## **Explanatory Notes**

15 February 2018



# Explanatory Notes to the Annual Mineral Resources and Ore Reserves Statement - 31 December 2017

## **Summary**

Newcrest Mining Limited has updated its Mineral Resource and Ore Reserve estimates for the twelve month period ending 31 December 2017 and for this purpose, has completed a detailed review of all production sources. The Explanatory Notes provide background information about each province and their Mineral Resource and Ore Reserve estimates as at 31 December 2017.

## **Group Ore Reserves**

As at 31 December 2017, Group Ore Reserves are estimated to contain 62 million ounces of gold, 10 million tonnes of copper and 37 million ounces of silver. This represents a decrease of approximately 3 million ounces of gold (~5%), 0.1 million tonnes of copper (~1%) and 0.7 million ounces of silver (~2%) compared with the estimate as at 31 December 2016. The Group Ore Reserves estimates as at 31 December 2017 are set out in Tables 6 to 9.

The Group Ore Reserves as at 31 December 2017 includes the following changes:

- Estimated mining depletion of approximately 3 million ounces of gold, 0.1 million tonnes of copper and 1 million ounces of silver, offset by minor additions at operating sites
- Removal, post mining depletion, of the Bonikro Ore Reserve by 0.3 million ounces of gold following Newcrest agreeing to divest its 89.89% interest (refer to market release "Newcrest agrees to divest Bonikro for \$81m" dated 13 December 2017)

## **Group Mineral Resources**

As at 31 December 2017, Group Mineral Resources are estimated to contain 120 million ounces of gold, 19 million tonnes of copper and 94 million ounces of silver. This represents a decrease of approximately 7 million ounces of gold (~6%), 0.1 million tonnes of copper (~1%) and 1 million ounces of silver (~1%), compared with the estimate as at 31 December 2016. The Group Mineral Resources estimates as at 31 December 2017 are set out in Tables 2 to 5. Mineral Resources are reported inclusive of Ore Reserves.

The Group Mineral Resources as at 31 December 2017 includes changes at numerous deposits following updated notional constraining shells and/or resource models. These include:

- Estimated mining depletion of approximately 3 million ounces of gold, 0.1 million tonnes of copper and 1 million ounces of silver
- Decrease at Lihir, post mining depletion, of approximately 3 million ounces of gold from Inferred Mineral Resources following re-interpretation based on alteration signatures to define mineralogical domains, updated resource model and re-optimisation of the notional spatial constraining shell. The alteration domain model is based on in situ mineralogical variation predominantly determined by multi-element geochemistry (re-analysis acquired progressively since 2012) and hyperspectral scanning of drill core (obtained progressively since 2012). The alteration based domains improve the quality of the subsequent resource estimation and better define the limits of potentially economic mineralisation

- Decrease at Telfer, post mining depletion, of approximately 0.8 million ounces of gold and 0.07 million tonnes of copper following updated resource models and re-optimised notional constraining shells for the open pit and reductions underground of in situ and cave stocks in consideration of the maturity of the Sub Level Cave operation
- Removal, post mining depletion, of the Bonikro Mineral Resource by 1 million ounces of gold following Newcrest agreeing to divest its 89.89% interest (refer to market release "Newcrest agrees to divest Bonikro for \$81m" dated 13 December 2017)
- Addition of the maiden Mineral Resource for the Antenna Deposit within the Séguéla Project Côte d'Ivoire of approximately 0.4 million ounces of gold

## **Mineral Resource and Ore Reserve Assumptions**

Updated mining, metallurgical and long term cost assumptions were developed with reference to recent performance data. The revised long term assumptions include change in performance consistent with changing activity levels at each site over the life of the operation and the latest study for each deposit.

Long term metal prices and foreign exchange assumptions for Mineral Resources and Ore Reserves are set out in Table 1. Gold, copper and silver metal price assumptions remain unchanged from those used for December 2016 reporting. There has been no change to the AUD:USD exchange rate assumption since December 2016 reporting but local currency assumptions for Côte d'Ivoire Franc and PNG Kina have been updated (the Indonesia Rupiah remains unchanged). MMJV long term metal price and exchange rate assumptions (refer Table 1) are aligned to Newcrest assumptions. The Namosi Joint Venture (NJV) continues to use the joint venture agreed long term metal price and exchange rate assumptions unchanged from December 2015. NJV agreed metal price assumptions are USD 1,350/oz gold and USD 3.40/lb copper for Mineral Resources and USD 1,250/oz gold and USD 3.00/lb copper for Ore Reserves and AUD:USD 0.85 exchange rate.

Where appropriate, Mineral Resources are also spatially constrained within notional mining volumes based on metal prices of USD 1,400/oz for gold and USD 4.00/lb for copper. This approach is adopted to eliminate mineralisation that does not have reasonable prospects of eventual economic extraction from Mineral Resource estimates.

Table 1

Long Term Metal Price Assumptions	Newcrest & MMJV
Mineral Resource Estimates	
Gold – USD/oz	1,300.00
Copper – USD/lb	3.40
Silver – USD/oz	21.00
Ore Reserve Estimates	
Gold – USD/oz	1,200.00
Copper – USD/lb	3.00
Silver – USD/oz	18.00
Long Term Exchange Rate AUD: USD	0.80

## **JORC Code 2012 and ASX Listing Rules Requirements**

This annual statement of Mineral Resources and Ore Reserves has been prepared in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code 2012).

Information prepared and first disclosed under the JORC Code 2004 Edition and not related to a material mining project and which has not materially changed since last reported has not been updated, specifically Wafi and Nambonga Mineral Resources.

Mineral Resource and Ore Reserve estimates reported for the Morobe Mining Joint Ventures (MMJV) are based on Competent Persons' statements provided by the MMJV and are quoted as Newcrest's 50% interest.

Table 2 – 31 December 2017 Gold Mineral Resources

Dec-17 Mineral Resources		Measured	Resource	Indicated	Resource	Inferred F	Resource	Dec-17	Total Re	source		rison to l	
Gold Mineral Resources (inclusive of Gold Ore Reserves)	Competent Person	Dry Tonnes (million)	Gold Grade (g/t Au)	Insitu Gold (million ounces)	Dry Tonnes (million)	Gold Grade (g/t Au)	Insitu Gold (million ounces)						
Operational Provinces													
Cadia East Underground		0.23	1.2	3,000	0.37	-	-	3,000	0.37	35	3,000	0.38	36
Ridgeway Underground	Stephen Guy	-	-	110	0.57	41	0.38	150	0.52	2.4	150	0.51	2.4
Other		140	0.47	120	0.38	39	0.40	300	0.43	4.1	310	0.43	4.2
Total Cadia Province										42			43
Main Dome Open Pit		13	0.39	26	0.84	0.62	0.56	40	0.68	0.87	64	0.72	1.5
West Dome Open Pit	James Biggam	-	-	190	0.63	11	0.62	200	0.62	4.0	190	0.61	3.6
Telfer Underground	James Biggam	-	-	49	1.6	12	1.5	61	1.6	3.1	100	1.3	4.1
Other		-	-	0.44	2.9	4.4	1.1	4.9	1.3	0.20	4.9	1.3	0.20
Total Telfer Province										8.2			9.5
Lihir	Glenn Patterson-Kane	82	2.1	560	2.3	67	2.3	710	2.3	52	800	2.2	56
Gosowong <sup>1</sup>	Rob Taube	-	•	2.9	11	0.81	8.8	3.7	10	1.2	3.7	12	1.4
Bonikro <sup>2</sup>	Drissa Sankare	-	•	-	-	-	-	-	-	-	29	1.3	1.2
Seguela	Paul Kitto	-	-	-	-	5.8	2.3	5.8	2.3	0.43	-	-	-
Total Operational Provinces										100			110
Non-Operational Provinces													
MMJV - Golpu / Wafi & Nambonga (50%) <sup>3</sup>	Paul Dunham / Greg Job	-	-	400	0.86	99	0.74	500	0.83	13	500	0.83	13
Namosi JV (71.42%) <sup>4</sup>	Vik Singh	-	-	1,300	0.11	220	0.10	1,600	0.11	5.4	1,500	0.11	5.4
Total Non-Operational Provinces										19			19
Total Gold Mineral Resources										120			130

NOTE: Data are reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals

Gosowong (inclusive of Toguraci and Kencana) is owned and operated by PT Nusa Halmahera Minerals, an incorporated joint venture company (Newcrest 75%). The figures shown represent 100% of the Mineral Resource.

Bonikro is inclusive of mining and exploration interests in Côte d'Ivoire held by LGL Mines CI SA (Newcrest 89.89%) and Newcrest Hiré CI SA (Newcrest 89.89%). The figures shown represent 100% of the Mineral Resource.

MMJV refers to projects owned by the Morobe Mining unincorporated joint ventures between subsidiaries of Newcrest (50%) and Harmony Gold Mining Company Limited (50%). The figures shown represent 50% of the Mineral Resource.

Namosi refers to the Namosi unincorporated joint venture, in which Newcrest has a 71.42% interest. The figures shown represent 71.42% of the Mineral Resource at December 2017 compared to 70.75% of the Mineral Resource at December 2016.

Table 3 – 31 December 2017 Copper Mineral Resources

Dec-17 Mineral Resources		Measured	Resource	Indicated	Resource	Inferred F	Resource	source Dec-17		7 Total Resource		Comparison to Dec-16 Total Resource		
Copper Mineral Resources (inclusive of Copper Ore Reserves)	Competent Person	Dry Tonnes (million)	Copper Grade (% Cu)	Insitu Copper (million tonnes)	Dry Tonnes (million)	Copper Grade (% Cu)	Insitu Copper (million tonnes)							
Operational Provinces														
Cadia East Underground		0.23	0.31	3,000	0.26	-	-	3,000	0.26	7.7	3,000	0.26	7.8	
Ridgeway Underground	Stephen Guy	•	•	110	0.30	41	0.40	150	0.33	0.48	150	0.33	0.48	
Other		140	0.13	120	0.17	39	0.25	300	0.16	0.48	310	0.16	0.49	
Total Cadia Province										8.7			8.7	
Main Dome Open Pit		7.0	0.10	26	0.070	0.62	0.068	33	0.077	0.026	59	0.076	0.045	
West Dome Open Pit		1	1	190	0.058	11	0.062	200	0.058	0.12	190	0.065	0.12	
Telfer Underground	James Biggam	-	-	49	0.37	12	0.50	61	0.40	0.24	100	0.30	0.31	
Other		-	1	-	-	14	0.37	14	0.37	0.052	14	0.37	0.052	
O'Callaghans		-	-	69	0.29	9.0	0.24	78	0.29	0.22	78	0.29	0.22	
Total Telfer Province										0.66			0.75	
Total Operational Provinces										9.3			9.5	
Non-Operational Provinces														
MMJV - Golpu / Wafi & Nambonga (50%) <sup>5</sup>	Paul Dunham / Greg Job	-	-	340	1.1	88	0.71	430	1.0	4.4	430	1.0	4.4	
Namosi JV (71.42%) <sup>6</sup>	Vik Singh	-	-	1,300	0.34	220	0.41	1,600	0.35	5.4	1,500	0.35	5.4	
Total Non-Operational Provinces										10			10	
Total Copper Mineral Resources	S									19			19	

NOTE: Data are reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals

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#### Table 4 – 31 December 2017 Silver Mineral Resources

