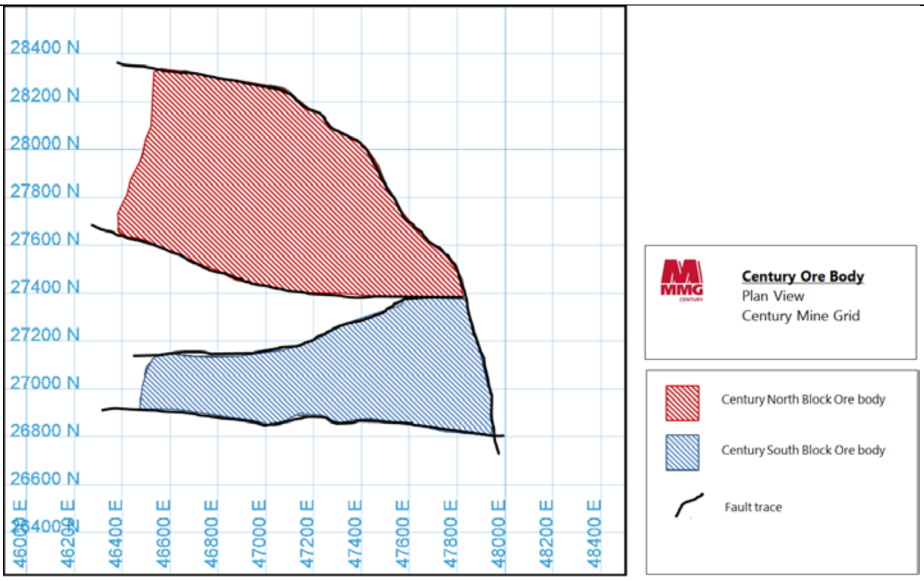
	through the entire mineralised sequence. From LH084 onwards sampling was typically completed within the known geological Unit boundaries. Between lithological boundaries the nominal sample length was 1m. • The methods used are considered to be high quality and appropriate for this style of deposit and the elements analysed. • A limited number of duplicates for each sub-sample were plotted on Thompson-Howarth plots and analysed for precision, with no suggestion of any material bias being present in the process. • No grind size checks were carried out throughout the process. The final grind size of the Century Ultra fine circuit is P80 of 6 µm, far exceeding the standard grind size of any commercial laboratory. Grind size was not considered material to the analytical results and the downstream application of such. • All samples were dried, crushed and pulverised to appropriate specifications. • The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Century mineralisation (sediment hosted base metal) by the Competent Person.
Quality of assay data and laboratory tests	• Samples in all drilling programs were analysed at high quality commercial laboratories which included AMDEL, Analabs, Genalysis and ALS. Samples were analysed at the Century Mine Lab between 1999 and 2013. Analytical methods include Atomic Absorption Spectrometry (AAS), Induced Coupled Plasma Optical Emission Spectroscopy (ICP-OES) and Leco furnace methods. X-ray Fluorescence was also used during the latter assaying programs. All analyses completed are total or near total digest methods. • No geophysical tools, spectrometers or handheld XRF instruments have been used in the analysis of samples external to the commercial laboratories for the estimation of Mineral Resources. • The QAQC controls for all sets of drilling campaigns included: o The insertion of laboratory certified standard reference materials matrix matched to the Century mineralisation, o Duplicate samples of quarter core, with the exception of the 2013 campaign, o Duplicate samples of 5mm splits (Century laboratory only), o Duplicate samples of pulverised splits were taken to assess variability of the tertiary sub sample,, o Submission of pulps to off-site “umpire” laboratory, o Repeats of assayed pulps. • Analysis of the above quality controls suggests that no material bias exists in the assay database, sampling or sample preparation procedures.
Verification of sampling and assaying	• Verification by independent or alternative company personnel was not undertaken at the time of drilling. • No twinning of drill holes was undertaken due to the low variability across the deposit. • Geologists and field assistants worked alongside the drill rig, ensuring drill compliance to the MMG QA/QC procedure with regards to sample collection;

	Core logging data was recorded in Excel spread sheets (pre made templates with drop down options lists) by site geologists. - All assay results were verified against logging. Drill holes were also viewed in 3D modelling software to confirm no gross errors. All data was reviewed by site geologists or the Group Exploration GISDB (Geographic Information Systems and Data Base) team before data was entered into the Micromine GBIS system. All required fields were completed prior to import. All data entries and edits are fully auditable. All QAQC data sets from the Century site Lab and ALS Brisbane were reviewed by site geologists which confirmed suitability of data for use in Mineral Resource modelling. - Sample or assay data has not been adjusted in any way. - Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation.
Location of data points	- Collar co-ordinates of all drill holes were determined to an accuracy of 0.1m in all directions by a licensed surveyor and stored in Century Mine Grid. Downhole surveys were taken at 30m intervals for all inclined drill holes and 30% to 40% of vertical holes using single-shot Eastman camera equipment. - Century Mine Grid was originally an Exploration grid based on an interpolated position from 1:100,000 map sheet 6660 Lawn Hill and a compass orientation, i.e. more or less a truncated AMG. Subsequent formal survey determined that an exact truncated grid required a shift of about 18m west and 152m north and a swing of 0°20'. Too many drill holes had been referred to this grid so it was retained and adopted as the master grid for the project. Levels are (AHD+1000). - Annual aerial surveys are carried out at the mine. Topographic surfaces are updated using point data derived from DGPS, and then converted into Century Mine Grid. Topographic control is considered to be of a high standard.
Data spacing and distribution	- In-fill drilling was carried out in 2013 reducing the drill hole spacing in the remaining Mineral Resource to between 30m and 40m. The objective of this programme was to increase the confidence in the local estimate (and reconciliation). Century mine does not routinely collect grade control data. - Drill hole spacing in the historic Mineral Resource is 50m - 70m and is deemed appropriate for a global Mineral Resource and subsequent Ore Reserve estimate. Intra-hole variability, particularly in unit thickness and continuity mean tonnage reconciliations may be poor locally – however grade estimates remain robust based on the low variability within the deposit overall. - The Eastern Fault Block (EFB) drill hole spacing is approximately 20m x 20m. Due to the EFB's provenance as part of the Century deposit, grade distribution is assumed to be relatively homogenous across units. The increased resolution of the drilling down to 20m spacing aids in the improved definition of unit thickness and extent in this area. - DD samples are not composited prior to being sent to the laboratory, however the nominal sample length is generally 1m.
Orientation of data in relation to geological structure	- The Century mineralised sequence dips at between 5 and 25 degrees over most of the deposit area, with dips up to 70 degrees around the margins. The Eastern Fault Block mineralisation dips approximately 65 degrees toward the north-north-west. - The majority of drill holes are vertical with inclined drill holes targeted at the more

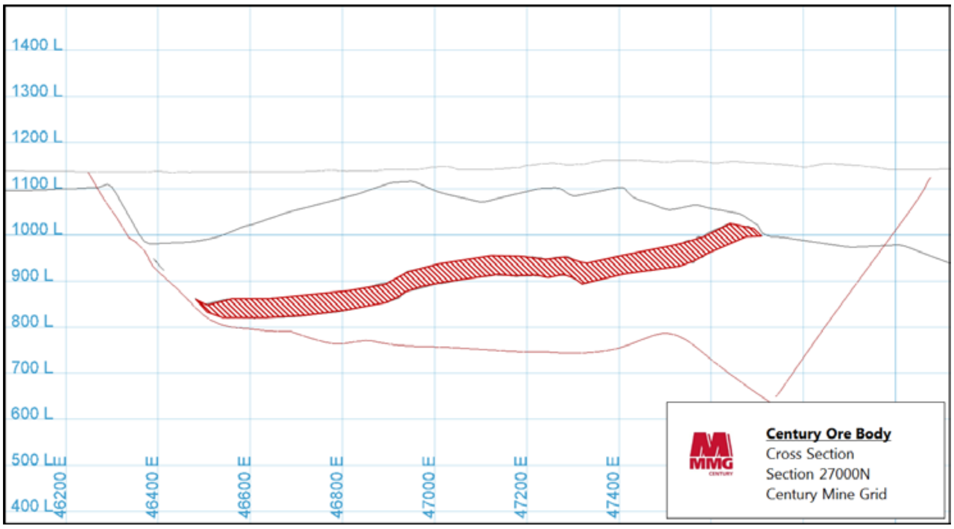
	steeply dipping zones. - Drilling orientation is not considered to have introduced any sampling bias.
Sample Security	- Measures to provide sample security include: o Sample intervals were logged and recorded by geologists, and sample numbers assigned to each interval. DD samples were cut by field assistants and placed into calico bags, clearly marked with the relevant sample number in water proof ink. o The individual calico bags were placed into poly-woven sacks which were tied with either metal wire ties or plastic cable ties. o Samples were transported by commercial carriers to the off-site laboratories. Sample sheets were entered into the Geological database and a corresponding sample inventory was attached to the freight. o Upon receipt, the laboratory staff completed a sample receipt report, noting any missing or damaged samples. o No further measures were undertaken.
Audits or reviews	- In 2002 and 2003 Snowden completed reviews on the data quality and QAQC procedures for geology sample data from 1999 to 2003. - In 1996 Mining and Resource Technologies (MRT) completed data validation and review of the initial drilling completed by CZL from 1990 to 1995. - Data that did not pass validation requirements was not flagged as 'Century Resource' within the database, and thus not used in the modelling and estimation process.

Section 2 Reporting of Exploration Results	
Mineral tenement and land tenure status	- The Century Mine Lease is ML 90045/90058. - Tenure is held by MMG Century for 40 years from 19th September, 1997. - Lease expiry date is 19th September, 2037. - The Gulf Communities Agreement (GCA) was negotiated between Pasminco Century Mine Limited, the Queensland Government and three native title groups - the Waanyi, Mingginda, and Gkuthaarn and Kikatj - under the right to negotiate provisions of the Native Title Act 1993 (Cth). This agreement, which was signed in May 1997, came into effect in September 1997 when Pasminco purchased the Century Mine project from Rio Tinto. - The GCA specifies particular benefits and obligations on each party, which exist throughout the life of mining project (Zinc operation). In negotiating the GCA, Traditional Owners intended for the mine to contribute to the social and economic development of the Gulf while protecting and promoting cultural heritage. - All activities undertaken are subject to the conditions of the Environmental Authority EPML00888813, issued by the Queensland Department of Environment and Heritage Protection. - There are no known impediments to operating in the area.
Exploration done by other parties	- Significant exploration has been completed by various companies and individuals in the known Burketown mineral field over 100 years since the initial discoveries of lead and silver mineralisation.

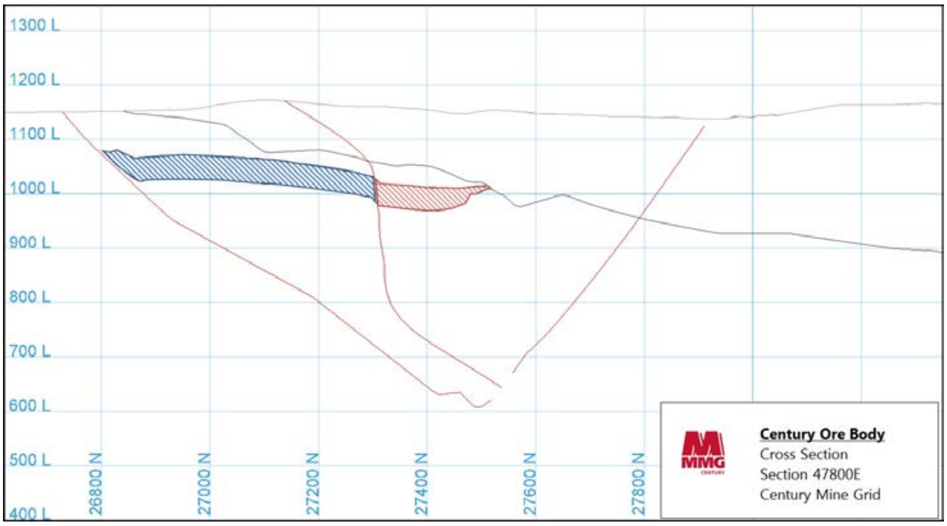
	• No significant exploration drilling results in the 2014 reporting period.
Geology	• The deposit is hosted within the Lawn Hill Formation, a Middle Proterozoic sequence of shale, siltstone and sandstone overlain by younger Cambrian limestone. • Structurally, the deposit is located within the Page Creek syncline and is terminated to the east by Cambrian limestone and faults associated with the Termite Range Fault. Magazine Hill Fault and Nikki's Fault define the southern and northern boundaries respectively. • The western boundary is truncated by Cambrian limestone and by the present day surface at the Discovery Hill gossan. • The mineralisation is divided into northern and southern blocks by the north dipping normal Pandora's Fault. • Mineralisation in the deposit is strata bound and confined by stratigraphy, which is well understood and well defined throughout the deposit.
Drill hole information	• No individual drill hole is material to the Mineral Resource estimate hence this geological database is not supplied.
Data aggregation methods	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section. • The Mineral Resource is reported above a 3.5% Zinc Equivalent (ZnEq) grade, where ZnEq = Zn + (Pb * 1.19).
Relationship between mineralisation widths and intercept lengths	• No significant mineralisation from exploration drilling was intercepted. The drilling results are excluded from this report as they are not considered Material by the Competent Person. • Mineralisation true widths are captured by interpreted mineralisation 3D wireframes. • Most drilling was drilled vertical with inclined drill holes targeted at the more steeply dipping zones in order to achieve intersections as close to orthogonal as possible. • Geometry of mineralisation is interpreted as sub- horizontal in the supergene and sub-vertical in the hypogene material and as such current drilling allows true width of mineralisation to be determined.
Diagrams	• The following diagrams illustrate the geometry of the Century Mineralisation



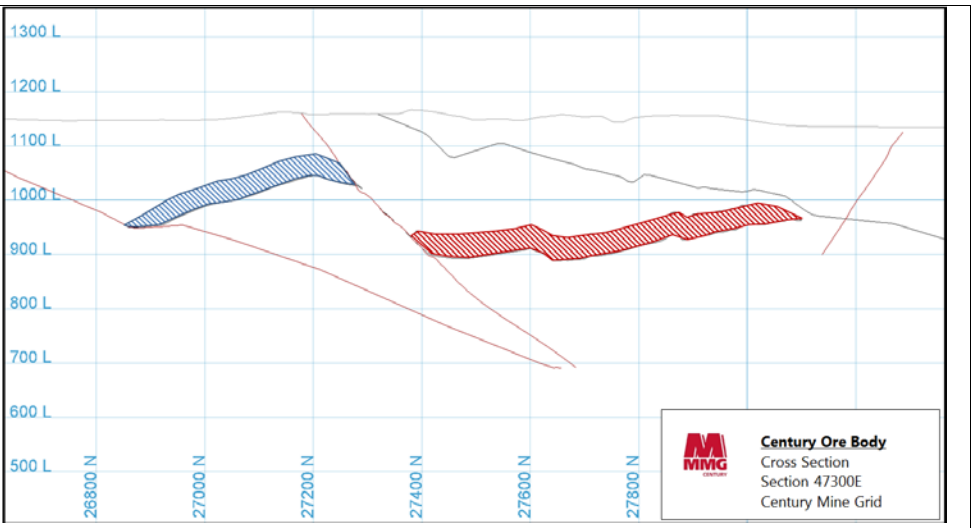
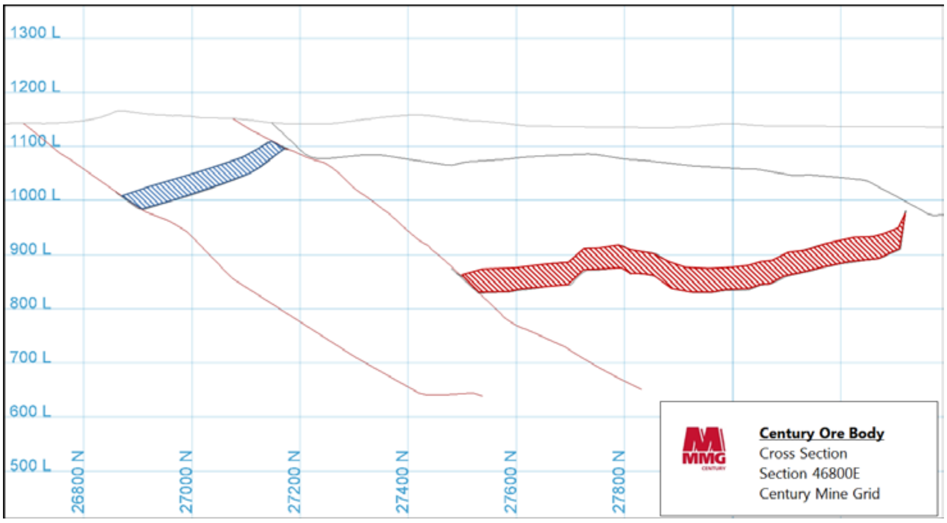
Century Deposit - Plan View



Section 27000N(CMG) looking North



Section 47800E(CMG) looking West

	 **Section 47300E(CMG) looking West**  **Section 46800E(CMG) looking West**
Balanced reporting	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Other substantive exploration data	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Further work	• Exploration is ongoing on the Century Mine Lease, with significant results reported as required.
Section 3 Estimating and Reporting of Mineral Resources	
Database integrity	• All drilling, sampling, assay, density and geological data previously stored in Microsoft Access databases was migrated to a central GBIS database in 2011, this was the source for all drilling data used in the 2014 Mineral Resource. • The geology database was validated and audited by independent parties; Snowden and MRT prior to the migration. • All data was entered manually into Excel spread-sheets with look up tables, and then uploaded into GBIS. Post 2011 data –

	- Qualitative logging is carried out into standardised Microsoft Excel logging spread-sheets with drop down logging codes for each variable. The logging geologist then completes a commentary for the relevant section which should correspond with the logging codes for the interval. Where there is inconsistency the commentary information is prioritised. - Assay data transcriptions errors are eliminated by the use of an automated results receipt process which imports data directory from the laboratory to the database. All changes and updates within the GBIS database are fully auditable, and traceable. - Partial data may not be imported to the database. Mandatory fields must be completed to allow import to occur. All results must correspond to identical sample dispatch numbers to be accepted. - Data used in the Mineral Resource has passed a number of validation checks both visual and software related prior to use in the Mineral Resource.
Site Visits	- The Competent Person is a full time employee of the Century Mining Operation and as such is regularly present at the site, is fully conversant with the geology and has a detailed understanding of the sample collection process, modelling process and mining methods employed at Century Mine.
Geological interpretation	- The interpretation of the deposit geology was based on all available drilling information at the time of model generation. - In addition to geological logging, down-hole dip-metre information was used to verify structural interpretations and geophysical probing of blast holes in the mineralised sequence. This information was used in the geological interpretation along with mapping data collected during mining. - The geological interpretation is constrained by several faults (Termite Range Fault, Magazine Hill Fault and Nikki's Fault) described in the Geology section above. In addition the eastern margin of the orebody is bound by the overlying Cambrian Limestones. - There are also several modelled internal structures that displace the ore by various amounts including: o Geckos Fault o Rayners Fault o Homers Fault - The Eastern Fault Block (EFB) mineralisation is similar in style to the Century main mineralisation. EFB is fault bounded on the lower, southern margin and limited by haematite mineralisation near-surface, toward the north. - The faults mentioned above which affect the continuity of both grade and geology have been used to bound the grade estimates through the use of block coding. - The confidence in the global geological interpretation is high. Confidence at a local scale is reduced due to the large number of fault offsets and the distance of interpolation between drill holes. - No alternate interpretations have been considered. The Century deposit is well understood and is in the final year of production. - Due to the stratiform nature of the deposit all estimates are confined to their

relative stratigraphic units through matching composite and block codes. The wireframe horizons for the units define hard boundaries for block generation and estimation.