Dec-17 Mineral Resources		Measured Resource		Indicated Resource		Inferred Resource		Dec-17 Total Resource			Comparison to Dec-16 Total Resource		
Silver Mineral Resources (inclusive of Silver Ore Reserves)	Competent Person	Dry Tonnes (million)	Silver Grade (g/t Ag)	Insitu Silver (million ounces)	Dry Tonnes (million)	Silver Grade (g/t Ag)	Insitu Silver (million ounces)						
Operational Provinces													
Cadia Valley Operations	Stephen Guy	0.23	0.83	3,100	0.69	41	0.43	3,100	0.68	68	3,100	0.68	69
Gosowong <sup>7</sup>	Rob Taube	-	-	2.9	15	0.81	12	3.7	14	1.7	3.7	19	2.3
Total Operational Provinces										70			71
Non-Operational Provinces													
MMJV - Golpu / Wafi (50%) <sup>8</sup>	Paul Dunham / Greg Job	-	-	400	1.6	79	1.3	480	1.6	24	480	1.6	24
Total Non-Operational Provinces										24			24
Total Silver Mineral Resources										94			95

## Table 5 – 31 December 2017 Polymetallic Mineral Resources

Dec-17 Mineral Resources		Tonnes		Grade		Contained Metal			
Polymetallic Mineral Resources (inclusive of Polymetallic Ore Reserves)	Competent Person	Dry Tonnes (million)	Tungsten Trioxide Grade (% WO <sub>3</sub> )	Zinc Grade (% Zn)	Lead Grade (% Pb)	Insitu Tungsten Trioxide (million tonnes)	Insitu Zinc (million tonnes)	Insitu Lead (million tonnes)	
O'Callaghans									
Measured		-	-	-	-	•	-	-	
Indicated	James Biggam	69	0.34	0.53	0.26	0.24	0.36	0.18	
Inferred		9.0	0.25	0.19	0.11	0.023	0.017	0.0097	
Total Polymetallic Mineral Resources		78	0.33	0.49	0.24	0.26	0.38	0.19	
Measured		-	-	-	-	-	-	-	
Indicated	James Biggam	69	0.34	0.53	0.26	0.24	0.36	0.18	
Inferred		9.0	0.25	0.19	0.11	0.023	0.017	0.0097	
Comparison to Dec-16 Total Polymetallic Mineral Resources		78	0.33	0.49	0.24	0.26	0.38	0.19	

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MMJV refers to projects owned by the Morobe Mining unincorporated joint ventures between subsidiaries of Newcrest (50%) and Harmony Gold Mining Company Limited (50%). The figures shown represent 50% of the Mineral Resource.

Table 6 – 31 December 2017 Gold Ore Reserves

Dec-17 Ore Reserves		Proved I	Reserve	Probable	Reserve	Dec-17 Total Reserve			Comparison to Dec-16 Total Reserve			
Gold Ore Reserves	Competent Person	Dry Tonnes (million)	Gold Grade (g/t Au)	Dry Tonnes (million)	Gold Grade (g/t Au)	Dry Tonnes (million)	Gold Grade (g/t Au)	Insitu Gold (million ounces)	Dry Tonnes (million)	Gold Grade (g/t Au)	Insitu Gold (million ounces)	
Operational Provinces												
Cadia East Underground		-	-	1,400	0.48	1,400	0.48	22	1,500	0.48	23	
Ridgeway Underground	Geoffrey Newcombe	-	-	80	0.54	80	0.54	1.4	80	0.54	1.4	
Other		19	0.29	67	0.59	86	0.53	1.5	90	0.52	1.5	
Total Cadia Province								25			25	
Main Dome Open Pit		13	0.39	7.8	0.85	21	0.56	0.38	30	0.61	0.58	
West Dome Open Pit	Brett Ascott	-	-	65	0.76	65	0.76	1.6	78	0.67	1.7	
Telfer Underground		-	-	8.0	1.7	8.0	1.7	0.43	19	1.4	0.83	
Total Telfer Province								2.4			3.1	
Lihir	Steven Butt	82	2.1	260	2.4	340	2.3	25	360	2.3	26	
Gosowong <sup>9</sup>	Jimmy Suroto	-	-	1.9	8.0	1.9	8.0	0.48	1.9	9.7	0.58	
Bonikro <sup>10</sup>	Emmanuel Kwarfo	-	-	-	-	-	-	-	11	1.2	0.43	
Total Operational Provinces								53			56	
Non-Operational Provinces												
MMJV - Golpu (50%) 11	Pasqualino Manca	-	-	190	0.91	190	0.91	5.5	190	0.91	5.5	
Namosi JV (71.42%) 12	Geoffrey Newcombe	-	-	950	0.12	950	0.12	3.7	940	0.12	3.7	
Total Non-Operational Provinces								9.2			9.2	
Total Gold Ore Reserves								62			65	

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Gosowong (inclusive of Toguraci and Kencana) is owned and operated by PT Nusa Halmahera Minerals, an incorporated joint venture company (Newcrest 75%). The figures shown represent 100% of the Ore Reserve.

Bonikro is inclusive of mining and exploration interests in Côte d'Ivoire held by LGL Mines CI SA (Newcrest 89.89%) and Newcrest Hiré CI SA (Newcrest 89.89%). The figures shown represent 100% of the Ore Reserve.

MMJV refers to projects owned by the Morobe Mining unincorporated joint ventures between subsidiaries of Newcrest (50%) and Harmony Gold Mining Company Limited (50%). The figures shown represent 50% of the Ore Reserve.

Namosi refers to the Namosi unincorporated joint venture, in which Newcrest has a 71.42% interest. The figures shown represent 71.42% of the Ore Reserve at December 2017 compared to 70.75% of the Ore Reserve at December 2016.

Table 7 – 31 December 2017 Copper Ore Reserves

Dec-17 Ore Reserves		Proved F	Reserve	Probable	Reserve	Dec-1	7 Total Re	serve	Compari	son to Dec Reserve	-16 Total
Copper Ore Reserves	Competent Person	Dry Tonnes (million)	Copper Grade (% Cu)	Dry Tonnes (million)	Copper Grade (% Cu)	Dry Tonnes (million)	Copper Grade (% Cu)	Insitu Copper (million tonnes)	Dry Tonnes (million)	Copper Grade (% Cu)	Insitu Copper (million tonnes)
Operational Provinces											
Cadia East Underground		-	-	1,400	0.28	1,400	0.28	4.0	1,500	0.28	4.0
Ridgeway Underground	Geoffrey Newcombe	-	-	80	0.28	80	0.28	0.23	80	0.28	0.23
Other		19	0.14	67	0.15	86	0.15	0.13	90	0.14	0.13
Total Cadia Province								4.3			4.4
Main Dome Open Pit		7.0	0.10	7.8	0.080	15	0.090	0.013	24	0.097	0.023
West Dome Open Pit	Brett Ascott	-	-	65	0.074	65	0.074	0.048	78	0.060	0.047
Telfer Underground	Diett Ascott	-	-	8.0	0.28	8.0	0.28	0.023	19	0.24	0.045
O'Callaghans		-	-	44	0.29	44	0.29	0.13	44	0.29	0.13
Total Telfer Province								0.21			0.24
Total Operational Provinces								4.5			4.6
Non-Operational Provinces											
MMJV - Golpu (50%) <sup>13</sup>	Pasqualino Manca	-	-	190	1.3	190	1.3	2.4	190	1.3	2.4
Namosi JV (71.42%) 14	Geoffrey Newcombe	-	-	950	0.37	950	0.37	3.6	940	0.37	3.5
Total Non-Operational Provinces								5.9			5.9
Total Copper Ore Reserves								10			11

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Namosi refers to the Namosi unincorporated joint venture, in which Newcrest has a 71.42% interest. The figures shown represent 71.42% of the Ore Reserve at December 2017 compared to 70.75% of the Ore Reserve at December 2016.

#### Table 8 - 31 December 2017 Silver Ore Reserves

Dec-17 Ore Reserves		Proved	Reserve	Probable	Reserve	Dec-	17 Total Re	serve	Compa	rison to Dec Reserve	
Silver Ore Reserves	Competent Person	Dry Tonnes (million)	Silver Grade (g/t Ag)	Dry Tonnes (million)	Silver Grade (g/t Ag)	Dry Tonnes (million)	Silver Grade (g/t Ag)	Insitu Silver (million ounces)	Dry Tonnes (million)	Silver Grade (g/t Ag)	Insitu Silver (million ounces)
Operational Provinces											
Cadia Valley Operations	Geoffrey Newcombe	-	-	1,500	0.75	1,500	0.75	36	1,500	0.74	37
Gosowong 15	Jimmy Suroto	-	-	1.9	10	1.9	10	0.62	1.9	16	0.95
Total Operational Provinces								37			38
Total Silver Ore Reserves								37			38

### Table 9 – 31 December 2017 Polymetallic Ore Reserves

Dec-17 Ore Reserves		Tonnes		Grade		Co	Contained Metal			
Polymetallic Ore Reserves	Competent Person	Dry Tonnes (million)	Tungsten Trioxide Grade (% WO <sub>3</sub> )	Zinc Grade (% Zn)	Lead Grade (% Pb)	Insitu Tungsten Trioxide (million tonnes)	Insitu Zinc	Insitu Lead (million tonnes)		
O'Callaghans										
Proved	Brett Ascott	-	-	ı	1	•	-	-		
Probable	Dieli Ascoli	44	0.36	0.65	0.32	0.16	0.29	0.14		
Total Polymetallic Ore Reserves		44	0.36	0.65	0.32	0.16	0.29	0.14		
Proved	Dro# 1000#	-	-	-	-	-	-	-		
Probable	Brett Ascott	44	0.36	0.65	0.32	0.16	0.29	0.14		
Comparison to Dec-16 Total Polymetallic Ore Reser	omparison to Dec-16 Total Polymetallic Ore Reserves		0.36	0.65	0.32	0.16	0.29	0.14		

Note: Data are reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals.

Gosowong (inclusive of Toguraci and Kencana) is owned and operated by PT Nusa Halmahera Minerals, an incorporated joint venture company (Newcrest 75%). The figures shown represent 100% of the Ore Reserve.

#### **Disclaimer**

These materials include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", "outlook" and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. The Company continues to distinguish between outlook and guidance in forward looking statements. Guidance statements are a risk-weighted assessment constituting Newcrest's current expectation as to the range in which, for example, its gold production (or other relevant metric), will ultimately fall in the current financial year. Outlook statements are a risk-weighted assessment constituting Newcrest's current view regarding the possible range of, for example, gold production (or other relevant metric) in years subsequent to the current financial year.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its Management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### **EXPLANATORY NOTES**

#### 1. CADIA PROVINCE (NSW)

The 100% Newcrest owned Cadia operations are located south of Orange in the central west of New South Wales. Mining commenced in 1998 with a large-scale open pit at Cadia Hill, followed by development of a bulk tonnage underground mine at Ridgeway. The Cadia East large scale underground Panel Cave mining operation reached first commercial production in January 2013.

In Cadia, gold and copper is associated with porphyry-style alteration and mineralisation. Minor molybdenum and silver are also present. Disseminated, vein and replacement mineralisation is found in and around Ordovician intrusions emplaced into volcanic and volcano-sedimentary rocks.

Metal is produced either in a copper concentrate containing elevated gold values or as gold doré. Concentrate is piped to a filter plant at the nearby town of Blayney before transport by rail to Port Kembla for export to international customers.

The Cadia Mineral Resources and Ore Reserves are reported and/or based on an estimated 'value' that incorporates the forecast revenue streams from both recoverable gold and copper, operating costs and the realisation costs (concentrate transport, smelting and refining).

#### 1.1 Cadia East Underground<sup>1</sup>

Cadia East is a single, very large, low to moderate grade, porphyry-related gold-copper (silver-molybdenum) deposit, located adjacent to the eastern edge of the Cadia Hill open pit with the Ridgeway underground mine ~4 km to the north-west. The Cadia East Feasibility Study was completed in April 2010 and commercial production was achieved in January 2013. Cadia East Panel Cave is an operating mine within the Cadia Valley Operations province. The orebody is currently mined via two lifts: Panel Cave 1 (PC1) and Panel Cave 2 (PC2) with an estimated mine life of >30 years using the Panel Caving mining method. Work is progressing on a Mining Pre-feasibility Study to update the forward plan incorporating learnings from operational execution to date. The Cadia East Mining Pre-Feasibility Study is progressing as anticipated and is expected to be completed on time with the results released in August 2018 and will be the supporting study for Ore Reserves at that time. Cadia East is a material mining project for Newcrest.