- Interpretation and construction of stratigraphic surfaces bounding the pre-defined Upper Ore Zone, Lower Ore Zone, the Interburden Waste unit and the 'Marginal' 165, 155 and 145 units was used for the estimation.

Century Simplified Stratigraphic Column with Units

Major unit	Stratigraphic Unit Detailed	Typical thickness (m)	Description
	100		WASTE - Interbedded siltstone and shale
	140	2.5	ORE/WASTE - Interbedded shale and siltstone
	145	4-9	WASTE - Interbedded siltstone and shale
Marginal Ore Zone (~10)	150	1	ORE/WASTE - Thinly bedded shale
	155	2	WASTE - Medium bedded siltstone
	160	0.7	ORE - Laminated black shale
	165	2	WASTE - Thickly bedded brown siltstone
	170	0.5	ORE - Laminated black shale
	175	1	WASTE - Grey medium bedded siltstone.
	180	0.7	ORE - Shale band
	185	0.5	WASTE - Interbedded grey and brown siltstone.
Upper Ore Zone (~9)	190	0.4	ORE - Small band of laminated black shale
	195	0.4	WASTE - Dark grey to pale brown medium bedded siltstone.
	200	4	ORE - Laminated shale
	311	3	ORE/WASTE -Thin bedded shale and siltstone.
Interburden (~5.5m)	312		ORE/WASTE -Thinly bedded siltstone
	320	4	WASTE - Thickly bedded brown siltstone
Lower Ore Zone (10m)	410	3.5	ORE -Thick bedded shale
	420	1.2	WASTE - Carbonaceous sideritic mudstone
	430	2.2	ORE -Thickly bedded shale
	440	0.5	WASTE - Thin brown siltstone
	450	6	ORE -Thickly bedded shale and mudstones

Dimensions

- The Century deposit is a synformal, tabular, stratiform, ore body with a thickness

	of approximately 40m. It is fault bound to the north and south, and truncated by erosional unconformities in the east and west. • The mineralized units extend 1500m north to south, and 1500m east to west. • Mineralisation outcrops at surface, and extends to a maximum depth of 310m below the natural topographic surface. • The Eastern Fault Block is a steeply dipping mega-clast isolated from the main orebody at the convergence of two major regional faults. • The Eastern Fault Block measures 180m north to south and 90m east to west. The mineralized sequence is approximately 40m thick and extends from 30m to 115m below the natural topographic surface.
Estimation and modelling techniques	• The Century and Eastern Fault Block Mineral Resources was completed in Maptek Vulcan mining software. Key assumptions and parameters used in the estimation: o Grades were estimated using Ordinary Kriging independently for Zn, Pb, Ag, Fe, Mn, S and C (total and organic) for each unit of “ore” and “waste”. Ordinary Kriging is considered an appropriate technique for estimating the Century Mineral Resource. o Each mineralised zone was Kriged into a two dimensional model using 20m x 20m block centres. Zone thickness was represented by varying block heights. The model was coded by “ore” and “waste” stratigraphic members. “Ore” and “Waste” members were composited and treated separately which results in co-located “ore” and “waste” intersections within each unit. The proportion of “ore” and “waste” is calculated for each unit. o Variography was completed in two-dimensions by using only the easting and northing of the samples in Isatis software. o Quantitative Kriging Neighborhood Analysis (QKNA) to determine estimation search parameters were completed. o Densities and sulphide mineralogy were calculated stochiometrically from the estimated Pb, Zn, S and Fe estimates. o The Eastern Fault Block (EFB) mineralisation was estimated by inverse distance squared interpolation within the defined units of the EFB. The Eastern Fault block consists of a small local dataset, with relatively low variance. As such the inverse distance weighted method was deemed the most appropriate. o Grades were estimated for the following elements - Zn, Pb, Ag, Fe, Mn, and S. o A one pass search strategy was employed. All blocks were estimated in the first pass. o All estimates were validated and then the 2D estimates were migrated to 3D block model. • The deposit has comprehensive historical production data to support the Mineral Resource estimate and assumptions. • No assumptions were made regarding recovery of by-products within the Mineral Resource Estimate. • Non-carbonate carbon is the only recognised deleterious element which is

considered at Century Mine. This is managed through the blending of ore types at the crushing and milling stage. No other deleterious elements have been estimated.

- A block size of 5m x 5m x stratigraphic unit thickness was used. This would both honour the geometry of the deposit and allow for regularisation to the larger 10m x 10m x 3m SMU for the purpose of Ore Reserve definition.
- The deposit has been mined by excavator at an average 3m bench height since the year 2000 and has comprehensive historical production data to support the Mineral Resource estimate and assumptions.
- No correlations between variables have been used in the Mineral Resource estimate.
- The geological interpretation of the deposit has defined hard estimation boundaries, using both stratigraphic horizons and also fault surfaces.
- A top cut (capping) strategy was applied that affected a small proportion of the data. The value of the top-cuts (caps) was decided based on visual examination of histograms to identify the limits of coherent populations.

Top cut values applied by domain

	Ore						Waste					
unit	Zn%	Agppm	Pb%	Fe%	Mn%	S%	Zn%	Agppm	Pb%	Fe%	Mn%	S%
100								25	0.7		2	
145	12	100	4				5	50	3			5
155	20	200	10					55	5			
165		550	15		1.5			55	3			
200		450	10				10	100	7.5			10
320		100	5				5	25	1.6			5
450		100					7	30	0.9			7
460								25	0.7			

- The block models and estimate has been validated in the following ways:
    - Block estimates were visually validated in Isatis and compared to the sample composites. This allowed for rapid assessment of domain selections, and whether any blocks have not been filled by the search applied. In addition, the search ellipsoid and samples selected were visualised.
    - Global sample statistics were compared to block estimates. This ensured that no global bias exists.
    - A semi-local estimation check was carried out by plotting the average grade of the inputs and outputs in moving window slices (swath plots).

Moisture

- Tonnes have been estimated on a dry basis.

Cut-off parameters

- The Mineral Resource is reported above a 3.5% Zinc Equivalent (ZnEq) grade, where: ZnEq = Zn + (Pb * 1.19).
- The reporting cut-off grade is in line with MMG's policy on reporting of Mineral Resources which is prospective for future economic extraction.

Mining factors or assumptions

- The Mineral Resource is further constrained to within the Century final pit shell.
- The deposit will be mined by excavator at an average 3m bench height, and hauled by Komatsu 630 and 830 trucks respectively.

	• No mining dilution has been applied to the Mineral Resource. • The deposit has been mined by this method since the year 2000 and has comprehensive historical production data to support the Mineral Resource estimate and assumptions.
Metallurgical factors or assumptions	• Ore from the deposit has processed since the year 2000 and has comprehensive historical production data to support the Mineral Resource estimate and assumptions. • No material changes are anticipated with regards to the metallurgical assumptions.
Environmental factors or assumptions	• All activities undertaken are subject to the conditions of the Environmental Authority EPML00888813, issued by the Queensland Department of Environment and Heritage Protection.
Bulk density	• The process of estimating bulk density involved calculating the stoichiometric density of composites, applying a correction factor for porosity based on grab sample results and then estimating the corrected stoichiometric density using Ordinary Kriging, which is summarised below: o Select samples that have assay results for all elements required in the stoichiometric equation. o Composite these samples for intervals that have been coded as having valid samples. o Calculate the stoichiometric density for these samples. o Apply correction factor derived from the grab sample bulk density to convert the stoichiometric density into bulk density. o Derive variograms for bulk density for each Unit. o Estimate bulk density into block model. • Due to the low data density across the Eastern Fault Block the average density by unit from the main deposit was applied using a post script.
Classification	• The Mineral Resource has been classified according to the guidelines of the JORC Code (2012) and takes into account the drill hole spacing, estimation results and the internal and bounding structures of the deposit, and a considerable production history involving Mineral Resource conversion to Ore Reserves. • The classification of the 2014 Mineral Resource was based on the Competent Persons empirical observations of a large production dataset spanning 14 years from the mine. No statistical evaluation scheme was adopted • Due to the considerable local variability within the model, and smaller available work areas toward the end of mine life no Measured Mineral Resources other than stockpiles were declared. • Within the area of remaining Mineral Resource, the distribution of drill holes analysed for zinc and lead are generally evenly spaced at ~40m x 40m. There are no known issues with the data quality, and the estimation quality as quantified by metrics such as slope of regression is high. • The greatest risk within the classification lies in the accuracy of the volume model between drill hole intercepts. That said, the confidence in the volume model is sufficient to declare an Indicated Resource and is well supported by

	annual production data back to the year 2000. • Confidence in the estimate proximal to Pandora's fault is reduced due to risk surrounding the accuracy of the fault model. Due to the large scale, and irregular nature of Pandora's fault, there is risk that modelled mineralisation does not exist in some localised areas. There is also potential for mineralisation in this area to be displaced by the intrusive carbonate breccia material present in this area. As such, material within 15m of Pandora's fault has been classified as Inferred. • The Mineral Resource classification reflects the Competent Person's view on the confidence and uncertainty of the Century Mineral Resource.
Audits or reviews	• Quantitative Group (QG) carried out an independent review of the Century Mineral Resource model in 2012. Based on the recommendations of this review the modelling approach was altered in 2013. The new QG Mineral Resource model is the basis of this report. • The 2013 Mineral Resource model has not been independently audited but has been internally peer reviewed by QG.
Discussion of relative accuracy/confidence'	• There is good geological confidence in the spatial location, continuity and estimated zinc grades within the remaining Mineral Resource. The currently stated Mineral Resource is expected to be similar in nature to the mineralisation historically mined at Century. Along the south margin of the Gecko block, and the southern and western margin of Pandora, the estimation confidence is somewhat lower as grades are extrapolated beyond drill holes and these are areas of increased geological complexity. • The estimation quality of the Mineral Resource as quantified by geostatistical metrics (such as Kriging variance, slope of regression etc.) throughout the deposit is high. • There is comprehensive historical production data to support the Mineral Resource estimate and assumptions. • In the Competent Persons opinion, the estimation quality in the remaining Mineral Resource generally supports a classification of Indicated. This level of Mineral Resource classification is easily supported by estimates of the value variables (zinc, lead and silver), which have high confidence. However, this statement presumes that the geometry of the principal ore units will be reliably identified during the grade control phase prior to mining. • EFB The increased data coverage also lends to reducing any bias introduced by the inverse distance estimation method.

7.4 Ore Reserves – Century

7.4.1 Results

The 2014 Century Ore Reserve are summarised in Table 33.

Table 33 2014 Century Ore Reserve tonnage and grade (as at 30 June 2014)

Century Ore Reserve							
					Contained Metal		
	Tonnes (Mt)	Zinc (%)	Lead (%)	Silver (g/t)	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**
Proved	0.8	6.8	2.6	69	51	19	1.7
Probable	7.2	8.3	1.5	37	597	108	8.5
Total	**7.9**	**8.2**	**1.6**	**40**	**648**	**127**	**10.2**
Total Contained Metal					**648**	**127**	**10.2**

Cut-off grade is based on a 5.1% ZnEq (zinc equivalent cut-off). Where ZnEq equals Zn+Pb * 1.19.
Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Contained metal does not imply recoverable metal

7.5 Ore Reserves JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 34 is provided to comply with the "Table-1 Section 4" of the Code.

Table 34 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Century Ore Reserve 2014

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of those Mineral Resources modified to produce the Ore Reserves. • The Ore Reserves are based on the 2013 Mineral Resource model built by QG Pty Ltd utilising geological interpretations and data provided by MMG geologists. The block model was generated in Vulcan software, with grade estimation being carried out in Isatis using the ordinary kriging estimation method. The Mineral Resource estimate is based on significant drilling conducted between 1990 and 2013. • The Competent Person for the Mineral Resource estimate is Michael Smith of MMG Century. • Risk exists with respect to structural complexity potentially causing off-sets of the ore zones. Drilling has however not shown any blank zones in the mineral package. • Further details are discussed in the Mineral Resources Section of this report.
Site visits	• The Competent Person for Ore Reserves was based on site on a FIFO roster during the period May – July 2014. This enabled direct communication with the contributing experts and clarification of the parameters used in the estimation of the Ore reserves. • The Competent Person was solely responsible for the definition and application of reasonable mining dilution and ore loss parameters, calculation of mining costs, pit optimisation and comparing shell results against design, and Ore Reserve reporting.
Study status	• The mine is an operating site with on-going detailed Life-of-Mine planning. Factors and costs used are based on predicted, current and recent historical values.
Cut-off parameters	• The cut-off grade used for the Ore Reserves estimate is the non-mining break-even cut-off grade taking into account mining and metallurgical recovery, concentrate transport costs, concentrate treatment and refinery charges and royalties. • The zinc equivalent used to apply a cut-off grade is the equivalent grade of zinc only which is required to generate the same revenue as the combined zinc and lead grades present. • The cut-off grade used for the Ore Reserves estimate is 5.1% ZnEq a slight decrease from the 5.3% ZnEq value used in the 2013 Ore Reserves estimate.
Mining factors or assumptions	• Century has established mining operations with well understood and managed mining risks and mining methods.

Assessment Criteria	Commentary
	• The 2014 Ore Reserves is based on pits designed in 2011, revised in 2013, and again in 2014 with an updated footwall surface, to a 5.1% zinc equivalent cut-off. After assignment of dilution, any blocks not exceeding a 2014 Net Smelter Return After Royalty (NSRAR) of A$51/t-material in-situ (equating to 5.1% ZnEq) were excluded from the Ore Reserves. • A planning ("reserves") block model was created using the 2013 regularised resource model modified with mining dilution and ore loss assumptions. This model was then used in a Whittle software analysis to generate optimal Whittle shells for current parameters (costs, prices, geotechnical and surface topography). • Comparison of the optimal Whittle shell to the 2014 design showed no material difference in both ore and waste, hence re-design was not required. Comparison of the selected optimisation shell (1.0 Revenue Factor) to the current pit designs showed a difference in potential Ore Reserves of less than two per cent. • Geotechnical parameters are well understood from 14 years of mining and managed through the Geotechnical Management Plan, collection of monitoring data and external auditing. Monitoring of the Century open pit has improved with the implementation of slope movement monitoring radar, and the installation of tri-axial geophones in 2013. • The consulting firm Mining One Pty Ltd has been involved since the inception of the Century project and the continuity of the involvement of one of the senior partners has resulted in a high level of external expertise for the slope management. Regular audits of practices and data collected are undertaken on a quarterly basis. • Most of the slopes at the Century pit are in a stable configuration as a result of a combination of careful design, monitoring and sound mining techniques that have been adapted to suit the mining conditions. • The approach used for the 2013 Ore Reserves was generally continued for the 2014 Ore Reserves, and was validated against the site's detailed grade control model which now extends to the end of mining. The estimating approach discussed below was improved in 2014 by separately considering Stages 8 and 10. • A regularised model suitable as an input to mine planning was created by regularising the 2013 resource model to a fixed Selective Mining Unit (SMU) of 10x10x3. This SMU was based on the 2013 investigation into site's practical ability to achieve mining selectivity. • The regularised block model contains blocks with information for up to three stratigraphic units, as well as a proportion based "owner" of the block – the unit with the largest contained tonnage becomes the "owner".

Assessment Criteria	**Commentary**
	• This regularised block model was then further manipulated to apply reasonable estimates of internal and external dilution and mining recovery (loss). In general this process involved considering the relative proportions of potential ore and waste within boundary blocks (blocks between defined mineralised and waste sequences) and: o Excluding them from the Ore Reserves if the waste proportion of an "ore" owner block was too high; and o Including some waste "owner" blocks if the proportion of "ore" was substantial. • The final Ore Reserves are reported as the flagged Marginal, Upper and Lower Zones above cut-off, inclusive of dilution and mining loss. • No Inferred Mineral Resources were considered in the Ore Reserves or in the mine plan. • Infrastructure required for the mining of the Ore Reserve is entirely in place and no additional investment is expected. The mining infrastructure at the time of the Ore Reserve estimate included the open pit, in pit dump, ex-pit dumps, ROM pad and other site infrastructure as listed in the Infrastructure section. The mobile mining fleet included 18 Komatsu dump trucks (15 x 830E and 3 x 630E), 2 shovels, 4 excavators, 2 loaders, 4 production drill rigs (251mm, 2 x 165mm, 140mm), 4 water trucks, 3 graders, 4 dozers and a light vehicle fleet. Additional equipment included 2 radar and 1 micro-seismic array for geotechnical monitoring.
Metallurgical factors or assumptions	• The Century mine is an operating entity. The metallurgical process is crushing and grinding followed by sequential flotation to produce separate lead and zinc concentrates. The mine commenced operations in 1997 and is expected to close in 2015. • Metallurgical factors for Ore Reserves for the remaining mine life were derived from average plant operating data and are: o Pb recovery to Pb Concentrate = 62.5% o Pb assay of Pb Concentrate = 60% o Ag recovery to Pb Concentrate = 8.5% o Zn recovery to Zn Concentrate = 71.0% o Zn assay of Zn Concentrate = 56.5% • In general, Zn recoveries are lower than historical values, which reflect the expected impact of declining head grade. In the 3 months to 30 June 2014 zinc recovery averaged 72.8%. • The two main deleterious components of the ore are organic carbon which absorbs reagents readily and floats naturally, and silica which is finely intergrown with the sphalerite. • The strategy for dealing with organic carbon is to operate a pre-

Assessment Criteria	**Commentary**
	flotation stage such that downstream performance is maximised without excessive losses of values to the pre-float concentrate. - The strategy for dealing with silica is to operate an ultrafine grinding circuit which grinds the sphalerite to nominally 6 micron before flotation in multiple cleaning stages. In this way, the silica content of the final zinc concentrate is controlled to less than 5.2% SiO_2. - No required mineral specifications have been identified for this deposit. The grade of the zinc concentrate is dependent on the iron content of the sphalerite, but is typically about 55% Zn which is more than acceptable for downstream processing.
Environmental	- In pit and ex-pit water management is an ongoing issue across wet seasons. Increased dam and pumping capacities have worked toward mitigating this risk based on hydrological forecasts. - Waste rock from the mining operation has been arranged in three (3) ex-pit waste rock dumps. In addition, a large volume of mineralised waste has been stored in-pit. A waste rock management plan has been developed that describes the processes for siting and developing the final landforms. Potentially Acid Forming (PAF) and Non Acid Forming (NAF) waste has been preferentially handled to resist the ingress of water into the dumps and the development of acid mine drainage. Store and release cover systems have been trialed and selected as the means of final encapsulation. - The southern waste rock dump was capped in 2009 and approximately 90% of the encapsulation effort has been completed. Establishment of a vegetation cover is ongoing. Rehabilitation of the western waste dump has commenced. The northern waste dump is still in active use and is considered adequate for life of asset requirements. - Process residues are stored in the on-site Tailings Storage Facility (TSF). The TSF has been progressively constructed and developed in a series of lifts which are now complete, and the remaining capacity is well in excess of the tailings that will be produced from the remaining Ore Reserve. Following the completion of processing, an encapsulation system must be established to retard the migration of oxidation products from inside the mass to the wider environment. The current capping system design is at concept level.
Infrastructure	- The operational infrastructure consists of a single large open pit mine, crushing and concentrator, and a pipeline to the port facilities. Support infrastructure includes maintenance workshops, electricity supply, water, accommodation, communications and a site airport. All of the infrastructure is established and is considered sufficient to support the Ore Reserves. - The concentrate pipeline and concentrate storage shed was

Assessment Criteria	**Commentary**
	refurbished in 2012 and will be in operational state past Century's current LOA of 2016.
Costs	• The mining costs were derived from recent actual costs. The methodology involved determining months where the vast majority of mining occurred in a defined location (Stage 10 at an elevation) and comparing that with another month when the vast majority was at a lower elevation (Stage 8). This enabled the mining cost to be defined for a specific elevation, and a relationship for incremental mining cost to be established. • The processing and site administration cost estimates that were used were based on the 2014 Century Strategic Review. These estimates are not less than recent actual costs. • Assumptions of commodity prices and exchange rates are provided by the MMG Finance department. • Treatment and refining charges, and penalties for failure to meet specification, are negotiated between MMG Marketing and customer smelters. Negotiated terms are included in written contracts. • Transportation charges are based on recent actual costs. • Very limited capital cost was included due to the short remaining life of the mine. • Penalties for inclusion of deleterious elements in saleable concentrates (predominately silica) are included in the determination of the Ore Reserves as per written contracts. • Queensland State Government royalties payable are prescribed by the Minerals Resources Regulation and are based on a variable ad valorem rate between 2.5% to 5.0% depending on metal prices, advised quarterly and calculated on payable metal. They are published by the Queensland Government Department of Mines and Energy and can be found at the web-site of the "Office of State Revenue". For the prices used in the Ore Reserves estimation at the time of evaluation, the relevant rates were 2.86% for zinc, 4.72% for lead, and 5.00% for silver
Revenue factors	• The realised revenue from the ore is expressed using a calculated Net Smelter Return After Royalty (NSRAR). The metal prices and exchange rates used for the 2014 Ore Reserves estimate are:
Market	• LOM sales contracts were established at commencement of

Metal	**Unit**	**Value**	**Imperial Equivalent**
Zinc price	US$/t	2,138	0.97 US$/lb
Lead price	US$/t	2,271	1.03 US$/lb
Silver price	US$/oz	21.90	
Exchange rate	A$/US$	0.90	

Assessment Criteria	**Commentary**
assessment	production and are still in place. In addition, a ready market exists for zinc and lead concentrates.
Economics	• The economics of the remaining Ore Reserves are robust, as costs are based on current and recent historical values, and revenues are based on ultra-short term forecasts. The financial plan is profitable and shows a healthy cash flow. The total operating cost of sales (before depreciation and amortisation) equates to approximately 64% of the total net sales value. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit. • The assumed ultra-short term metal prices would need to reduce by 32% before the cash flow became negative.
Social	• The project enjoys strong local support with significant continuing contributions to the local communities and economy. The main regional community of Lawn Hill supports mining developments.
Other	• There are no identified material naturally occurring risks other than those already discussed in this table such as wet season and related hydrological risks. • Century has contracts in place for the sale of concentrates and the provision of most materials and supplies for the operation. • Century operates under Mining Licenses 90045 and 90058 issued by the Minister for Mines and Energy for the State of Queensland, which are valid until 2037. These licenses cover the area incorporating the open pit, waste dumps, concentrator, tailings facility, offices, accommodation facility and airport.
Classification	• The in-pit Probable Ore Reserve estimate is based on the Indicated Mineral Resource estimate after consideration of all mining, metallurgical, social, environmental and financial aspects of the project. The Proved Ore Reserve is based on the estimate of tonnes and grades remaining on pre- and post-crusher stockpiles. • No Inferred Mineral Resource is included in the Ore Reserves. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources is 0% (there are no Measured Mineral Resources within the pit design). • The conversion of in-pit Indicated Mineral Resources to Probable Ore Reserves after application of reasonable mining dilution and ore loss assumptions is considered appropriate by the Competent Person.
Audit or Reviews	• QG Pty Ltd (QG) carried out an independent review of the Century Resource model in 2012. Based on the recommendations of this review the modelling approach was altered in 2013. The new Resource model is the basis of the 2014 Ore Reserves. • QG subsequently carried out an independent review of the Century reserve process in 2013, resulting in the use of a regularised Resource model modified with dilution and ore loss factors for the 2013 Ore Reserve. This process was continued for the 2014 Ore

Assessment Criteria	**Commentary**
	Reserve, using updated dilution and ore loss assumptions.
Discussion of relative accuracy/ confidence	- The Century Ore Reserves are planned to be entirely mined out by mid-2015. The relative accuracy and confidence in the Ore Reserve is high over this short time interval and there are no identified material risks to the total Ore Reserve. - The Ore Reserve estimates are at a global scale and no additional close-spaced grade control drilling is applied before mining. However, local spatial adjustments are made from additional monitor holes that are drilled.

7.5.1 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 35.

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 35 Contributing Experts - Century Ore Reserve

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
David Purdey, Principal Mining Engineer QG Pty Ltd	Cut-off grade optimisation, pit optimisation, mine planning, pit design, Ore Reserves reporting, auditing
Jedda Malone, Superintendent Mine Engineering MMG Ltd (Century)	Mine Engineering, waste dumps, truck haul cycles
Damian O'Donohue, Senior Geologist MMG Ltd (Century)	Geological Block Model, mine-to-mill reconciliation
Damian Sullivan, Senior Business Analyst MMG Ltd (Century)	Site Operating Costs
Roger Wynn, Senior Plant Metallurgist, MMG Ltd (Century)	Metallurgy
Erin Sweeney, Senior Geotechnical Engineer MMG Ltd (Century)	Geotechnical Parameters
Greg Ballarino, Asset & Reliability Strategic Growth Superintendent. MMG Ltd (Century)	Engineering Information
Matthew Lord, Mine Closure Superintendent MMG Ltd (Century)	Environmental
John Maconachie, Senior Surveyor MMG Ltd (Century)	Surveying
Mike Smith, Technical Services Manager MMG Ltd (Century)	Management
Gavin Marre, Senior Business Analyst MMG Ltd (Melbourne)	Economic Assumptions
Simon Ashenbrenner, Concentrate Marketing Manager, MMG Ltd (Melbourne)	Marketing

8 SILVER KING DEPOSIT

8.1 Introduction and setting

The mining leases (ML90045 & ML90058) of MMG Century Mine, and surrounding Exploration tenements, contain a number of small historically mined narrow-vein style base metal deposits known collectively as the Burketown Mineral field. One of the earliest identified deposits, and of the greatest metal endowment, is that of the Silver King Mine. The historic mine lies approximately 1km south of the southernmost extent of the Century Open pit.

The Silver King deposit was discovered in 1887, with mining commencing soon after. By 1900 three shafts had been sunk on the deposit and small scale, intermittent, underground production occurred from the mine through to 1980. The maximum depth of the known excavations is approximately 60m from the current surface and it is estimated no more than 50,000 tonnes of ore were extracted in total.

Mineralisation consists of a series of moderately to steeply dipping quartz-galena-sphalerite-siderite hydrothermal veins associated with a northeast trending sinistral strike-slip fault. The system extends vertically across the stratigraphic units H2, H3, and H4r within the Lawn Hill formation of the Upper McNamara Group. Further sphalerite (ZnS) and galena (PbS) mineralisation occurs within shale and sandstone hosted breccias associated with the veins. Anglesite and cerussite, lead carbonates, are present in the near-surface oxidised zone.

The subject of this report is the quantification of the remaining Mineral Resource at the Silver King mine as at 30 June 2014.

8.2 Mineral Resources – Silver King

8.2.1 Results

The 2014 Silver King Mineral Resources are summarised in Table 36.

Table 36 2014 Silver King Mineral Resource tonnage and grade (as at 30 June 2014)

Silver King Mineral Resource

					Contained Metal		
Silver King	Tonnes (Mt)	Zinc (%)	Lead (%)	Silver (g/t)	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**
Measured							
Indicated							
Inferred	2.7	6.9	12.5	121	185	336	10
Total	**2.7**	**6.9**	**12.5**	**121**	**185**	**336**	**10**
Total Contained Metal					**185**	**336**	**10**

Cut-off grade is based on a 5% Pb+Zn.
Figures are rounded according to JORC Code guidelines and may show apparent addition errors.
Contained metal does not imply recoverable metal

8.3 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information contained in Table 37 is provided to comply with the "Table-1 Section 1 to 3".

Table 37 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Silver King Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling Techniques	• All sampling used in the 2014 Silver King Mineral Resource estimate was carried out by both reverse circulation (RC) and diamond drilling (DD). Sample lengths range from 0.3m to 1.3m for diamond core samples, and were a nominal 1m length for RC samples. Sampling of RC chips involved splitting using an 80/10/10 cone splitter at the rig, resulting in 10% sample recovery to the primary split. This approximated a mass of 5kg per metre sampled being submitted to the laboratory for sample preparation. The Competent Person considers the sampling to be of high quality. • Measures taken to ensure sample representivity include collection, and analysis of field duplicates.
Drilling techniques	• RC drilling was carried out using a truck mounted UDR- 1000 drill rig equipped with automatic rod-handler. A combined, detachable cyclone and dust unit and an auxiliary compressor, was utilised. All holes were drilled using a 5¼ inch hammer. • DD was carried out at NQ3, HQ3, and PQ3 diameters. All drilling was carried out using triple tube barrels to maximise core recovery in poor ground. • Core orientation was achieved using a single-shot downhole survey tool, which records - azimuth, inclination, magnetic tool face angle, gravity roll angle, magnetic field strength and temperature. From this data the bottom of hole, or BOH, is marked and an orientation line projected along the length of succeeding coherent core. This may be used for orientating geological structures during the logging process.
Drill Sample Recovery	• Core recovery was recorded at the drill rig by the driller's assistant, with core blocks denoting drilled metres and recovered metres in between sample runs. Average recovered core exceeds 97% of the drilled interval. Poor core recovery was particularly evident in the first 10m of drilling within the weathered shales. • All values were checked at the core yard by experienced field assistants, prior to detailed logging by geologists. The accepted length of recovered core between drilling intervals was recorded in the detailed logging sheets. These were later loaded into the GBIS database. • For RC drilling, field logging sheets were used to note any small samples encountered. No significant issues were encountered with regards to sample recovery during the 17 hole, RC campaign in 2013. Sample weights were not recorded. • It is the Competent Persons opinion that the nature, quality, and size of the primary samples, and sub-samples are appropriate. • All diamond drilling was carried out using triple tube barrels to maximise core recovery in broken ground. • Diamond core that is orientated is routinely cut along a line 1cm to the right of the bottom of hole orientation line (looking downhole) to limit the potential for

	sampling bias by the sampler. • The variance in sub-sample size was not considered a risk to the overall comparability and representativeness of the samples. • RC drilling used an 80/10/10 cone splitter. The sample retained represents 10% of the primary mass and approximates 5kg per metre drilled. • Fines loss to air was monitored to ensure no significant loss was occurring leading to size fraction bias. Bags were not weighed, but were visually inspected to ensure consistency of sample size. • The cone splitter was checked to be level and in good order, to ensure effective non-biased sampling. The splitter cone was also routinely cleaned to minimize potential cross-sample contamination through material 'hang-up'. • No relationship has been observed between recovery and grade that is material to the estimation of the Mineral Resource.
Logging	• 100% of recovered drill samples were logged. • Detailed geological logging has been carried out on all DD holes. The data collected includes - recovery, rock quality designation (RQD), breaks per metre, stratigraphy, lithology, structure, colour, weathering, and mineral proportion estimate along with sample intervals. Geological core logging was carried out in a qualitative manner by geologists using standardised - colour, mineralogical, lithological, and stratigraphic codes. This would be complemented by a brief written log of the observations. Quantitative logging occurred with regards to the measurement of RQD. • Photos of core, in both wet and dry states, were taken for later reference once core had been measured and metre intervals marked. Core photographs are stored electronically on the MMG server. • The length of logged intervals totals 27,059m and represents 100% of relevant intersections.
Sub-sampling techniques and sample preparation	• All drill core was cut using an Almonte automatic core saw. Approximately 80% of the core was half core split while the remaining 20% of the core was whole core sampled. A very small sub-sample of quarter core field duplicates was submitted for variability analysis. • RC samples were split using an 80/10/10 cone splitter at the rig. All samples below the surface water table (~10m) were essentially dry. • All sample preparation was in line with industry standards. • Both RC samples and DD core followed the same preparation paths. • Minor variations in the sample preparation process exist between the Century laboratory and the external ALS laboratory. • In general, samples are received and digitally logged into a Laboratory Information Management System (LIMS). The samples are oven dried then crushed to a nominal 2mm or 3mm depending on the laboratory. The sample is then split with approximately 300g retained and pulverised to either 85% passing 75µm (ALS), or 85% passing 53µm (Century). • No studies have been carried out with regards to the liberation particle size of the economic minerals and no comparative analysis has been carried out between the

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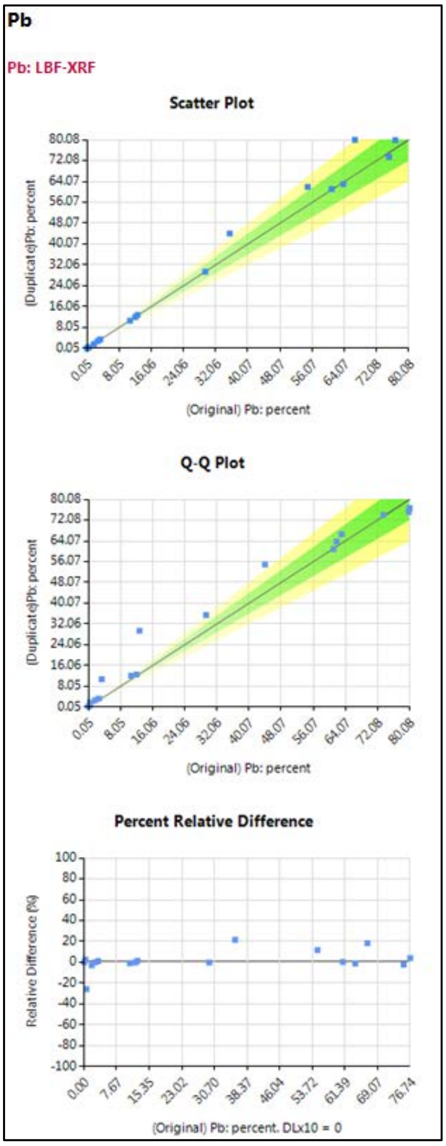
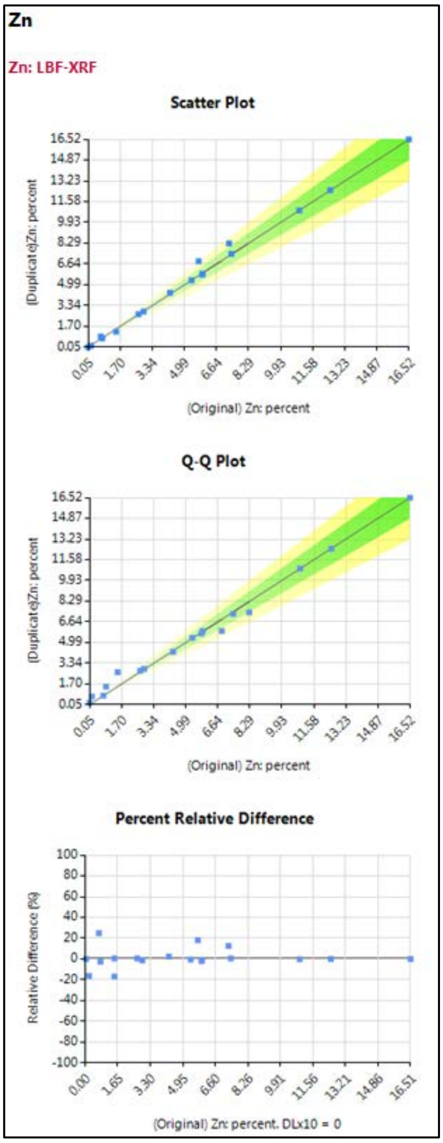
laboratory pulverisation protocols.

- These methods are considered appropriate for the style of mineralisation.
- Duplicate samples were collected and analysed at both the coarse crush split and the pulverised split stages.
- The following shows a comparison of half core duplicate samples, or field duplicates.