The Cadia East mineralisation can be divided into two broad overlapping zones; an upper, copper-rich, disseminated zone and, a deeper gold-rich sheeted vein zone near to the main monzonite porphyry bodies. The upper, copper-rich portion of the deposit is stratigraphically controlled in a volcaniclastic unit. Sulphide mineralisation is predominantly chalcopyrite, with lesser bornite and pyrite. Gold grade increases as disseminated chalcopyrite levels decrease and disseminated and vein bornite levels increase. The deeper gold-rich zone is centred on a core of steeply dipping sheeted quartz-calcite-bornite-chalcopyrite veins. The highest gold grades are associated with bornite-rich veins. Molybdenite forms a mineralised blanket above and to the east of the higher grade gold envelope. The known mineralised system (defined by a 0.1% Cu shell) extends approximately 2.5 kilometres east-west, 0.7 kilometres north-south and 1.8 kilometres vertically. The deposit does not outcrop as it is overlain by between 80 and 200 metres of post mineralisation sandstones.

#### **Mineral Resource**

The Cadia East resource model was updated in June 2016 following extensive underground drilling completed since 2012 in PC1, PC2 and extensions to PC2. This resource model contains estimates for copper, gold, silver, molybdenum, fluorine and sulphur. Ordinary Kriging was used to estimate copper, gold, molybdenum, fluorine, sulphur and silver. The December 2017 Mineral Resource is estimated using a resource model updated in June 2016.

The Cadia East Mineral Resource is reported in a notional shell at the marginal cut-off grade based on the proposed bulk underground mining method. Due to the non-selective nature of this mining method, the entire content of the volume is reported, including internal dilution. The reporting shell was updated with the June 2016 resource model

<sup>1</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

update and latest revenue and costs assumptions updated from latest studies. The Mineral Resource includes both in situ material in the resource outline and broken but not extracted material in the current cave (i.e. cave stocks).

The Mineral Resource is classified as Measured, Indicated and Inferred Mineral Resources based on an assessment of grade and geological continuity and data density. Measured Mineral Resources are from material mined and stockpiled only.

Changes during the year were from depletion due to mining. The net effect is a decrease of 0.7 Moz in contained gold and 0.1 Mt in contained copper and 0.3 Moz in contained silver compared to the December 2016 estimate.

#### **Cadia East Mineral Resource**

	Ore	Gold		Сој	oper	Silver		
	Mt	g/t	Moz	%	Mt	g/t	Moz	
Total Mineral Resource	3,000	0.37	35	0.26	7.7	0.68	65	
Measured Mineral Resource	0.23	1.2	<0.01	0.31	<0.001	0.83	<0.01	
Indicated Mineral Resource	3,000	0.37	35	0.26	7.7	0.68	65	
Inferred Mineral Resource								

#### **Ore Reserve**

There is a decrease in the contained metal in the Cadia East Ore Reserve of 0.6 Moz in contained gold, 0.1 Mt in contained copper and 0.3 Moz in contained silver, compared with the December 2016 estimate. Changes during the year include depletion due to mining.

#### Cadia East Ore Reserve

	Ore	Gold		Сор	per	Sil	ver
	Mt	g/t	Moz	%	Mt	g/t	Moz
Total Ore Reserve	1,400	0.48	22	0.28	4.0	0.75	35
Proved Ore Reserve							
Probable Ore Reserve	1,400	0.48	22	0.28	4.0	0.75	35

#### 1.2 Ridgeway Underground<sup>2</sup>

The Ridgeway deposit is a gold-copper porphyry-related orebody characterised by stockwork and sheeted quartz veins containing copper sulphides and gold. To date the known mineralised system extends approximately 400 m east-west, 250 m north-south and in excess of 1000 m vertically.

The Ridgeway mineralisation has been exploited by large scale underground mining using Sub-Level Cave (SLC) extraction and Block Caving (BC) below the SLC (Ridgeway Deeps). The mine was placed into care and maintenance in March 2016 with minor production resumed during 2017 to supplement plant feed following the Cadia East seismic event in April 2017. Ridgeway is not a material mining project for Newcrest.

#### **Mineral Resource**

The Ridgeway Mineral Resource includes the remnant block cave (Lift 1), as well as the yet to be developed block cave (Lift 2) and remnant SLC. The geological model for major lithological and structural boundaries is based on drill hole data and knowledge gained from underground exposures and previous mining. Gold and copper grade, mineralised quartz content and copper mineralogy are used to control grade interpolation in the estimate. The grades for each domain were interpolated separately using Ordinary Kriging. The December 2017 Mineral Resource has been estimated from the same resource grade model since 2009.

<sup>&</sup>lt;sup>2</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

The Ridgeway Mineral Resource is reported in a notional marginal shell based on the bulk underground mining methods referred to above. The reporting shell is the same as used since 2012 and incorporates the design of both block caves (that is the entire content of the shell volume is reported, including internal dilution). The Mineral Resource is classified as Measured, Indicated and Inferred Mineral Resources based on an assessment of grade and geological continuity and data density.

The Ridgeway Mineral Resource remains unchanged compared with the December 2016 estimate.

#### **Ridgeway Mineral Resource**

	Ore	Gold		Сор	per	Silver		
	Mt	g/t	Moz	%	Mt	g/t	Moz	
Total Mineral Resource	150	0.52	2.4	0.33	0.48	0.65	3.1	
Measured Mineral Resource								
Indicated Mineral Resource	110	0.57	1.9	0.30	0.31	0.74	2.5	
Inferred Mineral Resource	41	0.38	0.50	0.40	0.17	0.43	0.56	

#### **Ore Reserve**

Construction of the Ridgeway Deeps Lift 1 block cave was completed in October 2010 with mining placed on care and maintenance in March 2016. Pre-feasibility level studies using updated long term metal prices, exchange rate and costs assumptions have supported the Ore Reserve of a second, lower block cave (Lift 2) which may be economically mined at an appropriate time in the future.

The basis of estimation is an economic (value) cut-off, based on operating costs as defined in the planning process. Ore Reserves are based on the completion of mining of remnant Ore Reserves in Lift 1 and scheduled production from Lift 2 for a further 8 to 9 years, the timing of which is the subject to ongoing studies.

The Ore Reserve remains unchanged compared with the December 2016 estimate.

#### **Ridgeway Ore Reserve**

	Ore	Gold		Copper		Silver	
	Mt	g/t	Moz	%	Mt	g/t	Moz
Total Ore Reserve	80	0.54	1.4	0.28	0.23	0.66	1.7
Proved Ore Reserve							
Probable Ore Reserve	80	0.54	1.4	0.28	0.23	0.66	1.7

#### 1.3 Cadia Hill<sup>3</sup>

Cadia Hill is a porphyry-related sheeted vein deposit. Cadia Hill was the first of the deposits to be mined as part of Newcrest's Cadia Valley Operations. Cadia Hill operated as a large open pit mine from July 1998 until June 2012 (when the current phase of mining was completed). Cadia Hill is not a material mining project for Newcrest.

#### **Mineral Resource**

The Cadia Hill Mineral Resource estimate is based on the 2009 grade model informed by extensive diamond drilling (on a notional 50 m  $\times$  50 m grid) as well as substantial grade control and mapping data accumulated over 14 years of mine production. Grade was estimated via a combination of Multiple Indicator Kriging and Ordinary Kriging.

The Cadia Hill Mineral Resource was reviewed during 2014 as part of pre-feasibility level studies which has updated

<sup>&</sup>lt;sup>3</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

resource classification, notional constraining shells and 'value' cut-off. The material inside this shell is classified into Indicated and Inferred Mineral Resource based on grade and geological continuity and data density. All stockpile material is classified as Measured Mineral Resource. There has been a decrease of 0.04 Moz in contained gold and <0.01 Mt of contained copper in Cadia Hill Mineral Resource due to mining depletion from stockpile reclaim to that reported in December 2016.

#### **Cadia Hill Mineral Resource**

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	210	0.44	3.0	0.13	0.27
Measured Mineral Resource	140	0.47	2.1	0.13	0.18
Indicated Mineral Resource	44	0.44	0.62	0.12	0.055
Inferred Mineral Resource	28	0.29	0.26	0.14	0.040

#### **Ore Reserve**

The Cadia Hill open pit was a large scale conventional hard rock mine. The mining of Cutback 3 was completed in June 2012, after 14 years of continual operation. Pre-feasibility level studies using updated long term metal prices, exchange rate and costs assumptions support the Ore Reserve of a fourth cutback. There has been a decrease of 0.04 Moz in contained gold and <0.01 Mt of contained copper in Cadia Hill Ore Reserve due to mining depletion from stockpile reclaim to that reported in December 2016.

#### Cadia Hill Ore Reserve

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	86	0.53	1.5	0.15	0.13
Proved Ore Reserve	19	0.29	0.18	0.14	0.028
Probable Ore Reserve	67	0.59	1.3	0.15	0.098

#### 1.4 Cadia Extended<sup>4</sup>

The Cadia Extended gold-copper mineralisation is located on the north-west limits of the Cadia Hill Open Pit and has similar characteristics to the large low grade porphyry-style mineralisation at Cadia Hill. The remaining deposit, located partly beneath the backfilled pit, is considered to have bulk underground mining potential. Mineralisation comprises a combination of vein controlled and disseminated gold, copper and molybdenum. It is focused within a corridor of increased alteration, structural deformation and quartz veins in and at the contact of porphyry monzonites. Cadia Extended is not a material mining project for Newcrest.

#### **Mineral Resource**

The Cadia Extended resource model was re-estimated in 2015 resulting in a minor decrease in contained metal. No new drill samples were incorporated into the 2015 resource model. The resource model contains estimates for gold, copper, silver, molybdenum and sulphur. The grades for each domain were interpolated separately using Ordinary Kriging. The Mineral Resource is constrained in an outline that approximates the degree of selectivity afforded by a block cave mining method. The value calculation reflects the low grades, (similar to the Cadia East ore type) and Cadia costs assumptions. There has been no change to the Cadia Extended Mineral Resource to that reported in December 2016.

<sup>&</sup>lt;sup>4</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### Cadia Extended Mineral Resource

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	80	0.35	0.89	0.19	0.15
Measured Mineral Resource					
Indicated Mineral Resource	80	0.35	0.89	0.19	0.15
Inferred Mineral Resource					

#### **Ore Reserve**

No Ore Reserve has been estimated for the Cadia Extended deposit.

#### 1.5 Big Cadia<sup>5</sup>

Big Cadia is centred on an area of shallow historic workings located north of the Cadia Hill open pit and east of the Ridgeway underground mine cave zone. The mineralisation is found in a magnetite-rich skarn (altered calcareous rocks adjacent to a porphyry intrusion) and has been evaluated as suitable for open pit mining. The mineralisation outcrops and comprises an oxide lens and a deeper sulphide body down to approximately 400 m below surface. Big Cadia is not a material mining project for Newcrest.

#### **Mineral Resource**

The Big Cadia Mineral Resource was re-estimated in 2015 within an updated notional constraining shell based on long term metal price, exchange rate and cost assumptions and updated geological interpretation, resource model and resource classification. No new drilling was incorporated into the updated 2015 resource model. The resource model contains estimates for gold, copper, silver, molybdenum and sulphur. The grades for each domain were interpolated separately using Ordinary Kriging.