- Overall, despite a small sample set, the indication is that duplicate samples show good correlation. Sample variance comparison to the modelled nugget values of 13% for lead and 16% for zinc is also good in most cases.
- Sample sizes appear appropriate based on variability analysis of duplicates.
- The sample types, nature, quality and sample preparation techniques are considered appropriate by the Competent Person for the style of the Silver King mineralisation.
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<td>Quality of assay data and</td>
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- Samples were analysed by the following methods:
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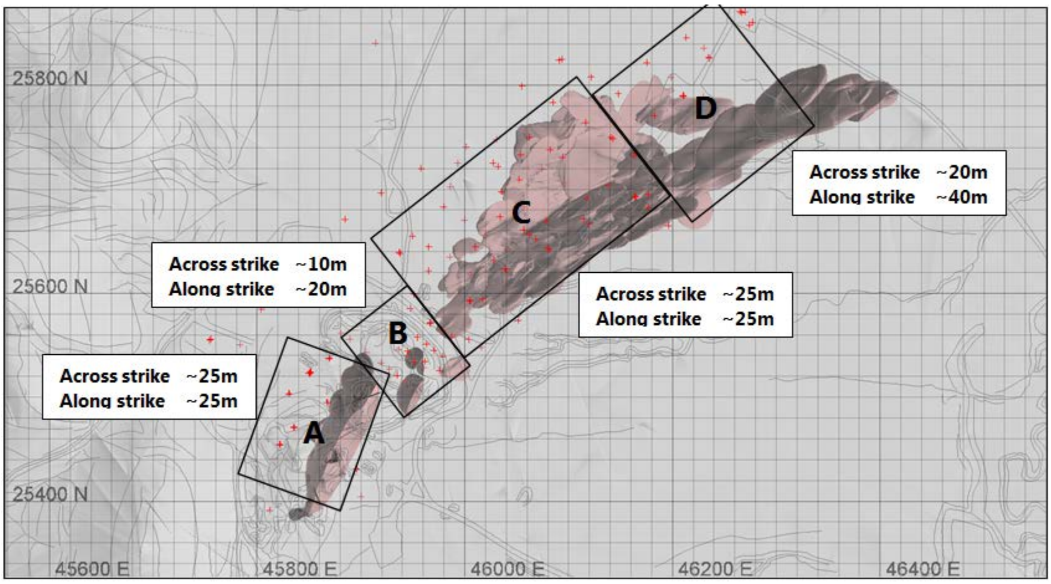
laboratory tests	o Century Laboratory & ALS Laboratory 2006-2012: ▪ Pb, Zn, Fe, Mn, total sulphur, SiO2, by XRF ▪ Ag by aqua regia digest and AA finish ▪ Total carbon and carbon by carbonate by LECO analyser o ALS Laboratory 2012-Present: ▪ Pb, Zn, Fe, Mn, total sulphur, SiO2 by XRF ▪ Ag by aqua regia digest and AA finish ▪ Total carbon and carbon by carbonate by LECO analyser • Both the XRF and ICP-AES methods are considered total methods and are consistent with industry standards. Duplicate analysis of samples by both methods indicates no material bias is introduced between the analysis suites. • The Century laboratory is accredited by NATA to the ISO/IEC 17025 standard. • No geophysical tools, spectrometers or handheld XRF instruments have been used in the analysis of samples external to the commercial laboratories for the estimation of Mineral Resources. • Standards and blanks are inserted at a rate of 1:20 while third party umpire assays are completed at a rate of 10%. Acceptable levels of accuracy and precision have been established.
Verification of sampling and assaying	• Verification by independent or alternative company personnel was not undertaken at the time of drilling. Verification of significant intersections was carried out by the Competent Person. • No twinning of drill holes was undertaken. • All drilling and sampling data is stored within the MMG standard geological database, GBIS. All data entry and changes are fully auditable. • For recovered samples, all geological characteristics are logged electronically into excel spreadsheets and the following data is recorded – sample recovery(%), RQD, BPM, stratigraphy, lithology, structure, colour, weathering, mineral proportion estimate and sample intervals. This data is in a standardised format allowing direct importing into the GBIS database. • All primary assay data is received electronically from the laboratory by GBIS through a dedicated email address. • On receipt of analytical results, control standards are charted to ensure they fall within 2 standard deviations of the accepted mean. Samples outside of 2 standard deviations require action. Actions taken include but are not limited to: o an audit trail check for potential sample swaps or mislabelling; o re-analysis of sample batch with new standard; o comparative analysis against laboratory control standards; o laboratory audit of procedures and standards • Where the issue cannot be resolved the assay batch is not loaded into the database for use in the Mineral Resource estimate. • Following primary analysis, sample pair statistics were investigated to identify any potential bias between laboratories. No material bias was identified in the

	process. - No adjustments to assay data have been made. - Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation.
Location of data points	- Drill collars were located using a differential type GPS system with base station with an accuracy of +/- 30mm. Downhole surveys are taken at regular 30m intervals for all inclined drill holes using a single-shot electronic tool. Azimuth, dip, magnetic tool face angle, gravity roll angle, magnetic field strength and temperature are recorded. Surveys which have low confidence due to excessive magnetic deviation are excluded from the database. - All work at Silver King was carried out in Century Mine Grid. This is a local map grid developed for the adjacent Century Mine open pit operation - The digital terrain model (DTM) for the topographic surface at Silver King is supplied by the site survey department. It is assumed to be a compilation of aerial survey data, vehicle driven and hand controller point data utilizing the HiPer XT GPS system, and FC2500 field controller. - No documentation exists regarding the generation of this surface. - All point elevations and Map grid co-ordinates collected show excellent reconciliation with the surface features and elevations on the DTM when compared to drill hole collar pick-ups.
Data spacing and distribution	- Drill spacing across the deposit is generally in the range of 25m-50m along strike and 20m-30m down dip.  **Local Drill Spacing** - The complex, multi-phase mineralisation of the Silver King deposit results in high apparent variability at the current drill spacing. The potential for short range, high grade structures is high. - The current data spacing provides limited confidence in the ranges and/or continuity of potentially high grade veins, especially with respect to lead. - The 2014 Mineral Resource has been categorised as wholly Inferred, to improve this level of confidence further drilling may be required.

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- All RC drill holes used for the Mineral Resource estimate were sampled and sent to the laboratory at 1m intervals, whilst diamond core was sampled to geological boundaries at 1m intervals with a minimal interval size of 0.3m and maximum of 1.3m.

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<td>Orientation of data in relation to geological structure</td>
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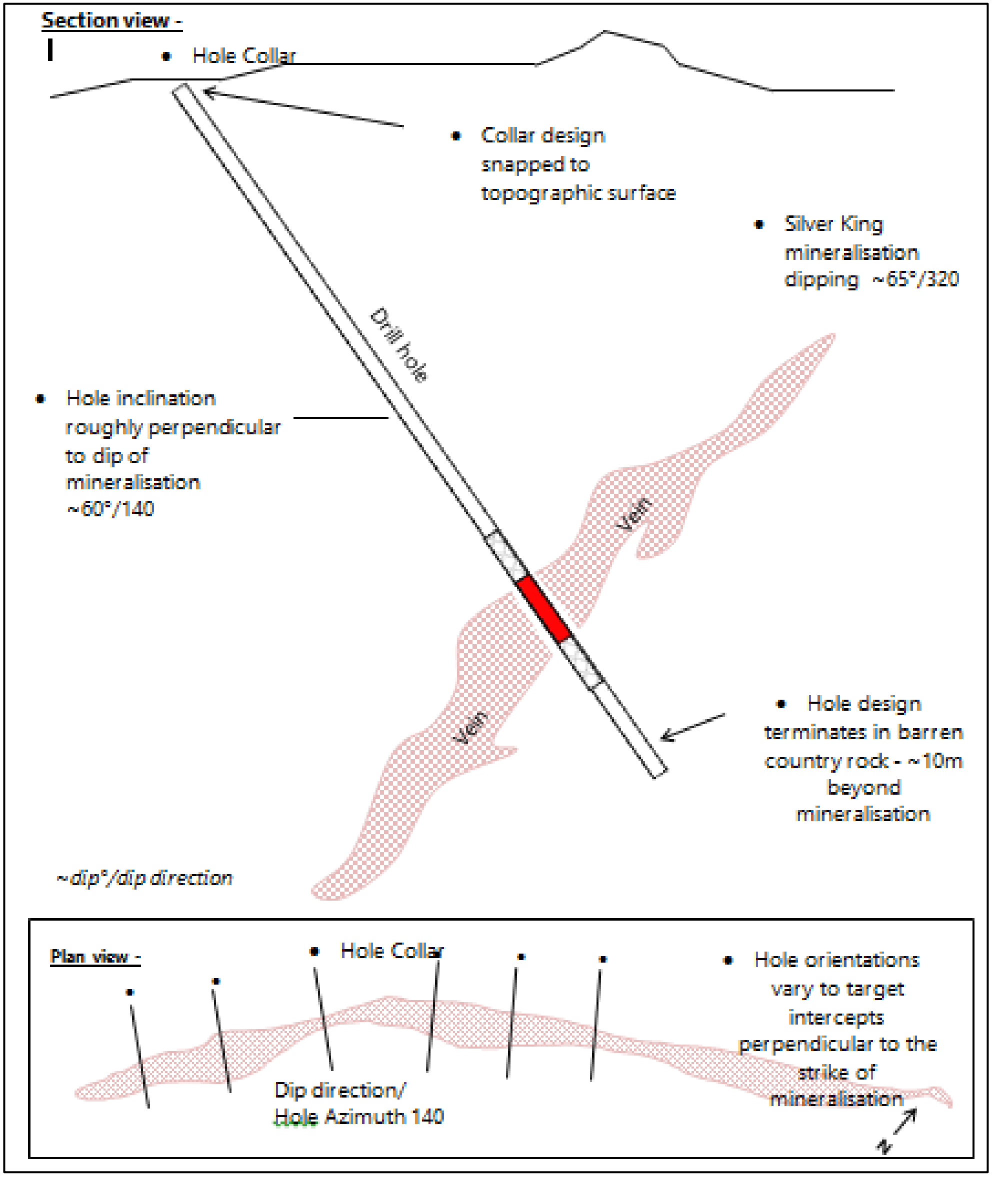
The following diagram illustrates the Silver King drill hole design criteria:



- Where all design criteria are met, or approximated, no sample bias of structures should be incurred. No material bias is created by the angle of the drilling relative to the angle of the mineralisation as the intercepts are roughly perpendicular.
- There is no known material sampling bias within the 2014 Silver King Mineral Resource.

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<tr><td>Sample Security</td><td>

- Measures to provide sample security include:
    - RC samples were collected in individually numbered calico bags at the drill rig.
    - Each sample number was logged against the respective sample interval by the rig geologist.
    - An inventory of samples was taken by field assistants on collection of the samples from the drill rig to ensure all were accounted for.
    - Samples numbers and intervals were entered into the GBIS database along with all logging data, and drill hole details.
    - All samples were registered into the Laboratory Information Management System (LIMS) on arrival and reconciled to the submission list.

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<tr><td>Audits or reviews</td><td>

- No internal or external audits or reviews of the sampling techniques have been carried out.

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<tr><td colspan="2">Section 2 Reporting of Exploration Results</td></tr>
<tr><td>Mineral tenement and land tenure status</td><td>

- MMG holds a mining lease (ML90045) over the Silver King mine; this has an expiry date of 18/09/2037. As part of an operating mine the Silver King deposit is not subject to any operating restrictions, but it is subject to environmental conditions pertaining to land and water management, as well as adherence to cultural sensitivities pertaining to the local indigenous people.
- MMG currently holds Mining Lease ML90045 over the Silver King area.
- There are no known impediments to operating in the area.

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<tr><td>Exploration done by other parties</td><td>

- No records of exploration prior to 1987 have been witnessed by the Competent Person. Incomplete mining records exist dating back to 1897.
- The following table summarises exploration drilling carried out by company since 1987.

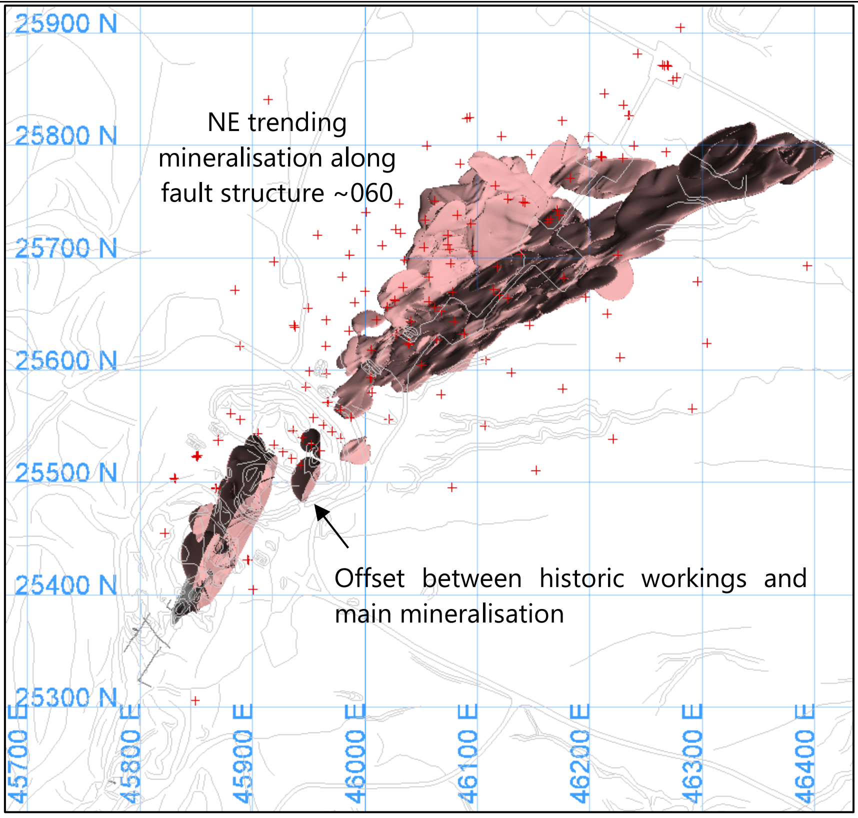
<table>
<tr><th>Company</th><th>Year</th><th>Type</th><th>#Holes</th><th>Total meters</th></tr>
<tr><td>-</td><td>Pre 1980</td><td>-</td><td>-</td><td>unknown</td></tr>
<tr><td>Diversified Mineral Resources</td><td>1987-1990</td><td>60 RC
15 DD</td><td>75</td><td>5,083</td></tr>
<tr><td>CRA</td><td>1996</td><td>1 RC collar/DD tail</td><td>1</td><td>351</td></tr>
<tr><td>Zinifex</td><td>2006-2008</td><td>1 AC
32 DD
18 RC
15 RC collar/DD tail</td><td>66</td><td>12,371</td></tr>
<tr><td>MMG</td><td>2010-2013</td><td>99 DD
17 RC</td><td>116</td><td>22,337</td></tr>
<tr><td>TOTAL</td><td></td><td></td><td>257</td><td>39,791</td></tr>
</table>

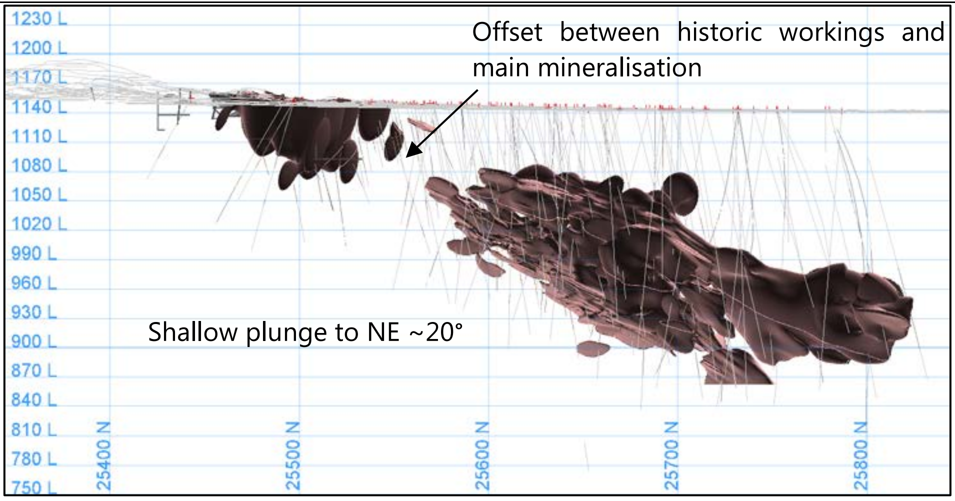
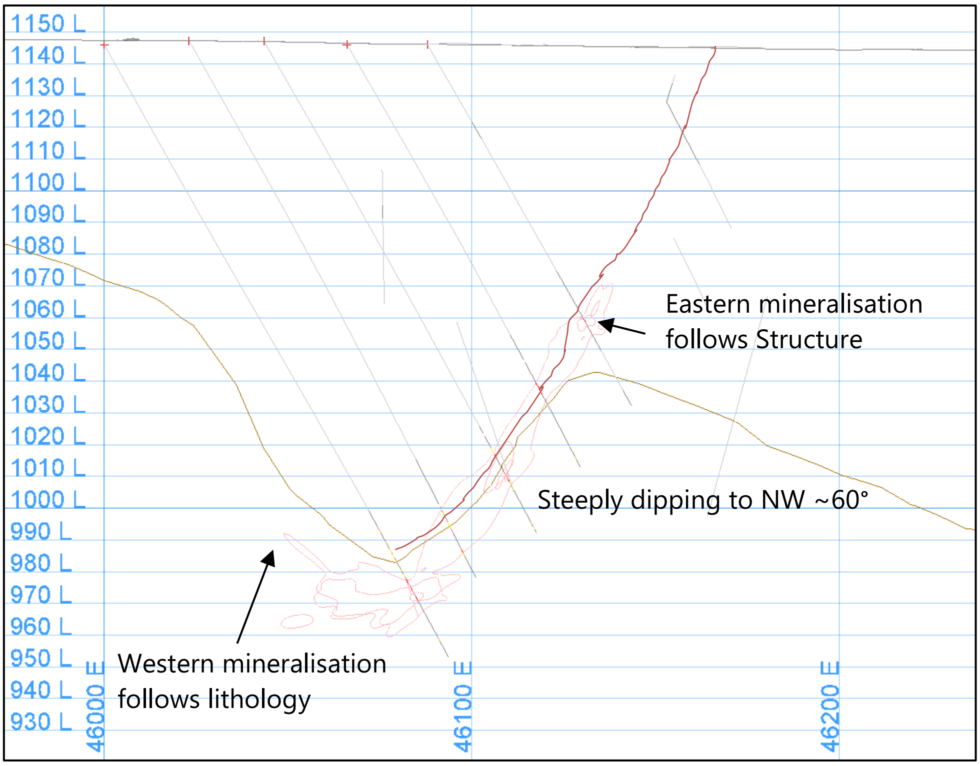
DD = Diamond drill hole, RC = Reverse Circulation, AC = Air-core

</td></tr>
<tr><td>Geology</td><td>

- Silver King is a structurally hosted Pb-Zn quartz carbonate vein breccia. Mineral relationships in the veins suggest the sphalerite zinc mineralization occurred in the earlier phases, with later overprinting by massive galena (lead-sulphide).
- The zinc rich veining is pervasive through the fault zone infilling much of the brecciated rock. There is also significant zinc mineralisation along the western shale/ sandstone lithological contact.
- The high grade, lead rich veining, overprints the earlier zinc phases and is

</td></tr>
</table>

	localised to the main fault structure.
Drill hole information	- No individual drill hole is material to the Mineral Resource estimate hence this geological database is not supplied.
Data aggregation methods	- This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section. - No metal equivalents were used in the Mineral Resource estimation.
Relationship between mineralisation widths and intercept lengths	- Mineralisation true widths are captured by interpreted mineralisation 3D wireframes.
Diagrams	 NE trending mineralisation along fault structure ~060 Offset between historic workings and main mineralisation **Silver King Plan view with drill hole collar locations**

	 **Silver King long section view with drill hole traces**  **Silver King cross section view with drill hole traces**
Balanced reporting	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Other substantive exploration data	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Further work	• A review of the geological and structural models is recommended. It is anticipated this would improve the quality of the estimation domains and in turn the confidence in the Mineral Resource estimate. • Greater understanding of the paragenesis of mineralisation along with macro and micro scale controls will improve the geological understanding and modelling. • Further drilling is required to better define the mineralisation and improve confidence in both the geological model and Mineral Resource Estimate. The

<table>
<tr><td></td><td>viability of which should be assessed following a risk range analysis of the potential NPV's for the project driven by the geological uncertainty.</td></tr>
<tr><td colspan="2">Section 3 Estimating and Reporting of Mineral Resources</td></tr>
<tr><td>Database integrity</td><td>• The following measures are in place to ensure database integrity:
o MMG has a dedicated team of information geologists and data officers who maintain the company database.
o All data is stored within the MMG standard geological database, GBIS. Data was exported from GBIS as Vulcan compatible .csv format files.
o Qualitative logging is carried out into standardised Microsoft Excel logging spread-sheets with drop down logging codes for each variable. The logging geologist then completes a commentary for the relevant section which should correspond with the logging codes for the interval. Where there is inconsistency the commentary information is prioritised.
o Data is loaded from the database into Vulcan mining software and visually inspected for any anomalous logs, surveys or values within the context of the surrounding drill holes. If any areas appear inconsistent with the local trend the original core photos are referred to for confirmation, or alternatively the drill hole is removed from the estimate as a low confidence data source.
o Assay data transcriptions errors are eliminated by the use of an automated results receipt process which imports data directory from the laboratory to the database. All changes and updates within the GBIS database are fully auditable, and traceable.
o Partial data may not be imported to the database. Mandatory fields must be completed to allow import to occur. All results must correspond to identical sample dispatch numbers to be accepted.
• The measures described above ensure that transcription or data entry errors are minimised.
• Data validation procedures include:
o 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.</td></tr>
<tr><td>Site Visits</td><td>• The Competent Person for the Mineral Resource estimate has worked on site for the past five years.</td></tr>
<tr><td>Geological interpretation</td><td>• The confidence in the geological interpretation at Silver King is highly dependent on the scale of observation. Globally, the extent and characteristics of the deposit are relatively well defined. At the local scale, spatial continuity is short and grade variability is high.
• All data used for the geological interpretation came from DD core and RC drilling logs. The breakdown of which are as follows:
<table>
<tr><th>Data type</th><th>No. Holes</th><th>Total length (m)</th><th>% of total data</th></tr>
<tr><td>Diamond core drilling</td><td>115</td><td>23,024</td><td>95</td></tr>
<tr><td>Reverse Circulation drilling</td><td>17</td><td>1,264</td><td>5</td></tr>
<tr><td>Total</td><td>132</td><td>24,288</td><td>100</td></tr>
</table>
• No alternative geological interpretations have been considered at this point in</td></tr>
</table>

	time. Extrapolation from data points does not exceed half the local drill spacing. • The geological boundaries interpreted for use in guiding and controlling the Mineral Resource estimate are based on a nominal 5% Zn or Pb grade cut-off, which has been demonstrated statistically to exhibit the best continuity between drill holes and marks the boundary of a distinct mineralized population. In the view of the Competent Person, this approach is appropriate. • As the mineralisation at Silver King is structurally controlled, both the fault model and the lithology model were used to guide the implicit modelling of grade shell domains within the Leapfrog® Geo software. The trends of these surfaces guided the search ellipse orientations for interpolation between drill hole data points. This ensured the mineralisation envelopes honoured the geological interpretation. • These mineralisation envelopes formed the basis for the geological domains used in estimation. • As previously noted, paragenetic studies have indicated that almost all zinc mineralisation at Silver King predates that of the lead mineralisation. As such, where any conflicts between zinc and lead occur in the geological model, lead will always take precedence, honouring the observed physical relationship. • Where high grade lead or zinc was encountered in assays, geological structures may be inferred by proxy, where no primary information is available. This assumption was used in the development of the mineralisation domains in Leapfrog. • Historic plans and sections from the underground development were also used as references during development of the geological model. • No surface mapping was carried out as the majority of the Silver King deposit does not have a surface expression. For safety reasons limited work may be carried out around the historic excavations. • Visual validation was carried out to ensure grade shells honoured drill intercepts, showed continuity of structure consistent with the geological interpretation, and were without unjustifiable interpolation or extrapolation of the envelopes. Manual adjustments were made to the wireframes where required (in Vulcan software) to honour these criteria. • The continuity of both grade and geology at Silver King is primarily structurally driven through brittle failure of the local rock mass. This allowed fluids to permeate and crystallise in the Silver King system. The extent of the pathways generated and the fluid compositions determined the grade distribution. • Mineralisation events were episodic, with each event showing differing characteristics due to the chemical composition of the fluids and the prevailing conditioning of the rock-mass by earlier events.
Dimensions	• The Silver King Mineral Resource is contained within an area which measures 800m along strike, 200 wide (across strike) and 300m deep (down dip). • The true width (across strike) of the mineralised zone ranges from 1m to 50m laterally and is highly variable. • The Mineral Resource remains open to the north, down plunge.
Estimation and modelling	• The estimation of the economic elements of Pb, Zn and Ag were carried out using the Ordinary Kriging method in Maptek Vulcan mining software applying the

techniques

following key assumptions and parameters:

- Ordinary Kriging was selected due to the ability to weight samples based on the inherent variability of the dataset through the use of spatial correlation models. It is considered an appropriate technique for estimating these elements in the Silver King Mineral Resource.
- An inverse distance weighted method was selected for the ancillary elements which included Fe, Mn, S, SiO2 and C. This method was selected due to time constraints. . As none of these elements have been determined to be deleterious, or in any other way material to the Mineral Resource, a lower confidence estimate was considered acceptable.
- Domains were generated to honour the paragenetic mineralisation model and the orientation of the structural controls. This resulted in three main orientations for lead and zinc zones respectively, totaling six individual estimation domains.
- Samples were composited to a uniform 1m length within domain bounds for statistical evaluation. Residuals were treated with equivalent statistical weighting.
- Reasonable variogram models could only be generated by combining the most data rich lead and zinc domains as a single dataset. The variograms for the domains were then applied to all other domains with varying rotations to match the geometry. Overall this resulted in a smoothing of the data estimates within the idealised domains and impacted overall estimation quality. While a single variogram model has been assumed for all domains there are statistical differences between the domains.
- Interpolation parameters were defined through iterative quantitative Kriging neighbourhood analysis, whereby Kriging metrics were optimised through the adjustment of individual parameters such as sample count and search distance.
- The following parameters were used:

Economic Elements:

Estimation run	Estimation type	Elements	Search Distance		
			Major	Semi-major	Minor
1	Ordinary Kriging	Pb-Zn-Ag	40	30	8
2			80	60	16
3			80	60	16

Estimation run	Octant search	Samples				
		Min.	Max.	Max. samples per octant	Min. octants with sample	Min. samples per octant
1	Yes	16	32	4	4	4
2		8		4	4	2
3	No	4		N/A	N/A	N/A

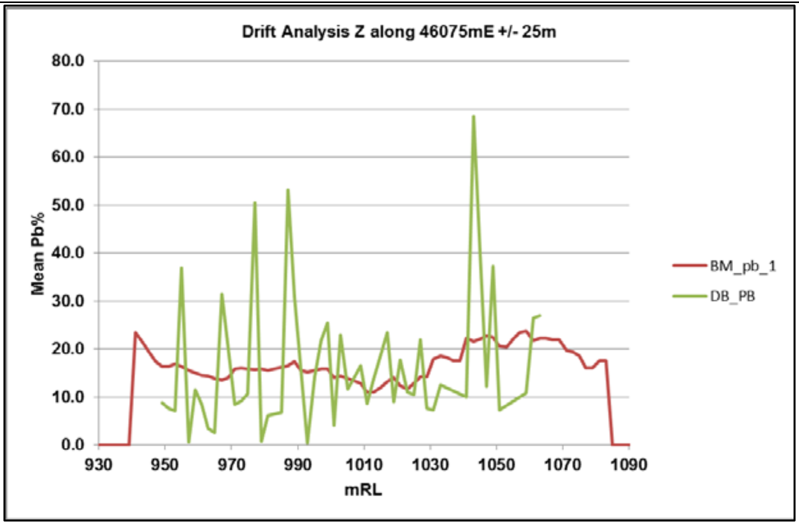
Ancillary elements:

Estimation Type	Elements	Power	Search Distance		
			Major	Semi-major	Minor

Inverse Distance	Fe, Mn, S, SiO2, C_org, C_tot	2	120	100	20

Octant search	Samples			
	Min.	Max.	Max. samples per octant	Comments
No	2	8	N/A	Minor elements - included for completeness only

- No previous estimates or mine production records were used within the Mineral Resource estimate. No comparable or reliable data exists for this purpose.
- The block dimensions for the model were (X,Y,Z) 5m x 20m x 20m. In areas of wider spaced drilling across the deposit this equates to roughly half the drill spacing laterally.
- It is assumed that this deposit is most likely to be mined from underground. The relative block dimensions were selected based in this assumption which is suitable for the style of deposit, method of assumed mining and SMU.
- No assumptions regarding correlation between variables were applied in the Mineral Resource estimate. A correlation does exist between lead and silver however these elements were modelled independently.
- Grade capping was used within the estimate to reduce the influence of extreme grades within the domains, particularly in high grade lead zones. Initial block estimates prior to capping compared poorly with composite statistics where the outliers were inflating local grades excessively. Grade populations were assessed by plotting populations as histograms and log-probability plots and identifying the degradation of the population at the extremes. The values selected were at a minimum in the 95th percentile. Statistics and swath plots were assessed after applying cuts to validate the process.
- Validation of the estimation process was carried out in a number of ways:
  - Visual comparison of block grades with composite grades was carried out in section to confirm comparable grades were estimated.
  - This was followed by checking the block statistics against the composite statistics to identify any gross errors.
  - The final check carried out was by the generation of swath plots and drift analysis, showing a comparison between composite samples (green) and block estimates (red). Overall checks indicated that the global estimate appears fair, however the model is significantly smoothed resulting in large local variances when compared to sample data.

	 **Drift Analysis Z along 46075mE for Lead (BM = block model, DB = Composite)**
Moisture	- All tonnages are stated on a dry basis.
Cut-off parameters	- A cut-off grade of 5% Pb+Zn was selected based on the current open pit cut-off grade at Century Mine. No detailed mining study economics were available at the time of reporting.
Mining factors or assumptions	- A conceptual annual production rate of 500ktpa from underground mining was assumed as a possible option used to assess the variability for the purpose of Mineral Resource classification.
Metallurgical factors or assumptions	- No recovery assumptions or impacts of deleterious elements were used in classification of the Mineral Resource - No metallurgical issues were identified following initial flotation testing of Silver King samples in the laboratory.
Environmental factors or assumptions	- All environmental factors and assumptions are covered by the existing Environmental Authority EPML00888813. There are no known issues material to the Mineral Resource estimate that relate to environmental factors.
Bulk density	- Block densities were calculated by a grade weighted regression calculation based on density sample data.
Classification	- The Silver King Mineral Resource is wholly classified as Inferred. This was considered appropriate due to the uncertainty relating to the geological model.
Audits or reviews	- An internal review was carried out by MMG Principal Resource Geologist. - The review highlighted a number of risks within the estimated Mineral Resource, with the focus being the accuracy and confidence in the geological model. - The model honours the current geological understanding and data, however shows significant variance at a local scale where data is interpolated at wide spacing. The impact of the lower confidence in the geological is evident in the lower quality of the experimental semi-variogram models.
Discussion of relative accuracy / confidence'	- The relative accuracy and confidence of the Mineral Resource Estimate is highlighted in the classification of Inferred. This is a global estimate which exhibits high local variance. - A quantitative statistical approach was taken in the classification scheme for the

	Mineral Resource. This method assessed the variability within assumed production volumes of the block model. The study concluded that Indicated Mineral Resource may be possible based on the statistics of the samples and the variogram model, however due to the difficulty achieve a quality variogram model combined with the uncertainty with the geological modelling a Mineral Resource category of Inferred is recommended • No production data is available to reconcile against the model.

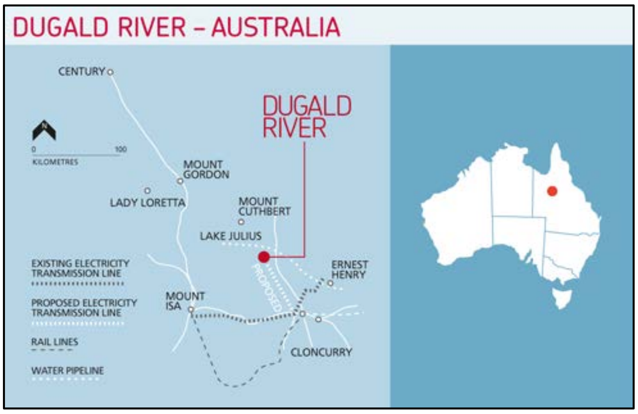
9 DUGALD RIVER PROJECT

9.1 Introduction and setting

The Dugald River project is located in northwest Queensland approximately 65km northwest of Cloncurry and approximately 85km northeast of Mount Isa (Figure 7). It is approximately 11km (by the existing access road) from the Burke Developmental Road, which runs from Cloncurry to Normanton.

It is one of the world's largest undeveloped zinc-lead-silver deposits containing a Mineral Resource of 63Mt at 12% Zn, 1.8% Pb, 31g/t Ag and 0.8% Mn and is wholly owned by a subsidiary of MMG Limited.

Figure 7 Dugald River project location



9.2 Mineral Resources – Dugald River

9.2.1 Results

The 2014 Dugald River Mineral Resources are summarised in Table 38. The Mineral Resource has been depleted to account for mining of ore by way of underground development of ore drives and stope production. The 2014 Mineral Resource has been reported above an A$120/t NSRAR *(net smelter return after royalty)* cut-off, which is comparable to a grade of 7% Zn, 0.9% Pb and 12 g/t Ag and is an increase from the 2013 cut-off (6% Zn).

Table 38 2014 Dugald River Mineral Resource tonnage and grade (as at 30 June 2014)

Dugald River Mineral Resource

							Contained Metal				
Zinc[1]	Tonnes (Mt)	Zinc (%)	Copper (%)	Lead (%)	Silver (g/t)	Gold (g/t)	**Copper ('000 t)**	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**	**Gold (Moz)**
Measured	5.4	14.8	-	2.0	65	-	-	796	109	11	-
Indicated	25.2	13.5	-	2.3	52	-	-	3,390	573	42	-
Inferred	24.4	13.1	-	1.9	14	-	-	3,193	455	11	-
Total	**55.0**	**13.4**	**-**	**2.1**	**36**	**-**	**-**	**7,378**	**1,137**	**64**	**-**
Zinc Stockpile											
Measured	0.2	13.7	-	1.0	32	-	-	28	2	0.2	-
Total Zinc	**55.2**	**13.4**	**-**	**2.1**	**36**	**-**	**-**	**7,406**	**1,139**	**64**	**-**
Primary Copper[2]											
Measured	-	-	-	-	-	-	-	-	-	-	-
Indicated	-	-	-	-	-	-	-	-	-	-	-
Inferred	4.4	-	1.8	-	-	0.2	79	-	-	-	0.03
Total Primary Copper	**4.4**	**-**	**1.8**	**-**	**-**	**0.2**	**79**	**-**	**-**	**-**	**0.03**
Total Contained Metal							**79**	**7,406**	**1,139**	**64**	**0.03**

[1] Cut-off grade is based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value A$120 per tonne. NSRAR A$120 equates to approximately 7% Zn + 0.9% Pb + 12 g/t Ag. NSRAR = (1480 x Zn% / 100) + (19520 x Pb% / 100) + 0.24 x Ag g/t.

[2] 1% Cu cut-off grade

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

Contained metal does not imply recoverable metal

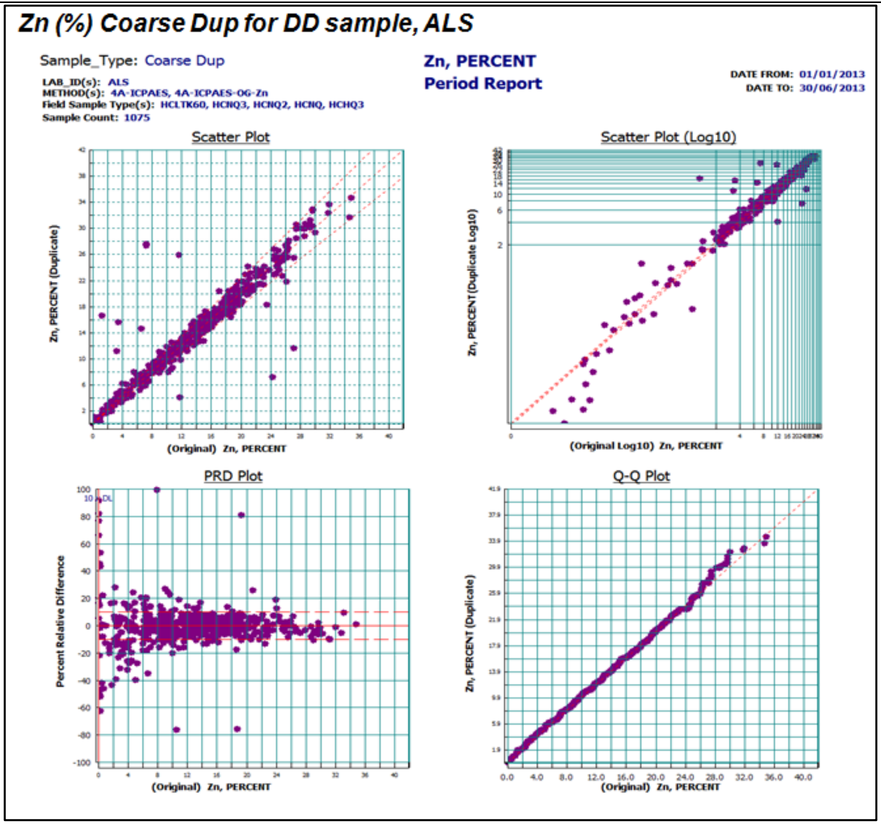
9.3 Mineral Resources JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 39 complies with the 2012 JORC Code requirements specified by "Table-1 Section 1-3" of the Code.