The Mineral Resource assumes a conventional open pit drill blast load and haul with ore representing potential additional feed for the Cadia processing facility. The cut-off grade is based on revenue 'value' basis incorporating the forecast revenue streams from both recoverable gold and copper and reflecting the cost structure anticipated in long term planning models. There has been no change to the Big Cadia Mineral Resource to that reported in December 2016.

**Big Cadia Mineral Resource** 

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	11	0.70	0.25	0.52	0.058
Measured Mineral Resource					
Indicated Mineral Resource					
Inferred Mineral Resource	11	0.70	0.25	0.52	0.058

#### **Ore Reserve**

No Ore Reserve is reported for the Big Cadia deposit.

<sup>&</sup>lt;sup>5</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### 2. TELFER PROVINCE (WA)

The 100% Newcrest owned Telfer Operation is located in the Great Sandy Desert of Western Australia, approximately 485 km by road south-east of Port Hedland and 680 km north-east of Newman. The mine has operated in its current two processing train configuration since the commissioning of both large scale grinding and flotation circuits in 2005.

Gold and copper mineralisation in the Telfer province is largely structurally controlled reefs, veins and stockworks hosted by deformed sedimentary rocks of Proterozoic age. Deep weathering depleted the copper in the upper parts of the deposits allowing historical gold production using gravity and cyanide leaching processes. Ore processing facilities exploit the large gold and copper sulphide Mineral Resources using flotation to produce a copper concentrate containing elevated gold levels. A gravity circuit is used to produce a gold doré. Concentrate is exported to customers via Port Hedland. Small tonnages of oxide material are processed through the dump leach circuit.

The Telfer operation is comprised of the Telfer open pit (Main Dome and West Dome) and Telfer underground (Sub-Level Cave (SLC), M Reefs and Western Flanks). Open pit mining is a conventional truck and hydraulic excavator operation. Selective mining techniques are used for excavation of the high-grade reefs and veins, while stockwork ore and waste are mined using bulk methods.

Recent production is primarily from the Telfer open pits (Main Dome and West Dome), underground SLC and selective underground mining of the M Reefs and Western Flanks.

#### 2.1 Telfer Open Pit Mineral Resources<sup>6</sup>

#### **Main Dome**

The Main Dome deposit is the largest deposit in the Telfer area and occurs as a series of stacked stratabound reefs and discordant stockworks in a folded dome structure. Historically, the deposit has been mined by both open pit and selective underground methods. Currently, the upper portion of the deposit is mined as a large scale open pit.

The Main Dome open pit is approximately 2.8 km x 1.3 km. The recovery route for gold and copper varies based on characteristics of the ore with the majority processed by gravity and sulphide flotation.

The Main Dome Mineral Resource is centred on mineralisation currently being mined in the Main Dome open pit. The grade estimate is based on a combination of resource definition diamond core holes, resource definition reverse circulation percussion holes, ore control reverse circulation percussion drilling, and face samples from underground mine development on high grade reefs.

The Telfer Main Dome resource model is comprised of estimates for gold, copper, cyanide soluble copper, sulphur, arsenic, cobalt, and density. Multiple stockwork and reef domains were estimated in the Main Dome model. Multiple Indicator Kriging was used to estimate stockwork related mineralisation and Ordinary Kriging for the reef estimates.

The December 2017 Mineral Resource is estimated from an updated 2017 resource model for Main Dome open pit.

The Mineral Resource has been reported in a notional spatial constraining pit shell above a value cut-off. The constraining shell has been re-optimised in 2017 using the updated long term cost base and metallurgical recovery assumptions. The material inside this shell is classified into Indicated and Inferred Mineral Resources based on grade and geological continuity and data density. The majority of stockpile material is classified as Measured Mineral Resource including low grade stockpiles and dump leach (gold only) stockpiles.

The Main Dome Mineral Resource, including both low grade stockpiles and dump leach stockpiles (gold only), has decreased by 0.63 Moz in contained gold and 0.02 Mt in contained copper, compared with the December 2016 estimate, due to mining depletion, updated notional spatial constraint, resource estimate and updated long term cost base and metallurgical recovery assumptions.

<sup>&</sup>lt;sup>6</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

**Telfer Main Dome Mineral Resource** 

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	40	0.68	0.87	0.065	0.026
Measured Mineral Resource	13	0.39	0.17	0.053	0.0071
Indicated Mineral Resource	26	0.84	0.69	0.070	0.018
Inferred Mineral Resource	0.62	0.56	0.011	0.068	<0.001

#### **West Dome**

The West Dome deposit is located approximately 3 km northwest of the Main Dome deposit and is a continuation of the folded sedimentary sequence in a second sub-parallel structure.

The West Dome open pit has been mined as a conventional truck and hydraulic excavator operation. Recoveries for both gold and copper vary depending upon the process route in the flotation circuits or by heap leaching if ore characteristics are suitable.

The West Dome resource model was updated during 2017 to incorporate recent reverse circulation percussion drilling programs within potential cut back areas and subsequent updated geological interpretations.

The West Dome resource model is comprised of estimates for gold, copper, cyanide soluble copper, sulphur, arsenic, cobalt, and density. Multiple stockwork and reef domains were estimated in the West Dome model with Multiple Indicator Kriging used to estimate stockwork related mineralisation and Ordinary Kriging for the reef estimates.

The Mineral Resource has been reported in an updated notional spatial constraining pit shell above a value cut-off. The constraining shell has been re-optimised in 2017 using the updated long term cost base, updated resource model and metallurgical recovery assumptions. The material inside this shell is classified into Indicated and Inferred Mineral Resources based on grade and geological continuity and data density. Note that all stockpile material is included in the reported Main Dome Mineral Resource as they are multi-ore source stockpiles.

The Mineral Resource at Telfer West Dome open pit has increased by 0.38 Moz gold and copper decreased by 0.01 Mt. Increased gold was primarily driven by an updated resource model and notional spatial constraint offset by mining depletion and updated metallurgical recovery assumptions and updated long term costs compared with the December 2016 estimate.

**Telfer West Dome Mineral Resource** 

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	200	0.62	4.0	0.058	0.12
Measured Mineral Resource					
Indicated Mineral Resource	190	0.63	3.8	0.058	0.11
Inferred Mineral Resource	11	0.62	0.21	0.062	0.0067

#### 2.2 Telfer Open Pit Ore Reserves<sup>7</sup>

The Ore Reserves for the combined Telfer open pits have undergone a reduction relative to December 2016. The reduction in Ore Reserve at Telfer Main Dome and West Dome open pits is driven by mining depletion. The updated long term Ore Reserve assumptions are based on demonstrated performance with supported cost reduction initiatives and re-optimisation of the Main Dome and West Dome Ore Reserve generating updated pit shell and designs.

#### **Main Dome**

The Main Dome Ore Reserve estimate is defined in a revised final pit design based on detailed geotechnical design parameters, practical mining considerations, updated long term cost assumptions and updated metallurgical recovery assumptions and depletion at 31 December 2017. Final pit designs and interim cutbacks have been developed from updated pit optimisation shells. The Ore Reserves are defined using a block value cut-off approach. The Main Dome Ore Reserve includes low grade stockpiles and dump leach stockpiles (gold only).

The Main Dome Ore Reserve has decreased by 0.2 Moz in contained gold and 0.01 Mt of copper compared with the December 2016 estimate due to mining depletion and stockpile reclaim.

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	21	0.56	0.38	0.063	0.013
Proved Ore Reserve	13	0.39	0.17	0.053	0.0071
Probable Ore Reserve	7.8	0.85	0.21	0.080	0.0062

**Telfer Main Dome Ore Reserve** 

#### **West Dome**

Mining activities in the West Dome open pit were suspended in July 2013, while mining was focussed on Main Dome Stage 4. Mining activities recommenced in West Dome open pit in November 2015. The West Dome Ore Reserve estimate is based on extraction using conventional open pit bulk mining methods.

The West Dome Ore Reserve estimate is defined in an updated final pit design based on geotechnical design parameters, practical mining considerations, updated resource model, updated metallurgical recovery assumptions and updated long term cost assumptions. Final pit designs and interim cutbacks have been developed from updated pit optimisation shells. The Ore Reserves are defined by a block value cut-off approach.

The West Dome Ore Reserve has decreased by 0.1 Moz of contained gold and minor reduction in contained copper, compared with the December 2016 estimate due to mining depletion and changes to metallurgical recovery offset by increases due to updated resource model.

**Telfer West Dome Ore Reserve** 

	Ore	Gold		Cop	per
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	65	0.76	1.6	0.074	0.048
Proved Ore Reserve					
Probable Ore Reserve	65	0.76	1.6	0.074	0.048

<sup>&</sup>lt;sup>7</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### 2.3 Telfer Underground (SLC, Western Flanks, VSC and M Reefs)<sup>8</sup>

The Telfer underground Mineral Resource comprises the operating SLC bulk mine, selective low grade Western Flanks mining, selective high grade M Reef mining, and the Vertical Stockwork Corridor (VSC) resource that lies directly below the existing SLC. Mineralisation includes stratabound reefs, cross cutting veins and stockwork zones around the reefs. The Western Flanks and VSC resource model was updated during 2017 to reflect additional drilling in these areas. During 2017 the resource models for Telfer M Reefs suitable for selective underground mining were updated where additional drilling occurred.

#### **Mineral Resource**

**SLC:** The SLC Mineral Resource is focused on the recumbently-folded eastern limb of the Main Dome structure that hosts conformable sulphide rich reefs and veins in structurally disrupted areas and stockworks in brittle sediments.

The SLC Mineral Resource estimate is based on sample data from surface and underground diamond core and reverse circulation percussion drilling. The SLC resource model is comprised of estimates for gold, copper, cyanide soluble copper, sulphur, arsenic, cobalt, and density. Multiple stockwork, reef, and vein domains were estimated in the resource model with Multiple Indicator Kriging used to estimate stockwork related mineralisation and Ordinary Kriging for the more tabular estimation domains.

The SLC Mineral Resource is reported in a notional marginal outline based on the bulk underground mining method. The reporting shell was updated in December 2017 to reflect the new resource model, updated long term cost assumptions, and incorporates the maximum practical expanse of the SLC cave, including all material above the 4350RL. Due to the non-selective nature of this mining method, the entire content of the volume is reported including internal dilution. The Mineral Resource includes both in situ material in the resource outline and broken but not yet extracted material in the current cave (i.e. cave stocks). A depletion methodology has been implemented in consideration of the mature nature of the cave. Material that no longer has reasonable expectation of eventual economic extraction has been removed from both in situ material external to the cave and cave stocks being estimated from an unconstrained draw model at the Mineral Resource value cut-off. No surface stockpiles are included in the resource estimate.

All other changes during the year are primarily due to mining depletion.

**Vertical Stockwork Corridor:** The VSC Mineral Resource is located directly below the existing SLC Mineral Resource, currently separated at the 4350RL level. No mining has occurred in the VSC.

The VSC represents a structurally controlled style of gold and copper mineralisation hosted in a steep west-dipping fold-axial related breccia and stockwork zone in brittle sandstone host rocks. The VSC mineralised zone has been recognised over a 1,000 m strike length 600 m vertically with widths of up to 60 m.

The resource model consists of estimates for gold, copper, cyanide soluble copper, sulphur, arsenic, cobalt, and density using Multiple Indicator Kriging. The VSC Mineral Resource is reported above a notional net smelter return (NSR) value and below the 4350RL. The NSR profit algorithm is based on the SLC non-selective mining practices, resource metal pricing, updated SLC underground mining and processing costs assumptions and contains no mining dilution. These assumptions were updated in 2017.

**Western Flanks:** The Western Flanks Mineral Resource, previously known as 'External to SLC', is centred on the Lower Limey Unit (LLU) and the northwest trending veins and is approximately 12 to 48 m in thickness and is immediately to the west of the SLC located between, and inclusive of, the LLU and B30 reef.