Table 39 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Dugald River Mineral Resource 2014

Criteria	Status
Section 1 Sampling Techniques and Data	
Sampling techniques	• Diamond drilling (DD) was used to obtain an average 1m sample length while still respecting geological contacts. DD core was sampled either whole, ¾, ½, ¼, or sliver for the PQ core. Once samples were selected by a geologist the samples were marked and sample ID's stored in the database. • Samples were transported to ALS Mount Isa laboratory where the sample was crushed and pulverised to produce a pulp (>85% passing 75µm). The pulps were transferred and analysed at ALS Brisbane. • 3% of the dataset was sampled using reverse circulation (RC) drilling techniques. • There are no inherent sampling problems recognised. • Measures taken to ensure sample representivity include orientation of the drill holes as close as practical to perpendicular to the known mineralised structure, and collection, and analysis of field duplicates.
Drilling techniques	• A number of drilling techniques were used; with 97% of samples used in the Mineral Resource from DD samples (HQ, HQ2, HQ3, NQ2, NQ3, PQ, LTK60 and unknown core size), the remaining 3% of samples used in the Mineral Resource were from RC samples. 59% of pre 2007 surface diamond drilling does not have an entry in the database that allows separation of the data by hole diameter. • Core sizes of drill holes post 2007 have been captured in the database. • Post 2007 data has correctly been captured in the database. • 2014 underground drilling data is predominantly NQ2 with some LTK60.
Drill sample recovery	• Recovery recorded during core logging was generally 100%, with minor losses in broken / sheared and faulted ground. • At times, triple tube drilling from surface has been used to maximise core recovery but this is not common. • RQD (rock quality designation) data was logged and recorded in the database to measure the degree of jointing or fractures or core loss in the core. • Shearing and broken ground zones are located at the edges of the mineralisation zone and are not associated with locations of good grade interceptions. There is no relationship between core loss and mineralisation or grade - no sample bias has occurred due to core loss within broken/sheared ground.
Logging	• All core samples including RC pre-collars have been geologically logged (lithology, stratigraphy, weathering, alteration, geotechnical characteristics) to a level that can support appropriate Mineral Resource estimation.

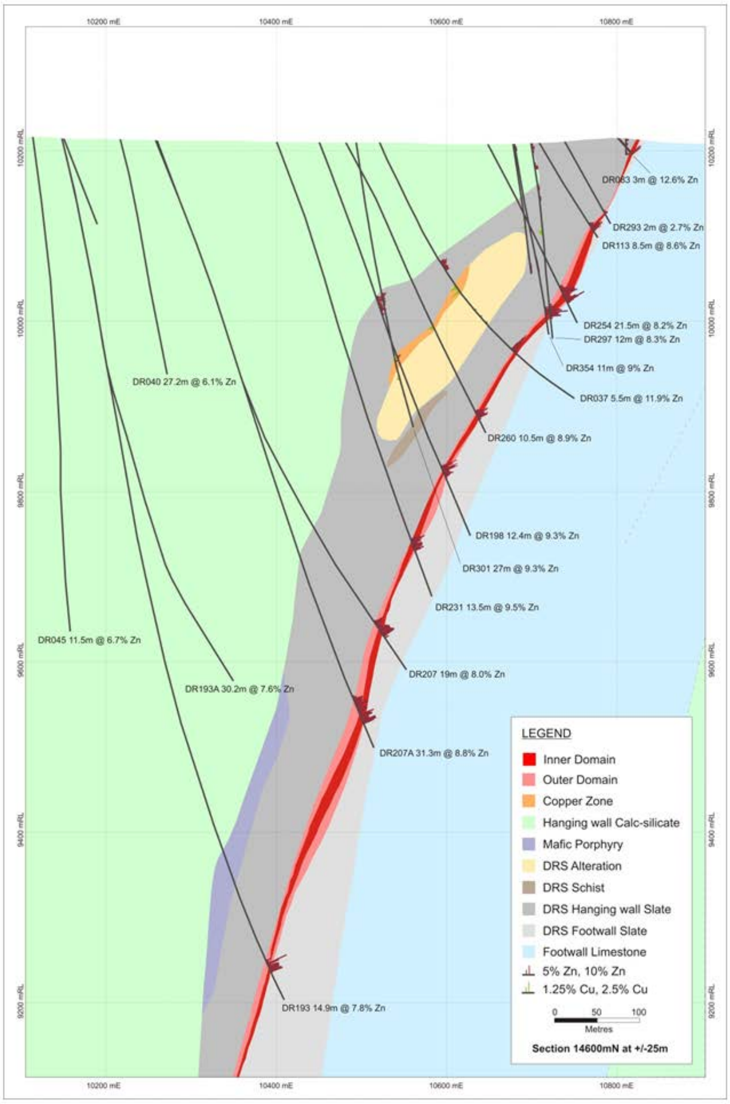
	• The logging captures both qualitative (e.g. rock type, alteration) and quantitative (e.g. mineral percentages) characteristic. Core photographs are available for most drill holes. All drill holes post-2008 have been photographed (wet and dry). • Mineralised core is stored at -4°C in refrigerated containers to minimise oxidation for metallurgical testing. Non-mineralised core is stored on pallets in the yard. • Currently, all drill holes are logged using laptop computers directly into the drill hole database. Logging has occurred in the past onto paper log-sheets and was then transcribed into the database. • A total of 256,167.1m of drilled data is contained in the database, of this 88% is geologically logged, and 20% of drilled data contains assays.
Sub-sampling techniques and sample preparation	• Core was cut by diamond saw. Half of the core was retained onsite for future reference, the other half was sampled. • Post 2010 all drilling is DD. DD allows collection of representative samples of the mineralisation 'in situ'. The vast majority of drill hole intersections cross cut the mineralisation and as such are representative. • The standard sampling length is about 1m with a minimum of 0.7m and a maximum 1.2m. Sample intervals do not cross geological boundaries. • Historical RC programmes were designed to test the 'unmineralised' hanging wall material in DD pre-collars. 2m bulk composites stored at the drill site were sampled using the spear method. • Samples are bagged, numbered and dispatched to the ALS Mount Isa laboratory. Each sample weighs between 2kg-3kg. The sample is jaw crushed, 50% split and then further crushed using a Boyd crusher 70% nominal passing 2mm. The sample is rotary split with 500g-800g retained and pulverised to 85% passing 75µm. All rejected material is collected and saved. Pulps are then sent to ALS Brisbane for analysis. • Representivity of samples is checked by sizing analysis and duplication at the crush stage. • Field duplicates are inserted at a rate of 1 per 20 samples (approximately 4 per drill hole). Replication of the field duplicates is considered satisfactory. A total of 1075 coarse duplicates were selected and submitted to ALS for analysis. The performance of the duplicates is charted below showing good repeatability of expected zinc values. The scatter between the duplicates and original data sits roughly along the one to one line for the majority of the data set indicating reasonable accuracy and precision.

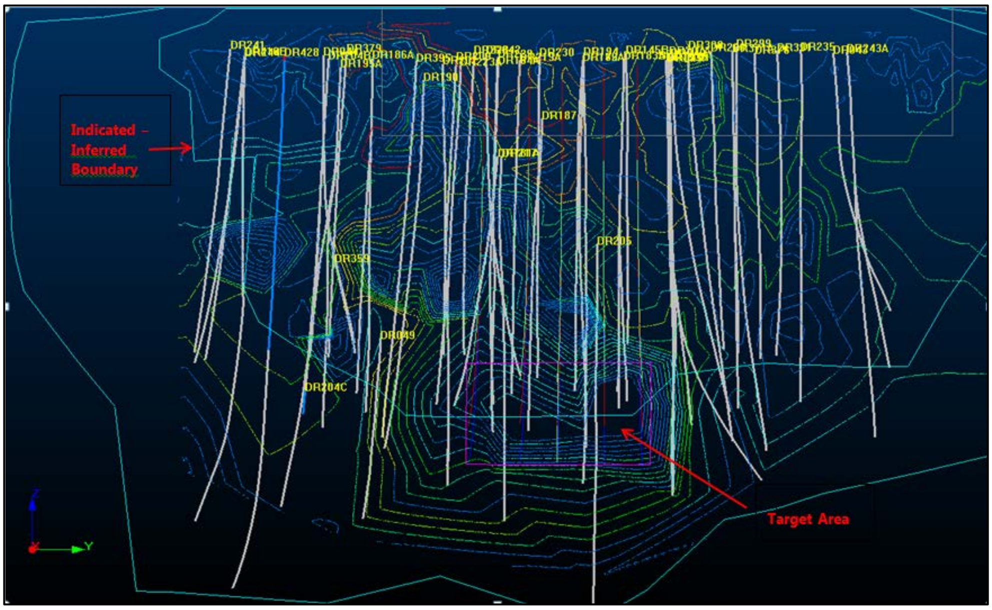
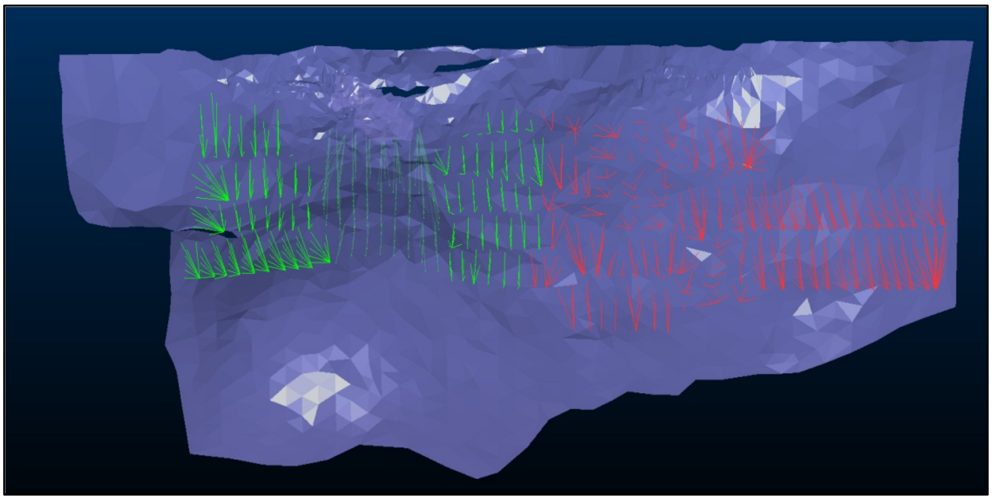
	 **Coarse Duplicates from Diamond Drill Samples at ALS (Zn%)** • Repeats of coarse rejects are undertaken periodically • The sample types, nature, quality and sample preparation techniques are considered appropriate for the style of the Dugald River mineralisation (sediment hosted base metal) by the Competent Person.
Quality of assay data and laboratory tests	• 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, Cu, Ag, Mn and As which are estimated in the Mineral Resource. Total carbon (TotC) is analysed by Leco furnace. All of these analyses are considered total. • These assaying techniques are considered suitable for the Dugald River Mineral Resource. • 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. • Standard reference materials and blanks (coarse) are each submitted at the rate of 1:20. The selection and location of standards and blanks in the batch sequence is decided by the geologist on the basis of the logged mineralisation. • Batches that fail quality control criteria (such as standards reporting outside set limits) are entirely re-analysed. • The performance of the standards indicates a scatter of returned values within 3 standard of deviation to the expected mean value. This indicates poor precision and repeatability. • Duplicates are selected from returned coarse rejects and submitted to an

	independent assay laboratory (Genalysis). The performance of the duplicates indicates good repeatability of expected values and no bias. • Repeats of coarse rejects are analysed periodically.
Verification of sampling and assaying	• Verification of assay results was visually verified against logging and core photos by alternative company personnel. • No twinning of drill holes have occurred at Dugald River. • Core logging data was recorded directly into a Database (GBIS) by experienced geologists (geological information such as lithology and mineralisation) and field technicians (geotechnical information such as recovery and RQD). Where data was deemed invalid or unverifiable it was excluded from the Mineral Resource estimation. • No adjustments to the assay data is performed during import into the GBIS Database. Conversion of negative (below detection limit) data is later performed in Datamine by adjusting negative values to half the detection limit.
Location of data points	• All drill hole collars have been surveyed by licensed surveyors. Surface collars were surveyed in MGA94 and then converted to local mine grid. Underground collars were surveyed in local mine grid using total station. • Strong local magnetic fields associated with pyrrhotite mineralisation within the deposit reduce the effectiveness of conventional downhole survey tools. Hence all underground diamond drill holes and 181 surface drill holes have been gyroscopically surveyed. All other drill holes have been surveyed by downhole single-shot camera surveys. • The grid system used is MGA94, the conversion to local mine grid is rotated and scaled. The grid transformation is undertaken using a formula provided by the onsite surveyors. A LIDAR survey flown in 2010 is used for topographic control on surface drilled drill holes. In the view of the Competent Person the LIDAR survey provides adequate topographic control.
Data spacing and distribution	• Drill spacing varies across the strike and dip of the mineralisation lode. The highest drill density in the orebody is 10m x 10m while the lowest drill density is greater than 100m x 100m spacing. • Locations drilled at 10m x 10m and up to 20m x 20m 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. • Underground mapping of faces is digitised and used in the interpretation and wireframing process. • Drill hole data is concentrated within the top 300m of the Mineral Resource with broader-spaced drilling at depth, due to the difficulty and cost involved in drilling deeper sections. • DD samples are not composited prior to being sent to the laboratory for analysis however the nominal sample length is generally 1m.
Orientation of data in relation to geological	• 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. Hence drilling is conducted on east-west

structure	and west-east directions to intersect mineralisation across-strike. - Drilling orientation is not considered to have introduced sampling bias. Drill holes that have been drilled down dip and semi-parallel to the mineralisation have been excluded from the estimate.
Sample security	- Measures to provide sample security include: o Adequately trained and supervised sampling personnel. o Well maintained and ordered sampling sheds. o Cut core samples stored in numbered and tied calico sample bags. o Calico sample bags transported by courier to assay laboratory. o Assay laboratory checks of sample dispatch numbers against submission documents. o Assay data is returned separately as a text file and a pdf file.
Audit and reviews	- 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. Internal audits and checks were performed at this time. Any suspicious data was investigated and rectified or flagged and excluded. No external independent audits have been performed on the database. No external independent audits have been performed on the sampling techniques or the database. - Both ALS Mount Isa and Brisbane laboratories are audited on an annual basis by MMG personnel. From the most recent audit there were no material recommendations made.
Section 2 Reporting of Exploration Results	
Mineral tenement and land tenure status	- The Dugald River Mining Leases are wholly owned by a subsidiary of MMG Limited. - MMG holds one exploration lease and one mineral development lease in addition to the mining leases on which the Dugald River Mineral Resource is located. EPM12163 consists of 6 sub-blocks and covers an area of 20sqkm to the west of the Dugald River deposit. MDL 79 overlaps the north-western area of the EPM12163. - There are no known impediments to operating in the area.
Exploration done by other parties	- The History of the Dugald river zinc-lead deposit is summarised in the following points: o Discovered in 1881 with the first drilling programme commencing in 1936 comprising three drill holes. The maiden Mineral Resource was reported in 1953 by Zinc Corporation. Drilling continued from 1970 through 1983 totaling 28 drill holes. CRA 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. Recompilation of the database, further delineation

	drilling and 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 studies and a focus on the northern copper zone in 2010 were completed. In 2011 the decline commences which resulted in trial stoping. In 2014 underground development and drilling focused on confirming and extending mineralisation continuity of the Dugald River load.
Geology	• The Dugald River style of mineralisation is a sedimentary hosted base metal deposit. The main sulphides are sphalerite, pyrite, pyrrhotite and galena with minor arsenopyrite, chalcopyrite, tetrahedrite, pyrargyrite, marcasite and alabandite. • The deposit is located within a 3km-4km wide north-south trending high strain domain named the Mount Roseby Corridor and is hosted by steeply dipping mid Proterozoic sediments of the Mary Kathleen Zone in the Eastern Succession of the Mount Isa Inlier. The host sequence is composed of the Knapdale Quartzite and the Mount Roseby Schist Group (which includes the Hangingwall calc-silicate unit, the Dugald River Slate and the Lady Clayre Dolomite). The sequence is an interbedded package of greenschist to amphibolite grade metamorphosed carbonate and siliclastic lithologies. • The main Dugald 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. All significant zinc-lead-silver mineralisation is restricted to the main lode. Lesser-mineralised hanging wall and footwall lenses are present. Three main mineralisation textures/types are recognised, including banded, slatey breccia, and massive breccia. • The mineralogy of the Dugald lode is typical of a shale-hosted base metal deposit. 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. • Mineralised widths vary from 3m to 30m. The mineralised zone extends approximately 2.4km in strike length and up to 1.35km down dip.
Drill hole information	• 1,115 DD holes and associated data are held in the database. No individual hole is material to the Mineral Resource estimate and hence this geological database is not supplied.
Data aggregation methods	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section. • No metal equivalents were used in the Mineral Resource estimation. However the Mineral Resource has been reported above an A$120 NSRAR cut-off.
Relationship between mineralisation width and intercepts lengths	• Mineralisation true widths are captured by three-dimensionally modelled wireframes with drill hole intercept angles ranging from 90° to 45°. • The true thickness of the majority of the Mineral Resource is between 3m and 30m with the thickest zones occurring to the south.

Diagrams	 **Cross section looking north – showing true width of the mineralisation**
Balanced reporting	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Other substantive exploration data	• This is a Mineral Resource Statement and is not a report on exploration results hence no additional information is provided for this section.
Further work	• MMG plans to continue to improve geological confidence and Mineral Resource classification through infill drilling programmes over the next few years. Two planned drilling programmes are shown below and include: o 12,500m of down-dip infill drilling from surface targeting the thick, high-grade mineralisation in the south of the deposit is planned for 2015. This drilling is designed to convert Inferred Mineral Resources to Indicated Mineral Resources. o An on-going program of more extensive underground drilling throughout the deposit is expected to convert Inferred and

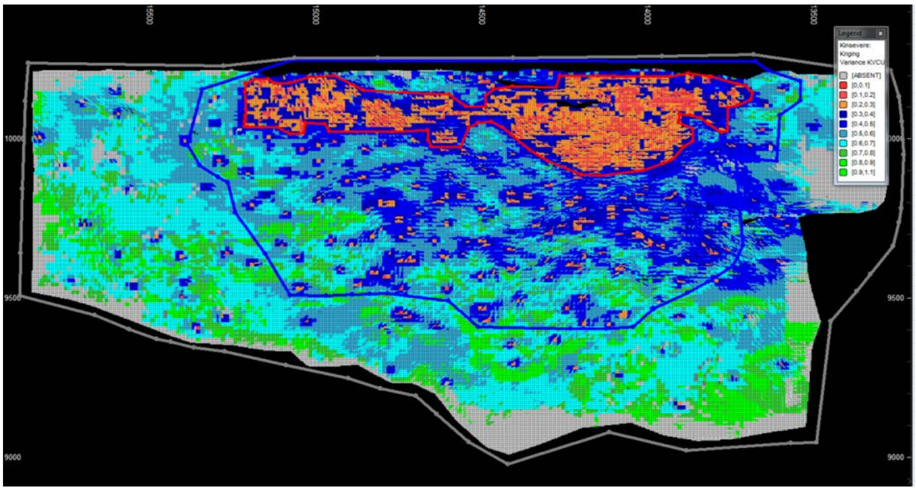
	Indicated Mineral Resources to Measured. o Future exploration work will focus on identifying extensions of the Dugald River load.  **Long Section indicating proposed Indicated – Inferred drilling target area**  **Long Section indicating proposed underground drilling at 40m x 30m**
Section 3 Estimating and Reporting of Mineral Resources	
Database Integrity	• The following measures are in place to ensure database integrity: o All data is stored in an SQL database that is routinely backed up. o All logging is digital and directly entered into the onsite GBIS database via a wireless connection (at the core shed).Data integrity is managed by internal GBIS validation checks/routines that are administered by the Melbourne Database Group and/or the site Geology Team. • The measures described above ensure that transcription or data entry errors

	are minimised. o Data validation procedures include: Database validation procedures are built in the database system to manage accurate data entry during logging and collection of data. o Prior to use in the Mineral Resource the data was checked externally by running Datamine macros on the drill hole file to check for end of hole depths, and sample overlaps. o Manual checks were carried out by reviewing the drill hole data in plan and section views.
Site visits	• The Competent Person visited site on various occasions through 2014. Site visits included involvement with: o Assist with wireframe interpretation and methodology as applied in the 2014 Mineral Resource work. o Inspection of geological mapping plans. o Inspection of underground workings. o Inspection of drill holes and mineralisation interceptions.
Geological interpretation	• The mineralisation zone is modelled within a continuous corridor of zinc mineralisation. This zone is modelled based on zinc grade distribution and geological logging of mineralisation style. There is no defined zinc cut-off boundary rather the mineralised envelope is determined by natural breaks in the grade distribution. There is good confidence on the geological continuity and interpretation of the deposit. o The mineralisation zone is further sub-divided into a high and low grade domain. o The “inner” high-grade domain is the main Dugald River mineralisation lode, defined by high zinc grades associated with the massive sulphide assemblages. The high-grade domain boundary was selected by looking at the drill holes grade intercepts in Datamine; plotted as a grade histogram and selecting a boundary which is more representative of geology. o The “outer” zone defines the surrounding lower grade mineralisation with its associated assemblage of sulphide stringers and shoots of discontinuous massive and breccia sulphide textures. o Where possible a low grade (internal dilution) domain has been identified and modelled within the high grade domain. • Alternative geological interpretations were not considered. • Selection of the low/high grade domain was based on geological observations and assay results. Zinc grade histograms in combination with geological logging were used to assist in selecting this contact. • Underground mapping of development drives for both access and ore drives were also used in assisting with the geological interpretation. • Globally the Dugald River deposit follows a reasonably predictable sheet of mineralisation but with short-range (10 to 20m-scale) variations associated with localised structures that are suitably defined by close-spaced drilling as

	within the Measured Mineral Resources.
Dimensions	- The main Dugald 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. - The strike length of mineralisation is approximately 2,400m. Dip varies between 85° and 45° to the west. - The true thickness of the majority of the Mineral Resource is between 3m and 30m with the thickest zones occurring to the south. - The mineralisation is open at depth. The deepest drill intersection of mineralised material is about 1,140m below the surface.
Estimation and modelling techniques	- Mineral Resource modelling was completed using Datamine software applying the following key assumptions and parameters: o Separate variography and estimation were performed for Zn, Pb, Ag, Mn, Fe, S and total carbon using Ordinary Kriging. o Grade estimation was performed using dynamic anisotropy, which uses the dip and dip direction of the wireframes to align and optimize the search direction of the estimate. o Hard boundary contacts were used to select samples used to estimate blocks in each of the mineralised domains (high-grade and low-grade) as well as into individual lithological domains. o Drill hole compositing resulted in nominal 1m intervals with residual composite intervals absorbed evenly into the composites resulting in no loss of sample intervals. o An unfolding process was used on the drilling data prior to variogram analysis being performed. These variogram ranges were then applied to the search parameters used in the estimation. o Orientation of the search ellipse was optimised using the Datamine Dynamic Anisotropy method, that is dip and dip direction of the wireframes was used in the estimation of the model. o Estimation of each element followed two stages: o Stage1: Ordinary Kriging applying three passes with varying search ellipse dimensions o First pass is equal to 80% of the variogram range o Second pass is equal to the variogram range o Third pass is equal to 1.5 x variogram range o Stage 2: Inverse distance squared technique used to estimate blocks not estimated by the Ordinary Kriging stage. o A minimum number of 2 drill holes were used for all estimates. o Number of composite samples was restricted to a minimum of 8 and a maximum of 20. o Octant method was applied to the Ordinary Kriging estimate requiring a minimum of 2 octants to be filled. Minimum and

	maximum samples per octant are 2 and 6 respectively. o Block discretization of 2 x 4 x 4 was applied. • There has been no significant mineral processing for the Dugald River material. Reconciliation from production cannot be undertaken. Reconciliation work is restricted to comparisons between models for volumes mined as the bulk of mined ore is yet to be processed. Comparisons between the 2013 to 2014 model in the stoped areas (represents ~1% of the deposit) shows comparable tonnes but with high variability in grade (+ 27% Zn, - 16% Pb and -48% Ag). The difference is due to additional close-spaced (10m by 10m) drilling available for the 2014 model. • Assumptions have been made regarding the recovery of all by-products in the NSRAR. • Ancillary elements estimated include Mn, Fe, S and total carbon. • Parent block size was set at 2.5m x 12.5m x 12.5m with sub-cells of x=0.5m, y=0.5m, z=0.5m. Sub-cells were assigned parent block values. The parent block size assumes mining selectivity at the stope level. • The mineralisation boundary assumes that the zinc, lead and silver populations are spatially correlated. However, there is evidence to suggest that the lead and silver exhibit population mixing within the zinc domain. • Grade Capping was applied after compositing, with values greater than the selected 'cut value' being set to the top cut value and used in the estimation. Capping was applied to domains that showed a coefficient of variation (CV) > 1.2. A CV > 3 that indicated a high degree of population mixing and required a revision of domains used in the estimate. Grade cap values were selected using a combination of both histogram and cumulative log probability plots (using cell declustering). • 2014 block model validation included the following steps: o Comparison against the 2013 block model including visual comparison of plans and cross-sections, tonnes grade curves, cumulative probability plots and trend plots. o Comparison against drill hole data using visual comparison of plans and cross-sections, statistics by domain, cumulative probability plots and trend plots.
Moisture	• Tonnes in the model have been estimated on a dry basis.
Cut-off parameters	• The Mineral Resource is reported above an A$120/t NSRAR (net smelter return after royalties) cut-off, which is approximately 70% of the Dugald River Ore Reserve cut-off. The A$120/t NSRAR is comparable to a grade of 7% Zn, 0.9% Pb and 12 g/t Ag, which is higher than the 2013 Mineral Resource cut-off of 6% Zn. The selection of the A$120/t NSRAR cut-off defines mineralisation which is prospective for future economic extraction. The reporting cut-off grade is in line with MMG's policy on reporting of Mineral Resources which is prospective for future economic extraction.
Mining factors or assumptions	• Mining at Dugald River is planned to be underground with the long-hole open stoping method favoured. Currently the deposit is accessed by two declines and trial stoping is being undertaken to determine the optimal

	stoping method. • No external dilatation has been applied to block grades. However, parent block size has assumed mining selectivity at a stope level. • The Mineral Resource has been depleted to account for trial stope mining.
Metallurgical factors or assumptions	• The metallurgy process proposed for the Dugald River deposit involves crushing and grinding followed by floatation and filtration to produce separate zinc and lead concentrates for sale. • Deleterious elements include manganese and carbon, which have been estimated in the block model. • Manganese percentage in the zinc concentrate is calculated as a post-processing step to allow the generation of a value that can be used for the Ore Reserve. • Manganese percentage in the zinc concentrate is calculated by way of an algorithm contained within the NSRAR script.
Environmental factors or assumptions	• Dugald River operates under Environmental Authority EPML00731213 issued by the Department of Environment Heritage Protection on 12 August 2012 and amended on 7 June 2013. • All material brought to the surface is stockpiled in designated areas, based on their classification of either potentially acid forming (PAF) or non-potentially acid forming (NAF) material. Waste PAF/NAF determined based on the buffering potential of limestone material such that : o Limestone material with less than 3%-5% sulphide is considered NAF o Limestone material with greater than 3%-5% sulphide is considered PAF o All other material is considered PAF • 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.
Bulk Density	• Bulk density is determined using the weight in air and water method. Frequency of samples is approximately 1 determination per core tray and based on geological domains. • Dugald River rock is generally impermeable requiring no coatings for reliable measurements. • Bulk density in the model has been estimated using inverse distance squared. Density estimation is constrained within the defined mineralisation domains. • Un-estimated blocks were assigned a density value based on a stoichiometric formula which was used in the 2013 block model for bulk density calculations. • A density of 2.75 g/cm3 has been assumed for the waste host domain.
Classification	• 2014 Classification incorporates a combination of Kriging variance (KV), Kriging efficiency (KE), Kriging slope of regression (RS), drilling density and location of underground development (presence of underground geological

	mapping). This method has remained unchanged from 2013. • Mineral Resource categories are generally based on: o Measured: < 20m drill spacing, KV<0.3, KE>40%, RS>0.7 plus presence of underground development, geological mapping and grade control drilling. o Indicated: > 20m to <100m drill spacing, KV>0.3<0.6, KE < 40%, RS<0.4. o Inferred: > 100m drill spacing, KV>0.6, KE<40%, RS < 0.3. • The Competent Person reviewed the distribution of KV, KE and RS in long section view and generated three-dimensional wireframes to select Measured, Indicated and Inferred blocks. These wireframes also take into consideration the location of the underground development and presence of geological mapping and the 20m x 20m underground drilling. The use of wireframes ensured that contiguous areas of like classification were generated thus avoiding the "spotted dog" pattern of classified blocks. • The Mineral Resource classification reflects the Competent Persons view on the confidence and uncertainty of the Dugald River Mineral Resource. • Below is a long section looking east of the Dugald River mineralisation lode showing blocks coloured by KV and the Measured, Indicated and Inferred wireframes used in selecting the Mineral Resource classification. o Measured = red o Indicated = blue o Inferred = grey  **Long-section of the Dugald River Block Model, blocks coloured by KV**
Audits or reviews	• No external independent audits have been performed in 2014. However, several external audits have been completed in recent years including Pennywise Ltd and Lewis Mineral Resource Consultants Pty Ltd in 2013. • The Lewis Mineral Resource Consultants Pty Ltd report found that the estimation process is sound, however was concerned about the method of selection for the inner domain boundary as it was not considered "natural". This concern has been addressed in the 2014 Dugald River Mineral Resource with selection of the grade boundary completed by looking at the drill holes grade interceptions in Datamine; plotted as a grade histogram

	and selecting a boundary which is more representative of geology. • An internal MMG review has been carried on the current 2014 Mineral Resource estimate. This involved personnel from both Corporate and Dugald River sites. No material items to the Mineral Resource have been identified.
Discussion of relative accuracy / confidence	• The Competent Person is of the opinion that the current block estimate provides a good estimate of tonnes and grades at a global scale. In locations where grade control drilling of approximately 10m x 10m drilling density, the Competent Person is of the opinion that confidence is increased in the local estimate of both tonnes and grades. • No change of support adjustments have been performed to the model. • There is no actual production data to compare Mineral Resource confidence against actual mined tonnes and grades of the deposit. • Tonnes and grade checks comparing the 2013 and 2014 Mineral Resource and grade control models to check for tonnes and grade variability and accuracy as a function of increase drilling density has been undertaken. The following is noted: • Drilling density <20m is required for both tonnes and grade accuracy and confidence. • Drilling at 20m in locations that also have underground ore drive development and geological mapping of the deposit provides good confidence in the geological continuity and confidence in the tonnes. • Drilling at >20m provides less confidence in both tonnes and grades accuracy if no underground development and geological mapping of the deposit is present.

9.4 Ore Reserves – Dugald River

9.4.1 Results

The 2014 Dugald River Ore Reserve are summarised in Table 40.

Table 40 2014 Dugald River Ore Reserve tonnage and grade (as at 30 June 2014)

Dugald River Ore Reserve							
					Contained Metal		
	Tonnes (Mt)	Zinc (%)	Lead (%)	Silver (g/t)	**Zinc ('000 t)**	**Lead ('000 t)**	**Silver (Moz)**
Probable	21.2	12.6	2.2	49	2,671	464	33
Total	**21.2**	**12.6**	**2.2**	**49**	**2,671**	**464**	**33**
Total Contained Metal					**2,671**	**464**	**33**

Cut-off grade based on Net Smelter Return after Royalties (NSRAR), expressed as a dollar value A$170 /t.

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

Contained metal does not imply recoverable metal

9.5 Ore Reserves JORC 2012 Assessment and Reporting Criteria

The following information provided in Table 41 complies with the 2012 JORC Code requirements specified by "Table-1 Section 4" of the Code.

Table 41 JORC 2012 Code Table 1 Assessment and Reporting Criteria for Dugald River Ore Reserve 2014

Assessment Criteria	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resources are reported inclusive of the Mineral Resources used to define the Ore Reserves. • The Mineral Resource model used was the MMG June 2014 Mineral Resource model. • Risks associated with the model are related to ore body complexity seen underground but not reflected in the Mineral Resource model due to the spacing of the drill holes that inform the model. • The 2013 geotechnical model was used to estimate the hangingwall (HW) thickness, tonnes and grade of the unplanned dilution applied to the 2014 stope shapes.
Site visits	• Richard Butcher is the Competent Person for the Dugald River Ore Reserve and undertook site visits in 2014.
Study status	• The Dugald River study has progressively been enhanced. o 2008/09 Feasibility Study Report (FS09) o 2010 Feasibility Report Update which incorporated work from both Ausenco and AMC o 2012 Board Submission – basis for conditional project approval o 2013 Mining Method Review – recommendation for alternate mining assumptions o 2013 Business Options Review – reassessment of business case for the revised mining assumptions (2013BOR) o 2014 Dugald River DRAFT Ore Reserve Supporting Document_04 November 14 (2014OR) • The initial mine design was detailed in a Feasibility Study undertaken in 2008 and released in January 2009 (FS09). • There has been a series for reviews done on operating and capital costs, infrastructure optimisation, trial mining is taking place, and metallurgical studies are in progress. The enhancements and risks to FS09 have been stated below. • With physical access into the orebody occurring in 2012 it was recognised that the orebody was more complex than modelled from drilling results and that the geotechnical conditions of the orebody HW were more challenging for dilution control than assumed in the 2009 Feasibility Study. • In November 2012, a major geotechnical study was commenced involving re-examination and re-logging of all diamond drill core and re-analysis of the geotechnical parameters of the ore-zone

Assessment Criteria	**Commentary**
	and HW zones. • Detailed design work, including scheduling and cost modelling, was undertaken by AMC Consultants Pty Ltd for a 20m development level spacing x 15m stope strike length for the 2013 Ore Reserve process. The 2014 trial mining was based on a 25m level spacing as the upper levels of the mine were already developed. Stopes were initially mined 15m along strike, with larger stopes mined based on the experience gained. The initial results have indicated that a 25m level spacing and 20m strike length are achievable and was the basis of the 2014 Ore Reserve. • The trial mining campaign, which will be completed by the end of 2014, is testing various mining parameters. The chosen mining configuration to be applied to the area outside of trial mining is likely to change. • Further studies are underway regarding the treatment of the Dugald River (DR) ore that may modify the results of the Ore Reserve. • 2013 Mining Method Review – recommendation for alternate mining assumptions was done and used for Ore Reserve 30 June 2013 • Business Options Review 2013 (2013BOR). The 2014 Ore Reserve process completed on 4 November 2014 incorporates the knowledge of previous studies and the mining experience gained from the 2014 trial mining campaign. • Business Options Review (2014OR) of 4 November 2014 incorporates these enhancements into earlier studies. 2014OR is the study used for 30 June 2014 Ore Reserve and Mineral Resource. 2014OR is the most up-to-date study. The processing throughput rate applied in this study is 1.75Mtpa. • The main differences between FS09, 2013OR and the 2014OR are; o Analysis of the trial mining has proved up the detailed geotechnical and underground design. The results have enhanced the confidence in the 2014OR schedule. o Testing of bulk samples of ore from trial mining of the deposit is currently in progress to confirm that the design metallurgical performance can be achieved in continuous operation. o A plant trail of ore through the Century concentrator has also been completed, but the duration was too short to assess scale-up reliably. The primary purpose was to produce zinc concentrate for market acceptance evaluation. o In addition to scale-up of metallurgical performance the other risk is higher than expected reagent additions due to a recycling of ultrafine carbon in the return water. A

Assessment Criteria	**Commentary**
	program to mitigate this effect is currently in progress. o The upfront capital required to commence production is high. The 2014OR allows for transporting ore to the Century processing facility for three years, which postpones upfront capital. o The 2014OR has detailed revision of the capital and operating costs. o The 2014OR undertaken shows that the Ore Reserve is technically achievable and economically viable. The material modifying factors have been considered.
Cut-off parameters	• A$170/t NSRAR cut-off has been used for the 2014 Ore Reserves. • The commodity price and exchange rate assumptions are supplied by MMG Finance department. The majority of 2014 Ore Reserve is assessed as a long-term Ore Reserve scenario. The October 2014 guidance was deemed more appropriate than the original guidance as 2014OR calculations were still in progress. • The cut-off was used in selecting Ore Reserves shapes.
Mining factors or assumptions	• A detailed design 2014OR was used to report Mineral Resource conversion to an Ore Reserve. • The Mineral Resource model used was the MMG June 2014 Mineral Resource model (2014 MRM). • Risks associated with the model are related to ore body complexity seen underground but not reflected in the Mineral Resource model due to the spacing of the drill holes that inform the model. • The 2013 geotechnical model was used to estimate the HW thickness, tonnes and grade of the unplanned dilution applied to the 2014 stope shapes. • The ore body is split into a north and south mine, due to its 2km strike length and a low-grade zone in the centre of the ore body. • The north mine is narrow (average ~5m 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 200m from surface) and lower zone (~below 700m from surface). The central zone is flatter and thicker than the upper and lower zones. • DR will be mined using sub-level open stopes (SLOS). Results from the trial mining has indicated the level interval of 25m and stope strike length of 20m is possible, although further work is required to determine if the 25m level interval is suitable for the flatter dipping areas. • The stopes are broken into the following categories: o Longitudinal SLOS, for any stopes less than 8m wide horizontally.