The Western Flanks Mineral Resource estimate is based on sample data from surface and underground diamond core drilling, and face sampling from dedicated drives. The Western Flanks resource model is comprised of estimates for gold, copper, cyanide soluble copper, sulphur, arsenic, cobalt, and density. Multiple stockwork, reef, and vein domains were estimated in the resource model with Multiple Indicator Kriging used to estimate stockwork related mineralisation and Ordinary Kriging for the more tabular estimation domains.

<sup>&</sup>lt;sup>8</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

The Western Flanks Mineral Resource is reported above a NSR cut-off based on resource metal pricing and updated selective underground mining and processing costs assumptions. Changes during the year include updated resource model, a spatial constraint to restrict to areas of continuous mineralisation, and mining depletions.

M Reefs: The selective M Reef Mineral Resource includes the M28, M30, M35, M38, M40, M45 and M50 Reefs.

The M28, M30, M35, M38, M40, M45 and M50 Reefs were re-interpreted during 2017 based on new information from mining levels, drilling and review of historic drill hole intercepts. These have improved the interpreted reef thickness and extent of the reefs. The grade models for these reefs were re-estimated during 2017, including updated resource classification, resulting in a decrease in Indicated and Inferred Mineral Resources compared to the December 2016 Mineral Resource estimate. The reefs were estimated by Ordinary Kriging of reef intercept assays either from face samples (where drives are established), or from wider spaced drill holes beyond mine development.

The M Reef Mineral Resource is reported above a NSR cut-off based on resource metal pricing and updated underground mining and processing cost assumptions and mining depletion. No minimum mining width assumptions have been applied to the NSR calculation. The M Reef Mineral Resource has been spatially restricted to south of the graben structure and no portion is assumed to be mined from open pit or cave stocks.

The net result of changes to total Telfer underground Mineral Resources (SLC, Western Flanks, VSC and M Reefs) is a decrease of 1.1 Moz in contained gold and 0.07 Mt contained copper, compared with the December 2016 estimate. This decrease is driven primarily by reduced spatial constraints external to SLC, reduced cave above resource value cut-off due to cave maturity, mining depletion and updated spatial constraints for the Western Flanks and M Reefs.

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	61	1.6	3.1	0.40	0.24
Measured Mineral Resource					
Indicated Mineral Resource	49	1.6	2.5	0.37	0.18

1.5

0.57

0.50

0.059

**Telfer Underground Mineral Resource** 

#### **Ore Reserve**

Telfer underground Ore Reserves have undergone a continued review since December 2016. Capital and operating costs have been determined from first principles based on the current operating cost base modified for anticipated changing activity levels and reasonable cost base reductions over the life of the mine.

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Updated resource models have been provided for all active mining areas including the M Reefs, SLC and Western Flanks.

**SLC:** The predominant mining method for extraction of the Telfer underground Ore Reserve is SLC. Mine design and production follows the method which has been employed since production commenced in 2006 and continued mining operation during 2017. The reduction in SLC Ore Reserves is driven primarily by mining depletion and change to the draw model parameters including restrictions on planned overdraw.

VSC: The VSC is not currently within Telfer underground Ore Reserves.

Inferred Mineral Resource

Western Flanks: The Western Flanks comprise a series of higher grade veins and a reef horizon. Western Flanks were to be mined using long-hole open stope mining methods with cemented hydraulic back fill. The Western Flanks mining method and design has been revised to incorporate updated resource model and modified mining and geotechnical design parameters. The changes in Western Flank has been primarily due to the updated resource model, geotechnical modelling and updated stope design and pillar requirements and change from planned cemented hydraulic backfill to no backfill. The effect has been a reduction in Ore Reserve for Western Flanks.

*M Reefs:* The M50 Reef was re-accessed in July 2009 and long-hole open stope mining has continued since that time. M Reef mining continued during 2017 on M30, M35, M40 and M50 reefs. Ore Reserve decreases for the M Reef are driven primarily by changes to resource models and depletion from mining.

Overall the combined Telfer underground Ore Reserve (SLC, Western Flanks and selective M Reefs) has decreased by 0.4 Moz in contained gold and 0.02 Mt in contained copper, compared with the December 2016 estimate, driven predominantly by depletion, changes to SLC draw model parameters, change to Western Flanks mining and backfill strategy, updated resource models, updated long term cost assumptions and updated mine designs.

<b>Telfer</b>	<b>Underground</b>	Ore	Reserve
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	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	8.0	1.7	0.43	0.28	0.023
Proved Ore Reserve					
Probable Ore Reserve	8.0	1.7	0.43	0.28	0.023

#### 2.4 Other (Camp Dome and Satellites)

The Camp Dome deposit is a satellite copper-only deposit located approximately 20 km north of the Telfer Operations. Mineralisation is quartz sulphide veins hosted in a folded and deformed sedimentary rock package. Weathering of primary mineralisation has resulted in a chalcocite rich, secondary copper 'blanket' at the oxidation boundary. No significant gold grades have been intersected in drill holes.

The Telfer Satellites are three gold and copper deposits – Backdoor West, Big Tree and Dolphy, all located between approximately 20 to 30 kilometres south east of the Telfer Operation. Gold and copper mineralisation at the Telfer Satellites consists of structurally controlled quartz stockworks and associated weathered sulphides near surface hosted in a folded and deformed sedimentary rock package. Camp Dome and Satellites are not material mining projects for Newcrest.

#### Camp Dome Mineral Resource9

The Camp Dome Mineral Resource estimate is based on data from 58 drill holes (42 holes are reverse circulation percussion with the remainder diamond core). Drill hole spacing is typically 100 m to 200 m spaced sections. Estimation domains reflect the leached, enriched and primary mineralisation zones. Only copper, cyanide soluble copper and sulphur is estimated in the Mineral Resource, no gold is present. Grades are estimated using Ordinary Kriging of 4 m composites into 50 m x 50 m x 10 m cells. The Mineral Resource is classified as an Inferred Mineral Resource due to the wide drill spacing and resulting uncertainty of grade and geological continuity. The Mineral Resource is reported within a notional constraining shell. The Mineral Resource assumes conventional open pit mining and on-site acid dump leach with copper recovery at the Telfer processing facility. There has been no change to the Camp Dome Mineral Resource to that reported in December 2016.

**Camp Dome Mineral Resource** 

	Ore	Copper	
	Mt	%	Mt
Total Mineral Resource	14	0.37	0.052
Measured Mineral Resource			
Indicated Mineral Resource			
Inferred Mineral Resource	14	0.37	0.052

<sup>&</sup>lt;sup>9</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released

#### Satellites Mineral Resource<sup>10</sup>

The December 2017 Telfer Satellites Mineral Resource was re-estimated in 2015 using updated Newcrest resource estimation methodology and updated notional constraining shell based on long term metal price, exchange rate and cost assumptions. No new drill samples were incorporated into the new model. The resource model contains estimates for gold, copper and sulphur. The grades for each domain were interpolated separately using Ordinary Kriging. The Telfer Satellite Mineral Resources are classified into Indicated and Inferred Mineral Resources based on grade and geological continuity and data density. The Mineral Resource assumes a conventional open pit drill, blast, load and haul with dump leach constructed at site and pregnant leach solution road trained to the Telfer processing plant. There has been no change to the Satellites Mineral Resource to that reported in December 2016.

**Telfer Satellites** 

	Ore	Gold	
	Mt	g/t	Moz
Total Mineral Resource	4.9	1.3	0.20
Measured Mineral Resource			
Indicated Mineral Resource	0.44	2.9	0.040
Inferred Mineral Resource	4.4	1.1	0.16

#### **Ore Reserve**

No Ore Reserves have been estimated for the Camp Dome or Telfer Satellite deposits.

#### 2.5 O'Callaghans<sup>11</sup>

The O'Callaghans poly metallic deposit is located approximately 10 km south of the Telfer Operation. Mineralisation containing economic quantities of tungsten, copper, zinc and lead has been identified approximately 300 m below surface as a sub-horizontal layer of poly metallic skarn (altered limestone) mineralisation up to 60 m thick on the contact between a large granitic intrusion and overlying limestones. Molybdenum and silver are present but are not currently considered economically significant. O'Callaghans is supported by a Pre-feasibility Study.

#### **Mineral Resource**

The Mineral Resource estimate is based on 184 drill holes (RC pre-collars with diamond tails). Average drill hole spacing through the main ore zone is approximately 100 m x 100 m. A 200 m x 200 m test area in the centre of the mineralisation was drilled at 50 m x 50 m intervals to evaluate short distance grade continuity. The Mineral Resource has been estimated using Ordinary Kriging. The total inventory of the main mineralised horizon has been reported using a minimum mining height of 5 m.

The O'Callaghans Mineral Resource remains unchanged from that reported in December 2016.

#### O'Callaghans Mineral Resource

	Ore	Tungster	Tungsten Trioxide Copper		Copper		Copper Zinc		Le	ead
	Mt	%	Mt	%	Mt	%	Mt	%	Mt	
Total Mineral Resource	78	0.33	0.26	0.29	0.22	0.49	0.38	0.24	0.19	
Measured Mineral Resource										
Indicated Mineral Resource	69	0.34	0.24	0.29	0.20	0.53	0.36	0.26	0.18	
Inferred Mineral Resource	9.0	0.25	0.023	0.24	0.022	0.19	0.017	0.11	0.0097	

<sup>10</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

<sup>&</sup>lt;sup>11</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### **Ore Reserve**

The O'Callaghans Ore Reserve estimate is based on long-hole open stoping with back fill using Telfer's established underground mining capability. The Ore Reserve is based on the mine design and schedules produced as part of the O'Callaghan's Underground Pre-feasibility study that was completed during 2014 but with updated ore recovery and dilution factors following a review in 2016.

The O'Callaghans Ore Reserve remains unchanged to that reported in December 2016.

#### O'Callaghans Ore Reserve

	Ore	Tungsten	Tungsten Trioxide		Copper		per Zinc		ad
	Mt	%	Mt	%	Mt	%	Mt	%	Mt
Total Ore Reserve	44	0.36	0.16	0.29	0.13	0.65	0.29	0.32	0.14
Proved Ore Reserve									
Probable Ore Reserve	44	0.36	0.16	0.29	0.13	0.65	0.29	0.32	0.14

#### 3. LIHIR (PNG)<sup>12</sup>

The Lihir Gold Mine is located on Niolam Island, 900 kilometres north-east of Port Moresby in the New Ireland Province of Papua New Guinea. As Niolam Island is the principal island of the Lihir Group, it is generally referred to as Lihir Island.

The Lihir Gold Mine is 100% owned by Newcrest and became part of Newcrest in September 2010 with the merger of Lihir Gold Limited and Newcrest.

Lihir is a volcanic sea mount that rises steeply from sea level to approximately 600 metres above sea level. At its widest points, the island measures 22 kilometres from north to south and 14.5 kilometres from east to west.

The Luise Caldera, in which all of the known mineral deposits are located, is on the east coast of the island. Exploration work has identified several adjacent and partly overlapping mineral deposits in the Luise Caldera, the principal ones being Lienetz, Minifie, Coastal and Kapit. The limits of the mineralisation have not been completely defined and are open at depth and to the east (currently limited by the Pacific Ocean). Gold occurs mainly as sub-micron sized particles in pyrite and marcasite and predominantly refractory in nature.

The Lihir Gold Mine consists of three linked open pits, Minifie, Lienetz and Kapit, that will be mined over the project life. The mine operates by conventional open pit methods. The plant's facilities first crush and grind the ore. A flotation plant is used to concentrate ore, in addition to direct fed ore, before it is fed to autoclaves for pressure oxidation followed by conventional carbon-in-leach (CIL) technology to recover gold.

#### **Mineral Resource**

The Lihir resource model was updated in July 2017 following a review of mining reconciliation performance over the last 5 years. The geological and estimation domains were reviewed and reinterpreted based on the current understanding of alteration domains and structural controls.

Major elements gold and sulphide sulphur (SS) were estimated using Localised Uniform Conditioning (LUC). Minor elements including carbonate, calcium, silver, arsenic, copper and molybdenum were estimated via Ordinary Kriging. Density data and domains were also revised and estimated via Ordinary Kriging. The carbonate and calcium estimates are used to monitor threshold limits in the autoclaves on a granular level.

The major change from the previous October 2012 resource model is the use of alteration signature to define geological domains for estimation as opposed to the historic 'oretype' domains derived from a combination of lithology, texture and hardness from visual logging. The alteration domain model is based on in situ mineralogical variation

<sup>&</sup>lt;sup>12</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

predominantly determined by multi-element geochemistry (re-analysis acquired progressively since 2012) and hyperspectral scanning of drill core (obtained progressively since 2012). The alteration based domains improve quality of subsequent estimation and better define limits of economic mineralisation.

As part of regular QAQC, biases in the SS assays were recognised for several periods. SS biases were corrected for the period July 2009 to December 2013 where there was enough evidence of bias and underlying certified reference material data to correct for the bias. No other periods were adjusted.

A ground truth model (GTM) was constructed from the close spaced blast hole grade control data for gold. The GTM revealed local high grade structures in several domains that could not be sampled in the wider spaced resource definition data. The resource model gold LUC estimation parameters were optimised to reflect the reconciliation with the GTM; however, no factors were applied to the underlying resource definition data.

Resource classification was revised using quantitative criteria of slope of regression and sample spacing per domain for gold. Direct Block Simulations were further used to assess uncertainty for annual production periods. The Lihir July 2017 resource model was externally reviewed by independent consultants.

Mineral Resources have been reported within a notional spatial constraining shell optimised in 2017 using updated long term cost assumptions, updated metallurgical assumptions and updated geotechnical parameters. Mineral Resources are reported above the marginal cut-off grade for gold equal to the Ore Reserve cut-off. Stockpiles are classified as Measured Mineral Resources.

The reduction in Mineral Resource at Lihir has been driven by an updated resource model using alteration signature to define estimation domains, mining depletion and stockpile reclaim, updated notional spatial constraint and updated long term costs assumptions. The net result is a decrease in the Lihir Mineral Resource of approximately 4 Moz in contained gold compared to that reported in December 2016.

#### **Lihir Mineral Resource**

	Ore	Gold	
	Mt	g/t	Moz
Total Mineral Resource	710	2.3	52
Measured Mineral Resource	82	2.1	5.4
Indicated Mineral Resource	560	2.3	41
Inferred Mineral Resource	67	2.3	4.9

#### **Ore Reserve**

Current operations at Lihir involve open pit mining of the Minifie and Lienetz orebodies by conventional shovel-truck operation, barge disposal of waste rock and shore based and in-pit stockpiling of lower grade ore. Mining of the Kapit orebody requires further depressurisation and the construction of a seepage barrier around the eastern seaward extent.

The 2017 Lihir Ore Reserve was updated based on the outcome of a re-optimisation process. The re-optimisation used the updated 2017 resource model as the basis for the optimisation. Other modifying factors updated included metallurgical assumptions, revised long term cost assumptions for the site (including mining, processing, G&A and sustaining capital based on demonstrated performance with supported cost reduction initiatives that vary in line with expected changes in levels of activity at the site over the life of operation) and updated geotechnical parameters. The updated optimised shell was used as the basis for the ultimate pit design and remains aligned to the outcomes of the Lihir Optimisation Study (refer to the Company's Market Release of 15 February 2016 entitled "Lihir Pit Optimisation Project to progress to Feasibility Study stage" for additional detail).

The 2017 Lihir Ore Reserve has been externally reviewed by independent consultants. Changes to the Lihir Ore Reserve are driven by an increase due to the updated resource model offset by updated optimised pit shell and design, mining depletion and stockpile reclaim. The Lihir Ore Reserve has decreased by 1.1 Moz in contained gold due to mining depletion and minor adjustments to stockpile inventory compared with that reported in December 2016.

#### Lihir Ore Reserve

	Ore	Go	old
	Mt	g/t	Moz
Total Ore Reserve	340	2.3	25
Proved Ore Reserve	82	2.1	5.4
Probable Ore Reserve	260	2.4	20

## 4. CÔTE D'IVOIRE (WEST AFRICA)

#### 4.1 Bonikro<sup>13</sup>

On 13 December 2017 Newcrest announced that it had signed an agreement to sell its 89.89% interest in the Bonikro Operation to a consortium of F&M Gold Resources Ltd. and Africa Finance Corporation, for consideration comprising:

- \$72M cash payable on transaction completion, part of which is contingent on the successful progression of the Akissi-so pit extension; and
- Net smelter royalty on future ore mined at the Bonikro lease, with an estimated value of \$9M.

The royalty applies to the first 560,000 ounces of gold production from the next pushback of the Bonikro pit following the completion date, at a rate of 2.5% for gold prices above US\$1,251/ounce, increasing by 0.5% for every US\$50 increase in the gold price up to 4.5% at US\$1,450/ounce or above. The economic effective date for the transaction will be 1 October 2017. Production until transaction completion will be included in Newcrest's production results but the economic interest for the period after 1 October 2017 will be to the benefit of the acquirer.

The sale of the Bonikro Operation follows a strategic review of the asset by Newcrest.

Completion of the transaction remains subject to conditions precedent, including Côte d'Ivoire government approval, renewal of the Bonikro Mining Investment Convention which expired in May 2017, and no material adverse change in the business. It is expected that the transaction will complete in the March 2018 quarter.

The Bonikro Mineral Resource of 1 Moz of gold and Ore Reserve of 0.3 Moz of gold have been removed from Newcrest Ore Reserve and Mineral Resource estimates as at 31 December 2017 (as compared to 31 December 2016, post mining depletion) following divestment of Newcrest's 89.89% interest. Bonikro was not a material mining project for Newcrest.

Newcrest retains its exploration tenements within Côte d'Ivoire outside of the Bonikro / Hiré area, including the Séguéla Project. Newcrest continues to see the country as both highly prospective for near surface gold discoveries and an attractive jurisdiction for mining investment.

#### 4.2 Séquéla<sup>14</sup>

The Séguéla Project is 100% owned by Newcrest Mining Ltd and is located within the Woroba District, Côte d'Ivoire.

Drilling has confirmed a mineralised strike length of 800 m, with thickness varying from 30 m in the northern zone, up to 100 m in the central zone, and to 20 m in the southern zone. Drilling has defined the mineralised resource to a maximum vertical depth of 300 m. Mineralisation at the Antenna deposit exhibits an ellipsoid geometry with a shallow—moderate plunge to the south and a steep to near sub vertical dip to the east. The vertical extent of mineralisation remains open at depth, however it thins at depth both to the north and south.

The Antenna deposit stratigraphy is steeply dipping east with easterly facing younging indicators. The stratigraphy sequence varies from a basal basaltic unit (footwall), to a felsic volcano-sedimentary sequence, to an eastern mafic

<sup>&</sup>lt;sup>13</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as it does not relate to a material mining project, a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

<sup>14</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

sequence (hangingwall). The main host to the gold mineralisation is a rhyolite porphyry intruding the felsic volcanosedimentary sequence, associated locally with intense carbonaceous shear zones.

The Orogenic-style gold mineralisation is vein-controlled for the highest grade, but also occurs as disseminated mineralisation in the host rock. The mineralisation is associated with pervasive, destructive silica +/- albite-sericite alteration. The intensity of the alteration increases with the vein density.

The oxidation profile at the Antenna deposit is variable across the mineralised extent. The profile ranges from 3 to 35 m to the east overlying the resistive eastern mafic sequence and deepens (ranging from 10 to 42 m) towards the centre of the prospect area overlying the felsic volcano-sedimentary and rhyolite porphyry rocks which correlates with an increased silica-albite-sericite alteration assemblage in fresh rock.

Exploration at Seguela is now focussed on assessing the project region for further discoveries.

#### **Mineral Resource**

The Séguéla Mineral Resource is reported as an Inferred Mineral Resource in accordance with JORC Code. Refer to market release "Newcrest Quarterly Exploration Report for the three months ended 31 December 2017" dated 30 January 2018 for further detail. The Mineral Resource comprises the volume of identified mineralised zones where information is available to estimate the metal inventory and the grades are of sufficient magnitude as to be potentially economically extractable.

As at 31 December 2017 the Séguéla Mineral Resource is estimated to contain 0.43 Moz of gold. Mineral Resources are reported inclusive of Ore Reserves. Ore Reserves are yet to be reported for the Séguéla Project.

The Mineral Resource is reported above a 0.5 g/t Au cut-off grade based on the assumption of conventional open-pit mining and CIL processing, using a gold price of US\$1,300 per ounce at a 0.80 AUD:USD exchange rate. The Mineral Resource has been reported within a notional spatial constraining pit shell based on a gold price of US\$1,400 per ounce and a 0.80 AUD:USD exchange rate.

All material is classified as Inferred Mineral Resource based on grade and geological continuity, data spacing and confidence in the grade estimate. No mining has been undertaken to date.

#### Séguéla Mineral Resource

	Ore	G	old
	Mt	g/t	Moz
Total Mineral Resource	5.8	2.3	0.43
Measured Mineral Resource			
Indicated Mineral Resource			
Inferred Mineral Resource	5.8	2.3	0.43

#### 5. GOSOWONG PROVINCE (INDONESIA)<sup>15</sup>

Gosowong is located on the island of Halmahera in North Maluku Province in the eastern part of the Republic of Indonesia. Gosowong is owned and operated by PT Nusa Halmahera Minerals (PT NHM), an incorporated joint venture between Newcrest Singapore Holdings Pte Ltd<sup>16</sup> (75%) and PT ANTAM (Persero) Tbk (25%). Tenure over all Gosowong deposits is covered by a 6th generation Contract of Work No.B.143/PRES/3/1997. For the purpose of reporting Mineral Resources and Ore Reserves, Newcrest is reporting 100% of the assets held by PT NHM. Gosowong has been in production since 1999. Both open pit and underground mining methods have been utilised with current mining from underground operations at Kencana (K1, K2 and K-Link) and at Toguraci (Midas, Damar and Yahut).

All economic mineralisation at Gosowong is of low sulphidation epithermal type occurring as mineralised fault systems resulting from high temperature gold and silver bearing hydrothermal fluids. The ore shoots are narrow and approximately planar although irregular and complex in local detail. The deposits are relatively moderate to low in dip averaging around 40-50 degrees in the Kencana – Gosowong structural corridor and sub-vertical in the Toguraci corridor. Silver to gold ratio in the ore is approximately 1:1.

The Gosowong Mineral Resource estimate is a combination of Mineral Resources estimated for the Kencana orebodies (K1, K2 and K-link), Toguraci orebodies (Damar, Yahut-BOD, Midas, Wulan and Kayu Manis), Gosowong underground, Gosowong tailings and stockpiles. A review of the long term cost base assumptions for Ore Reserves and Mineral Resources estimates was conducted during 2016 as part of the routine annual update process.

#### 5.1 Toguraci

The Toguraci low sulphidation epithermal gold vein deposits are located 2 km south west of the Gosowong mine and form part of the Gosowong Goldfield. The vein structures at Toguraci are narrow with horizontal widths typically ranging between 0.1 m and 5 m.

Open pit mining at Toguraci commenced in October 2003, with the mining of the Damar vein and then subsequently extending to the T-Fault, Midas, and Jembatan veins and later to the Damar and Kayu Manis veins. Open pit mining at Toguraci concluded in October 2006 with underground mining commencing in 2011.