Assessment Criteria	Commentary
	o Transverse SLOS, made up of 20m strike SLOS mined full width of the ore-body. o Crown pillar SLOS, for the top level of each panel where stoping occurs directly below a previous mined area. • The stopes were created by applying the Mineable Shape Optimizer (MSO) software in Deswik CAD to the 2014MRM (drmd0614_min.dm) that was created in Datamine. • The parameters used to create the stope shapes were: o All Mineral Resource categories included o 25m level interval o 20m strike length o Minimum mining width (MMW) of 2.5m o Minimum dip of 45 degrees o Minimum waste pillar between parallel stopes of 5m o A$160/t NSR_AR cut-off applied to create initial stope shapes (not final cut-off) • No additional dilution applied (as the unplanned dilution is applied later in the evaluation process). • Completed ore production from DR consists of ore development and eight trial stopes. A total of 297kt of ore has been mined from DR. This consists of 82kt of stoping and the remainder from ore development. In October 2013, approximately 93kt ore from the trial mining at DR was batch fed through the Century mill. • Several aspects of dilution were considered, planned dilution, fill dilution, foot wall (FW) 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. FW dilution was included where ore development was wider than the stope width. No additional FW dilution was applied as the initial stope shapes took into account minimum mining widths and dip. • 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 HW dilution model as dilution varies across the ore-body according to the HW conditions. • An allowance was included for fill dilution. The stope recovery allowance covers stope under-break, ore loss into fill at the base of the stope and ore left in the base of the stope. Fill Dilution and Stope Recovery Factors are: o Floor 0.15m and wall fill ranges from 0.3m to 0.5m dilution. o Recoveries Crown stopes 65%, Longitudinal and Transverse 95%. • Development grades were diluted by the application of a grade

Assessment Criteria	**Commentary**
	factor of 90% to all ore development grades estimated from the corresponding stope grades.

- No Inferred Mineral Resources are included in the Ore Reserve. A sensitivity was done inclusive of Inferred Mineral Resources increasing the scheduled mine life from 15 years to 22 years.
- The underground (UG) mine is accessed via two declines. The mine is split into two parts – north and south and thus it has two separate declines for the UG access. As at 30 June 14 there is 3,134m of decline in place. In addition there is 10,942m of lateral development in place.
- Currently three raisebored ventilation shafts are in place:
    - the southern Fresh Air Raise (FAR) – at 3.5m diameter and 130m depth;
    - the southern Return Air Raise (RAR) – at 5.0m diameter and 198m depth;
    - the northern FAR at 3.5m diameter and 172m depth (currently being used as RAR).
- There is also a RAR longhole winze (LHW) system in the south mine – at 3.7m square and 96m long.
- Two escape raises are in place:
    - south mine escape way at 1.8m diameter and 222m depth
    - north mine escape way at 1.8m diameter and 93m depth
- The expected total underground development for the Ore Reserve only is summarised in the table below:

	Life-of-Mine		**Ore Reserve ONLY**	
Description	**Length**	**Tonnes/Material**	**Length**	**Tonnes/ Material**
Decline	16km	1.3Mt of waste	12km	1.0Mt of waste
Access horizontal development	23km	1.9Mt of waste	18km	1.5Mt of waste
Vertical development	9km	0.4Mt of waste	7km	0.3Mt of waste
Footwall drives	43km	3.6Mt of waste	26km	2.2Mt of waste
Cross-cuts	44km	3.7Mt of waste	27km	2.3Mt of waste
Ore development	55km	4.5Mt of ore	36km	3.0Mt of ore

- Mining mobile fleet is planned to include 3 twin-boom jumbos, 3 cable bolting rigs, 6 loaders, 8 dump trucks, 2 long-hole drill rigs, 2 shotcrete rigs, 3 transmixers, 4 charge-up vehicles, 3 raisebore drill rigs, 3 integrated tool carriers, and light vehicle fleet.

Assessment Criteria	**Commentary**
Metallurgical factors or assumptions	• The metallurgical process proposed for treatment of Dugald ore involves crushing and grinding followed by selective flotation to produce separate lead and zinc concentrates. This process is conventional for this style of mineralisation and is used world-wide. MMG currently operates the Century Mine in Queensland using an almost identical process. • The flowsheet has been extensively tested at bench scale with over 200 tests being completed on a wide range of samples. The results of these tests have been used to establish the metallurgical factors used for Ore Reserve calculations. Key parameters are: o Lead recovery to a lead concentrate (con) assaying 70% Pb according to the equation: $Pb\ rec = min\ (75{,}112.08 - (1.814*Zn\%)-(21.081*Pb\%)-(2.404*S\%)+(1.761*S\%*Pb\%))$ $R^2 = 0.46$ o Silver recovery of 35% to a lead concentrate assaying 970 g/t Ag which is the average grade for all tests completed o Zinc recovery of 87% to a concentrate assaying 51.5% Zn (rounded from the average of results for 52 variability samples using the selected flowsheet) o Iron assay of zinc concentrate according to the equation: $\%Fe\ in\ Zn\ con = 41.7\% - 0.5915\ x\ Zn\ Con\ Grade$. This equation aligns with the average for all bench results o Manganese assay of zinc concentrate according to the equation: $\%Mn\ in\ Zn\ Con = -0.799+0.092*Fe\%+1.572*Mn\%+0.765*C\%-0.049*(Fe\%*C\%)$ $R^2 = 0.65$ where Zn%, Pb%, Fe%, S%, Mn% and C% refer to the relevant assays of the ore. • A full check has been completed of possible deleterious elements and the only two that are material to economic value are Fe and Mn in the Zn con. It is for this reason that the algorithms to predict these components have been developed. • As required, 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. • Testing of bulk samples of ore from trial mining of the deposit is currently in progress to confirm that the design metallurgical performance can be achieved in continuous operation. The results so far are given in Table 42 which also includes the expected result for comparison. **Table 42 Pilot plant results**

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

	Pb Con		Zn Con	
	Pb Rec	Pb Grade	Zn Rec	Zn Grade
Expected performance	69.2	70.0	87.0	51.5
Best pilot plant run	64.1	53.4	85.1	46.9

- The best available evidence is that instabilities in circulating loads impacted performance. Changes to the recycle strategy have been developed to overcome such issues and will shortly be tested.
- A plant trial of ore through the Century concentrator has also been completed, but the duration was too short to assess scale-up reliably. An objective of the trial was also to produce zinc concentrate for market acceptance evaluation. The average grade of concentrate produced was 50.3% Zn, 8.3% Fe, 3.0% SiO_2 and 1.3% Mn.
- In addition to scale-up of metallurgical performance the other risk is higher than expected reagent additions due to a recycling of ultrafine carbon in the return water. A program to mitigate this effect is currently in progress.
- No required mineral specifications have been identified for this deposit. The grade of the zinc concentrate is dependent on the Fe and Mn content of the sphalerite, but this dependence is taken into account by the algorithms presented earlier.
</td></tr>
<tr><td>Environmental</td><td>

- Dominant vegetation comprises remnant woodlands and there are no major watercourses on the site however there are several minor ephemeral tributaries.
- The Environmental Impact Statement (EIS) was submitted to Queensland Environmental Protection Agency (QEPA, now Department of Environment and Heritage Protection) in November 2010 with final Environmental Assessment (EA) approval issued in August 2011. The Plan of Operations is valid until June 2016.
- Dugald River has both a Construction Environmental Management Plan and an Environmental Management Plan; the former is still being used as the operation is still in a trial mining phase.
- Environmental license conditions require DR to deposit all waste rock underground as this reduces waste onsite and decreases impact to the environment. The waste rock will be used as stope backfill.
</td></tr>
<tr><td>Infrastructure</td><td>

- Currently the DR project is operating using diesel generators. Northwest Queensland is not connected to the state electricity grid. Plans are to connect to the Mica Creek gas fired power station on the southern outskirts of Mount Isa.
- Gas will be supplied via the Carpentaria pipeline which will require a compression station at Bellevue. Power will be transmitted to Chumvale using Ergon Energy's existing 220 kV line then to DR via an MMG owned 220 kV line. This line will be approximately 62 km
</td></tr>
</table>

Assessment Criteria	**Commentary**
	long and the route was selected after extensive community consultation. Power for the underground operation will be stepped down to 1000V for fixed plant and mining equipment. • The main source of raw water will be Lake Julius. Raw water will be supplied from the existing Lake Julius to Ernest Henry pipeline owned and operated by Sun Water, a Queensland-government-owned corporation. Two identical water treatment plants at the plant site and accommodation village. • Based on the current production schedule, DR site manning numbers peak at 530 people in 2022. Cloncurry airport is used by commuter aircraft operating to Townsville, Cairns and Brisbane and serves as the fly-in–fly-out (FIFO) airport. • Existing surface infrastructure includes: o a 11km sealed access road from the Burke Developmental Road which includes an emergency airstrip for medical and emergency evacuation use; o a construction camp; o a permanent camp; o Telstra communication tower o a temporary contractors mobile equipment facility; o ore and waste stockpile pads; o contaminated run-off water storage dams; o Office facilities; o office buildings including emergency medical facilities; o a core shed; o a fuel farm and gensets for power generation; o bore water fields; • Major infrastructure yet to be built includes: a processing plant; a tailings storage facility; a permanent mobile equipment workshop; recreational facilities; power supply lines; and raw water supply pipe line. The land for the infrastructure yet to be built has been identified and is available.
Costs	• The estimation of Capital cost for the Dugald River project were derived from first principles in the Feasibility Study and since been refined through further study work. • The mining operating costs were estimated by AMC using first-principles and include a 2.5% contingency. • 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

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>expected to attract additional costs.

The commodity price assumptions are supplied by MMG Finance department. The Dugald River Ore Reserve applied the October 2014 guidance as this applied to study updates.
The exchange rate used was 0.82 ($A/$US), which is the October 2014 Long Term (+2018) MMG guidance and assumptions.
The road freight and logistics for domestic and export sales have been updated using the costs from the 2013 BOR report with a 3% escalation in costs. The additional costs for storing and ship loading of concentrate in Townsville are included. For the 2014 Ore Reserve the storage and ship loading cost has been added to the freight and logistics cost for export. The freight and logistic costs for the domestic sale of concentrate includes 50% of the sea freight cost based on an agreement with Sun Metals.
Treatment and refining charges are based on MMG's estimate as no contracts are currently in place.
Queensland State Government royalties 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.
</td></tr>
<tr><td>Revenue factors</td><td>
Realised Revenue Factors (Net Smelter Return after Royalty)
As part of the 2014 Ore Reserve process the net smelter return (after royalty) (NSRAR) has been revised with the latest parameters and compared against the previous 2012 NSR calculation that was used for the 2013 Ore Reserve.
The NSR_AR 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.
Freight and logistic charges have increased by 42% due to the inclusion of the Townsville concentrate storage extension and ship loading costs into the NSR_AR calculation. Also an increase in domestic freight and logistics of 3% offset by a decrease in sea freight of 9%.
Although there are some gains in the parameters (lead price and sea freight) the majority of the changes to the 2014 parameters have had a negative effect to the zinc and lead multipliers which in turn reduced the value of the ore at DR.
The Revised 2014 Long-term Values (Oct 2014) have been used for the economic evaluation of the 2014OR.

<table>
<tr><th>Description</th><th>2012 Long-term Values</th><th>2014 Long-term Values</th><th>Revised 2014 Long-term Values (Oct 2014)</th></tr>
<tr><td>Zinc price (US$/lb)</td><td>1.18</td><td>1.14</td><td>1.20</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Assessment Criteria</th><th>Commentary</th></tr>
<tr><td></td><td><table>
<tr><td>Lead price (US$/lb)</td><td>1.12</td><td>1.14</td><td>1.12</td></tr>
<tr><td>Silver price (US$/oz)</td><td>20.94</td><td>21.09</td><td>21.10</td></tr>
<tr><td>Exchange Rate (AU$/US$)</td><td>0.84</td><td>0.82</td><td>0.82</td></tr>
</table></td></tr>
<tr><td>Market assessment</td><td>• The outlook for growth in the metals and mining industry on a global scale remains positive. While demand for metals has been affected by flat economic conditions in the United States and Europe, this has been offset by the strong demand that flows from the expansion of developing economies which are driven by domestic demand. Growth in domestic demand in most emerging economies is projected to continue. The global economy grew 3.0% in 2013, and the IMF-World Bank is forecasting global growth of 3.6% in 2014 and 3.9% in 2015. Advanced economies will account for 1.5 to 2% and emerging economies for 5.5 to 6%. Despite signs of a slowdown in China, the IMF sees China growing 7.5% in 2014 and 7.3% in 2015.
• High barriers to entry exist in the mining industry due to the high capital costs of establishing or acquiring operations, heavy market regulation of this sector in many countries and long lead times to production. In recent times, there have been only a small number of discoveries of significant deposits of high grade zinc. The combination of these factors discourages new entrants to this sector which affords a competitive advantage to established operators such as MMG in exploring and developing new deposits.
• Zinc market tightness will be increasing for short to medium term due to supply and demand, LME inventories have fallen and the zinc metal price has risen 20% since December 2013
• The growth in demand from emerging economies is expected to drive demand for all basic commodities;
o Market expectations of zinc demand growth are in excess of 5% per annum for the next 5 years, underpinned by continued growth in the Chinese steel sector and trend towards value added steels (i.e. galvanised steel for corrosion protection).
• Commodity price forecasts are provided by MMG Finance department.
• Dugald River does not market any industrial minerals.
• There is a concern with potential marketability of some of the DR product due to manganese content.</td></tr>
<tr><td>Economics</td><td>• Economic modelling of the total mining inventory shows positive annual operating cash flows. Mining costing work, completed by AMC in August 2014, has indicated areas of potential cost savings which will have a beneficial impact on the project economics. Further cost analysis was completed in October 2014 on the milling and site infrastructure. Applying the revised costs, metal</td></tr>
</table>

Assessment Criteria	**Commentary**
	prices and exchange rate (MMG October 2014 Long Term economic assumptions) returns a positive NPV. MMG uses a discount rate appropriate to the size and nature of the organisation and deposit. • All evaluations were done on real dollars.
Social	• The nearest major population centre to the project is Cloncurry with a population of approximately 4,000 and the largest employers are mining, mining related services and grazing. • In terms of 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. • 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 pursuant to the Native Title Act 1993. The agreement sets out the compensation payments and MMG's obligations for training, employment and business development opportunities if/when the project is commissioned. MMG has developed an excellent working relationship with the Kalkadoon claimant group. MMG have 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. • The Mitakoodi and Mayi People filed a claim in October 1996 and covers an area that includes part of the power line corridor. Whilst the Mitakoodi have not yet been granted Native Title, MMG continue to liaise with them as a stakeholder due to the 'last claimant standing' legal tenement. • 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 ground disturbing work undertaken on site to date without any issues or complications. The CHMP was developed in consultation with the Kalkadoon # 4 People.
Other	• There are no identified material naturally occurring risks. • The legal agreements are in place. There are no outstanding material legal agreements. • No required mineral specifications have been identified for this deposit. The grade of the zinc concentrate is dependent on the Fe and Mn content of the sphalerite, but this dependence is taken into account by the algorithms presented earlier. 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

Assessment Criteria	**Commentary**
	contractual range for concentrate sales and thus not expected to attract additional costs. - The government agreements and approvals are in place. There are no material unresolved matters on which the extraction of the Ore Reserve is contingent.
Classification	- Ore Reserves are all reported as Probable. Due to uncertainties with a number of the modifying factors, no Proved Ore Reserves have been declared. - Only Measured (16%) and Indicated (84%) Mineral Resources have been used to inform the Probable Ore Reserves. No Inferred Mineral Resources are included in the Ore Reserves.
Audit or Reviews	- No external audits have been undertaken for the 2014 Ore Reserve. MMG personnel have been involved in reviewing the Ore Reserve process. - An Independent Peer Review was undertaken by Pennywise on the whole project as part of a mining method review study prior to the 2014 Ore Reserve estimate.
Discussion of relative accuracy/ confidence	- Risks that may materially change/affect the Ore Reserve. **Identified Risk** 1) Geological understanding of the grade continuity with respect to diamond drill spacing. 2) Geotechnical risk associated with hanging-wall instability and mining dilution. Further analysis is being completed in the form of a trial stoping campaign with clear understanding on mining parameters (mining recovery and dilution) and timing for stoping activities. 3) Mining infrastructure analysis requires further work on underground trucking, ventilation and power constraints. 4) Metallurgical risks (recovery and concentrate grades) require additional testing to confirm scale up reliability, metallurgical performance and reagent consumption. 5) Economic risks involve the high upfront capital requirement, ongoing detailed revision of the capital and operating costs, and the marginal basis for the current evaluation. - *Close spaced drilling is applied to a locally defined tonnage and grade before mining selection. Ore Reserves are based on all available relevant information. Ongoing work as well as risk is*

Assessment Criteria	**Commentary**
	detailed above. The Probable Ore Reserve is based on local and global scale. - *Ore Reserves accuracy and confidence that may have a material change in modifying factors are discussed above.* - *This ore Reserve is based on the results of a Feasibility Study and continuous enhancements. The confidence in the estimate is based on all the information available. This data is subject to continual review and update. Data analysis continues to verify or mitigate risks that are detailed above. It is currently being discussed to upgrade the Ore Reserve – further trials and optimize the cost basis to strengthen the project combat the above factors.*

9.5.1 Expert Input Table

A number of persons have contributed key inputs to the Ore Reserves determination. These are listed below in Table 43.

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 43 Contributing Experts – Dugald River Ore Reserve

EXPERT PERSON / COMPANY	AREA OF EXPERTISE
Mauro Bassotti, Senior Resource Geologist MMG Ltd (Melbourne)	Geological Mineral Resources
Gavin Marre, Senior Business Analyst, MMG Ltd (Melbourne)	Economic Assumptions
Simon Ashenbrenner, Concentrate Marketing Manager, MMG Ltd (Melbourne)	Marketing, Sea freight and TC/RC
Geoffrey Senior, Group Metallurgy Manager, MMG Ltd (Melbourne)	Metallurgy
Mario Car, General Manager Project Delivery, MMG Ltd (Melbourne)	Project costs
Daniel Kahler, Principal Mining Engineer, AMC Consultants Pty Ltd (Brisbane)	Mining capital and operating Costs
Max Lee, Geotechnical Specialist, MMG Ltd (Melbourne)	Geotechnical
Riek Muller, Technical Services Superintendent, MMG Ltd (Dugald River)	Mining Parameters
Anthony Allman, Director/ Mining Engineer Antcia Consulting Pty Ltd (Brisbane)	Cut-off estimation, Mine Design, scheduling and Economic Evaluation

10 HIGH LAKE

This Mineral Resource 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 2013Technical Appendix.

11 IZOK LAKE

This Mineral Resource 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 2013Technical Appendix.

12 AVEBURY

This Mineral Resource 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 2013Technical Appendix.

13 EXTERNAL REFERENCES

Broadbent, G.C., Andrews, S.J., Kelso, I.J. 2002. A Decade of New Ideas: Geology and Exploration History of the Century Zn-Pb-Ag Deposit, Northwestern Queensland, Australia – Society of Economic Geologists, Chapter 6.

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