#### **Mineral Resource**

The Toguraci Mineral Resource estimate was updated during 2017 to account for mine production and additional resource and grade control drilling since the December 2016 estimate. The model is comprised of estimates for gold and silver. Density was assigned according to previous modelled values. Estimation was by Ordinary Kriging. Domaining was performed using mineralised envelopes, with additional internal domaining using indicators. The Toguraci Mineral Resource is classified as Indicated and Inferred Mineral Resource.

There has been a decrease in the combined Toguraci Mineral Resource estimate (comprising six shoots known as Damar, Yahut-BOD, Midas, Wulan, Kayu Manis and T-Fault) of 0.07 Moz in contained gold and 0.3 Moz contained silver, compared to the December 2016 estimate, due to mining depletion, offset by updated geological interpretations and updated resource models based on new drill data.

#### **Toguraci Mineral Resource**

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	1.4	13	0.56	24	1.1
Measured Mineral Resource					
Indicated Mineral Resource	0.96	14	0.44	27	0.83
Inferred Mineral Resource	0.41	9.2	0.12	18	0.24

<sup>&</sup>lt;sup>15</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

<sup>16</sup> Newcrest Singapore Holdings Pte Ltd is a wholly owned subsidiary in the Newcrest Mining Group.

#### **Ore Reserve**

The Toguraci Ore Reserve estimate combines the Damar, Kayu Manis, Midas, Wulan and Yahut-BOD orebodies. The operation is currently being mined using long-hole stoping with paste fill.

The cut-off grades applied for the December 2017 estimate are based on an annual review of long term cost assumptions. Contained metal in the Ore Reserve estimate has decreased by 0.1 Moz in contained gold and 0.2 Moz in contained silver since the December 2016 estimate. The decreases have been due to mining depletion offset by resource model updates incorporating updated geological interpretations and new drilling.

#### **Toguraci Ore Reserve**

	Ore	Gold		Silv	er
	Mt	g/t	Moz	g/t	Moz
Total Ore Reserve	0.78	9.5	0.24	15	0.38
Proved Ore Reserve					
Probable Ore Reserve	0.78	9.5	0.24	15	0.38

#### 5.2 Kencana

The Kencana mineralised system is a complex intersecting network of structures consisting of well-developed epithermal vein zones (K1 and K2) and link structures. The (K1) Kencana deposit was discovered in 2002 and gold production commenced in early 2006. Since June 2009, production has been mainly from the Kencana K2 and K-Link systems as well as from the K1 orebody. Mining is either by the underhand cut-and-fill method with cemented paste fill or long-hole open stoping (limited to K1 at depth and K-link).

#### **Mineral Resource**

The Kencana Mineral Resource estimate was updated during 2017 to account for mine production and additional resource and grade control drilling data since December 2016.

The Kencana Mineral Resource is estimated using surface and underground drilling data (obtained via diamond drilling) in addition to underground mine development (face mapping and sampling data). The model is comprised of estimates for gold and silver. Density was assigned according to previous modelled values. Estimation was by Ordinary Kriging into ore zone wireframes. The resource models have been validated against production data.

The combined K1, K2, K-link and Wokala Mineral Resource has decreased by 0.08 Moz in contained gold and 0.02 Moz in contained silver, compared to the December 2016 estimate. The decrease has been driven by mine depletion, offset by new drilling information, geological interpretation and resource model updates. The Kencana Mineral Resource is classified as Indicated and Inferred.

#### **Kencana Mineral Resource**

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	1.7	11	0.58	9.7	0.53
Measured Mineral Resource					
Indicated Mineral Resource	1.3	11	0.48	11	0.45
Inferred Mineral Resource	0.40	8.2	0.11	6.5	0.083

#### **Ore Reserve**

An underhand cut-and-fill mining method is used at Kencana. The Kencana Ore Reserve is based on the September 2017 resource model update. The cut-off grades applied for the December 2017 estimate are based on an annual review of the long term cost assumptions.

The Kencana Ore Reserve estimate has been decreased by 0.05 Moz in contained gold and decreased 0.11 Moz in contained silver compared to the December 2016 estimate. Changes have been due to mining depletion offset by resource model update incorporating updated geological interpretations and new drilling.

#### **Kencana Ore Reserve**

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Ore Reserve	1.1	6.9	0.24	6.7	0.24
Proved Ore Reserve					
Probable Ore Reserve	1.1	6.9	0.24	6.7	0.24

#### 5.3 Other Deposits (Gosowong Underground and Stockpiles)

Included in Other Deposits are Gosowong underground, stockpiles and the Gosowong tailings.

The Gosowong deposit was mined as an open pit between 1999 and 2002, producing 0.77 Moz of gold. Open pit ore production re-commenced in 2012 and was completed in July 2013. Upon completion of the mining, a report was completed on the viability of an underground mine to extract the remaining Mineral Resources which is the basis for the December 2017 Gosowong underground Mineral Resources.

#### **Mineral Resource**

The Mineral Resource has changed by <0.01 Moz in contained gold and decreased by <0.2 Moz in contained silver, compared to the December 2016 estimate due to depletion of stockpiles and optimising of the reporting spatial constraint.

#### **Other Deposits Mineral Resource**

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	0.67	4.7	0.10	5.7	0.12
Measured Mineral Resource					
Indicated Mineral Resource	0.66	4.6	0.097	5.6	0.12
Inferred Mineral Resource	<0.01	15	<0.01	8.1	<0.01

#### **Ore Reserve**

The Gosowong stockpiles are now incorporated into the Kencana Ore Reserve for reporting purposes.

#### 6. NAMOSI JV (FIJI)

The Namosi Project is located in the south-eastern part of Viti Levu, the main island of the Republic of Fiji, 30 km west-northwest of the Fijian capital city of Suva. Newcrest entered into the Namosi Joint Venture (NJV) with Nittetsu Mining Co., Ltd and Mitsubishi Materials Corporation in 2007 and now holds a 71.42% interest in the joint venture and is manager of project activities. Newcrest's interest in the joint venture has increased from 70.75% to 71.42% as a result of dilution of Mitsubishi Materials Corporation interest during FY16. NJV agreed metal price assumptions are US\$1,350/oz gold and US\$3.40/lb copper for Mineral Resources and US\$1,250/oz gold and US\$3.00/lb copper for Ore Reserves.

The known porphyry-style copper-gold systems in Fiji occur mainly in the southeast of Viti Levu. These are the Namosi deposits associated with diorite porphyry and quartz diorite porphyry including the Waisoi, Wainabama and Waivaka districts. The Namosi Project includes a Mineral Resource and Ore Reserve estimate for Waisoi and a Mineral Resource estimate for Wainaulo (both of which are contained in the Waivaka district).

The Ore Reserve estimate for Waisoi is based on extraction via two open pits: Waisoi East and Waisoi West. The NJV is not a material mining project for Newcrest.

#### 6.1 Wainaulo<sup>17</sup>

The Wainaulo deposit lies in the Waivaka Corridor, which is a 5 km long east-north-east trending zone of porphyry-related mineralisation. The geology of the Waivaka area comprises a Tertiary sequence of volcanic and volcaniclastic rocks of the Medrausucu Group which is intruded by dioritic porphyry intrusions.

Copper and gold mineralisation is hosted by and adjacent to the porphyry intrusions and is dominated by vein-hosted sulphide mineralisation, and lesser fracture fill and disseminated styles. Bornite and chalcopyrite are the dominant copper sulphides observed in fresh rock. Controls on mineralisation are predominantly proximal porphyry intrusions and preferred structural orientations that parallel the broader corridor.

#### **Mineral Resource**

The Wainaulo model is based on a 3-dimensional geology model that incorporates interpretations of lithological, structural and mineralisation features which are observed to have an impact on the distribution and/or tenor of mineralisation. The model incorporates all available drill holes up to April 2010 (totalling 11 NJV drill holes and 9 historical drill holes by Nittetsu). The database used for the Mineral Resource estimation includes a total of approximately 12,700 assayed and 314 density measurements from core samples. The integrity of the historical data has been comprehensively checked and as a result no drill data has been excluded from the estimation database.

The Mineral Resource tonnage and grade have been estimated using Ordinary Kriging into 50 m  $\times$  50 m  $\times$  45 m blocks. Density values have been assigned to the block model based on sulphide species domains and oxidation state.

The Wainaulo Mineral Resource has been classified as Inferred Mineral Resource based on an assessment of drill hole spacing, style of mineralisation, mining selectivity and geological and grade continuity. The Wainaulo Mineral Resource estimate is reported using a marginal copper cut-off grade inside a conceptual mining outline. The Wainaulo Mineral Resource estimate is unchanged from December 2016 as the increased Newcrest equity in the Namosi Joint Venture is minor.

<sup>&</sup>lt;sup>17</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### Wainaulo Mineral Resource (71.42%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	67	0.12	0.25	0.72	0.48
Measured Mineral Resource					
Indicated Mineral Resource					
Inferred Mineral Resource	67	0.12	0.25	0.72	0.48

#### **Ore Reserve**

No Ore Reserve has been estimated for the Wainaulo deposit.

#### 6.2 Waisoi<sup>18</sup>

The Waisoi porphyry Cu-Au-Mo mineralisation occurs in a sequence of Tertiary volcanics and porphyritic intrusive rocks located in the main volcanic island of the Fiji Islands group. The mineralisation at Waisoi occurs as disseminations, fracture fill and vein fill. Chalcopyrite and bornite are the dominant copper sulphide minerals, although covellite, digenite and chalcocite have also been observed. The approximate extents of the system (at 0.1% Cu cutoff) are 2.7 km E-W, 1.6 km N-S and ~1 km vertically. The deposit includes two broad overlapping zones: Waisoi East and Waisoi West.

Waisoi Project is based on a Pre-feasibility Study as a potential bulk open pit operation. The Waisoi Mineral Resource and Ore Reserve estimates are reported and/or based on an estimated value that incorporates the forecast revenue streams from recoverable gold, copper and molybdenum and the operational and realisation costs (concentrate transport, smelting and refining).

#### **Mineral Resource**

The Waisoi Mineral Resource is based on a 3-dimensional geology model that incorporates interpretations of lithological, structural and mineralisation features which are observed to have an influence on the distribution and/or tenor of mineralisation. The model incorporates all available drill holes (totalling >300 holes). The integrity of the historical data has been comprehensively checked and as a result no drill data has been excluded from the estimate.

The last major resource model build for Waisoi was in June 2010 and included estimates for copper, gold, sulphur and molybdenum. The tonnage and grade estimates for copper and gold have been estimated by Conditional Co-Simulation using the Direct Block Simulation methodology. The tonnage and grade estimates for molybdenum and sulphur have been estimated by Ordinary Kriging. Density values have been assigned based on oxidation state and lithology.

The Waisoi resource model was reviewed in May 2011 based on additional drilling. As part of this work, the resource classification was upgraded in some areas (due to increased geological and grade confidence), but no further changes were made to the underlying resource grade model (the grade estimates for copper, gold and molybdenum remained as per the June 2010 resource model). The Mineral Resource is classified into Indicated and Inferred Mineral Resource based on grade and geological continuity and data density. The conditional simulations were used to validate the Indicated Mineral Resource classification such that the relative uncertainty is +/- 15% for tonnage, copper grade and copper metal (exclusive of each other, i.e., each variable has to satisfy the criteria) for an annual production volume at a 90% confidence interval. The Mineral Resource is reported at the marginal cut-off using a value (or profit) algorithm in a pit shell spatial constraint.

The December 2017 Waisoi Mineral Resource estimate remains unchanged compared to the December 2016 estimate as the increase in Newcrest's interest in the project is minor.

<sup>&</sup>lt;sup>18</sup> Information has been prepared and reported in accordance with JORC Code 2012. However, as there has not been a material change a Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9 has not been released.

#### Waisoi Mineral Resource (71.42%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	1,500	0.11	5.2	0.33	4.9
Measured Mineral Resource					
Indicated Mineral Resource	1,300	0.11	4.7	0.34	4.5
Inferred Mineral Resource	150	0.096	0.48	0.28	0.44

#### **Ore Reserve**

Waisoi is a massive low grade gold-copper porphyry deposit. Studies have indicated that a marginal operation exists to exploit the primarily copper mineralisation as a staged sequence of multiple open pits. The Pre-feasibility Study for Waisoi was updated in 2014 to reflect changes to long term cost and copper metal price assumptions and re-optimised. The Waisoi Ore Reserve estimate remains unchanged compared to the December 2016 estimate as the increase in Newcrest's interest is minor.

#### Waisoi Ore Reserve (71.42%)

	Ore	Gold		Сор	per
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	950	0.12	3.7	0.37	3.6
Proved Ore Reserve					
Probable Ore Reserve	950	0.12	3.7	0.37	3.6

#### 7. MOROBE MINING JOINT VENTURES (PNG) - Wafi-Golpu Joint Venture

The Wafi-Golpu Project comprises the Wafi epithermal deposit, the Nambonga porphyry deposit and the Golpu porphyry deposit. Mineral Resources have been estimated for all three deposits and Ore Reserves have been estimated for the Golpu deposit. The current Mineral Resource forms part of a large intrusive system with extensive and complex overprinting alteration patterns. Drill density outside of the existing resource areas is limited, and the full potential of the system is yet to be established.

On 12 February 2016 the Newcrest Board reviewed the prepared Golpu Stage One Feasibility Study and Golpu Stage Two Pre-feasibility Study. For more detailed information refer to market release of 15 February 2016 "Wafi-Golpu – Update on Stage One Feasibility and Stage 2 Prefeasibility Studies" and market release of 25 August 2016 "Special Mining Lease application submitted for Wafi-Golpu Project".

The Wafi-Golpu Joint Venture parties continued to progress activity in line with the forward work plan previously communicated, including engagement with the PNG Government on the application for a Special Mining Lease (SML) for the Wafi-Golpu project. The current study work is focused on assessing internally-generated power options, developing deep sea tailings placement options to compare with terrestrial tailings storage options, and reassessing block cave levels and increased mining rates due to increased knowledge obtained from further drilling undertaken during the year.

#### 7.1 Nambonga<sup>19</sup>

The Nambonga deposit, lies approximately 2 kilometres north-west of Golpu, and the copper-gold porphyry does not outcrop. The Nambonga porphyry represents a moderate tonnage, low grade gold-copper porphyry system similar in nature to Golpu. Chalcopyrite is the dominant copper sulphide mineral in and proximal to the porphyry, and galena and sphalerite are present in steep, late-forming structures.

<sup>&</sup>lt;sup>19</sup> Information prepared and first disclosed under the JORC Code 2004 Edition and not related to a material mining project and which has not materially changed since last reported has not been updated.

#### Mineral Resource

The December 2017 Mineral Resource estimate has not been updated since 31 December 2016. The Nambonga deposit is an advanced exploration target and no mining has been conducted in the project area. The Nambonga Mineral Resource estimate will be re-evaluated during 2018 following completion of the Golpu Feasibility study. Nambonga is not a material mining project for Newcrest.

#### Nambonga Mineral Resource (50%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	20	0.79	0.51	0.21	0.043
Measured Mineral Resource					
Indicated Mineral Resource					
Inferred Mineral Resource	20	0.79	0.51	0.21	0.043

#### **Ore Reserve**

No Ore Reserve has been estimated for the Nambonga deposit.

#### 7.2 Wafi<sup>20</sup>

The Wafi deposit is centred on high sulphidation epithermal mineralisation in a larger epithermal and porphyry related complex, approximately 60km southwest of Lae, PNG. The Wafi deposit outcrops less than 1 km to the south of the Golpu porphyry deposit. Wafi is not a material mining project for Newcrest.

The gold deposits are hosted in the metasedimentary units of the Owen Stanley Metamorphics and are located peripheral to the diatreme breccia complex. Mineralisation occurs as disseminated sulphides and quartz vein-stockworks in advanced argillic to intermediate argillic altered meta-sedimentary rocks.

#### **Mineral Resource**

The resource model for Wafi was updated following additional drilling, modelling and technical studies in 2012. The Wafi resource model contains estimates for gold, silver, arsenic and sulphur. Estimation domains are based on a combination of rock type, alteration and structural zones in an outer constraining shell. The estimation method used for gold was a two part process comprising: Multiple Indicator Kriging (MIK) into panels and redistributing the panel grade into selective mining unit (SMU) sized blocks via a local MIK estimate. Ordinary Kriging was used to estimate silver, arsenic and sulphur.

The Wafi Mineral Resource includes oxide material from the Golpu deposit accessible in the Wafi pit shell. All material inside the Mineral Resource is classified into Indicated and Inferred Mineral Resource categories based on grade and geological continuity and drill spacing. There is no change to the Wafi Mineral Resource since December 2016.

#### Wafi Mineral Resource (50%)

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	68	1.7	3.6	3.4	7.4
Measured Mineral Resource					
Indicated Mineral Resource	57	1.7	3.1	3.6	6.5
Inferred Mineral Resource	11	1.3	0.47	2.5	0.90

Information prepared and first disclosed under the JORC Code 2004 Edition and not related to a material mining project and which has not materially changed since last reported has not been updated.

#### **Ore Reserve**

No Ore Reserve has been estimated for the Wafi deposit.

#### 7.3 Golpu<sup>21</sup>

The Golpu deposit is centred on porphyry-style mineralisation in a larger epithermal and porphyry related complex, approximately 60 km southwest of Lae, PNG. Two distinct copper-gold mineralisation events have been identified at Golpu. The dominant porphyry-style mineralisation forms sub-vertical mineralised zones centred on a multi-phase intrusive complex of 'finger' porphyry stocks and dykes hosted in the surrounding metasedimentary rocks. At upper levels of the porphyry complex, an interpreted latter stage, high sulphidation epithermal event including argillic and phyllic alteration zones has overprinted the porphyry mineralisation forming a sheet-like draped 'cap' to the system.

At Golpu, compositionally and texturally distinct intrusive phases are grouped into the feldspar-phyric Golpu Porphyry, quartz eye bearing Golpu West Porphyries, and the mafic rich, hornblende phyric Livana Porphyry intrusive. Single intrusions pinch and swell vertically over tens of metres and form stocks, pipes and dykes. Post mineral faulting has resulted in small rotation and displacement of the original intrusive configuration.

Mineralisation is derived from either the porphyry or epithermal systems. Within the porphyry environment, mineralisation is disseminated, microfracture and stockwork vein controlled with chalcopyrite the dominant sulphide. The porphyry system is mineralised with gold, copper, silver and molybdenum. In the overprinting epithermal system, gold occurs within pyrite or as electrum associated with pyrite-enargite-tetrahedrite. Arsenic and sulphur are elevated within the high sulphidation epithermal system.

The dimension of the mineralised system is approximately 800 m north-south  $\times$  500 m east-west and greater than 2,000 m vertically from surface. The epithermal overprint extends to a depth of 250 m below surface in the porphyry centre to approximately 600 m on the eastern porphyry margin.

#### **Mineral Resource**

The Golpu geological interpretation and grade model was estimated in 2014 and is the basis of the 2017 Mineral Resource. The Golpu resource model is comprised of estimates for copper, gold, silver, molybdenum, arsenic, sulphur and iron. A combination of lithological and alteration zones have been used as estimation domains. The estimation method used was Ordinary Kriging into 40 m  $\times$  40 m parent blocks with sub-celling to 10 m  $\times$  10 m.

The Golpu Mineral Resource estimate is reported in a notional shell at the marginal cut-off grade which reflects the proposed bulk underground mining method of block caving with ore processing by sulphide flotation. The Mineral Resource is classified into Indicated or Inferred Mineral Resource categories based on data spacing and grade and geological continuity.

The Golpu Mineral Resource remains unchanged from that reported in December 2016 (50% terms) (refer to market release "Wafi-Golpu – Update on Stage One Feasibility and Stage Two Prefeasibility Studies" dated 15 February 2016 for more detail including Table 1 Appendix and detailed reporting under 5.8 & 5.9 of ASX Listing Rules).

#### Golpu Mineral Resource (50%)

	Ore	Gold		Copper		Silver	
	Mt	g/t	Moz	%	Mt	g/t	Moz
Total Mineral Resource	410	0.70	9.3	1.0	4.3	1.3	17
Measured Mineral Resource							
Indicated Mineral Resource	340	0.71	7.9	1.1	3.7	1.3	14
Inferred Mineral Resource	68	0.63	1.4	0.85	0.58	1.1	2.3

<sup>&</sup>lt;sup>21</sup> Information prepared and reported in accordance with JORC Code 2012. Refer to market release of 15 February 2016 "Wafi-Golpu – Update on Stage One Feasibility and Stage Two Prefeasibility Studies" for Table 1 Appendix and detailed reporting under 5.8 & 5.9 of ASX Listing Rules.

#### **Ore Reserve**

The Golpu Stage 1 Feasibility level study was prepared in December 2015 for the first stage in the development of a mine comprising of two block caves (BC1 & BC2). In parallel, the Golpu Stage 2 Pre-feasibility study was prepared in December 2015 which utilises the Stage 1 Feasibility study as a base from which to increase the production rate of BC2 and the extension of the scope to include BC3 at the 4000 mRL (refer to market release "Wafi-Golpu – Update on Stage One Feasibility and Stage Two Prefeasibility Studies" dated 15 February 2016 for more detail including Table 1 Appendix, and detailed reporting under 5.8 & 5.9 of ASX Listing Rules).

The Wafi-Golpu Joint Venture parties continued to progress activity in line with the forward work plan previously communicated, including engagement with the PNG Government on the application for a SML for the Wafi-Golpu project. The current study work is focused on assessing internally-generated power options, developing deep sea tailings placement options to compare with terrestrial tailings storage options, and reassessing block cave levels and increased mining rates due to increased knowledge obtained from further drilling undertaken during the year.

The Joint Venture parties are targeting a complete update of the Feasibility Study by the end of the March 2018 quarter. The focus of this work is to further optimise the business case and confirm any amendments necessary to the supporting documents for the SML application.

Timing of first production is dependent on the updated study outcomes and the granting of an SML.

The Golpu Ore Reserve (50% terms) remains unchanged from that reported in December 2016.

#### Golpu Ore Reserve (50%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	190	0.91	5.5	1.3	2.4
Proved Ore Reserve					
Probable Ore Reserve	190	0.91	5.5	1.3	2.4

**Glossary of Terms** 

Item	Description
Atomic Absorption	An analytical method that measures the concentrations of elements in a
Spectroscopy (AAS)	sample by using the wavelengths of light specifically absorbed by an element.  AAS is capable of accurately measuring low concentrations of elements.
Block Caving (BC)	A method of underground mining that involves fracturing ore and host rock under controlled conditions, causing the ore to break or cave under its own weight. Block caving proceeds by undercutting a discreet block (which may represent the full footprint of the orebody).
Conditional Co-Simulation	A geostatistical grade simulation technique based on a Monte Carlo method which is conditioned to the input data and its spatial correlation properties (variogram). Several grade variables can be jointly simulated using their correlation properties (say gold and copper in a porphyry type mineralisation style). The output is a regular grid of simulated sample data points which can be combined into any size blocks (normally SMUs) for further uncertainty analysis.
Diamond Drill Core Size – NQ, HQ, PQ	Nominal core diameters for diamond drill core recovered using wireline drilling equipment: NQ - 47.6mm, HQ - 63.5mm, PQ - 85.0mm.
Direct Block Simulation	An enhancement of the Conditional Co-Simulation technique which simulates grade values directly into SMU blocks thereby by-passing simulation of point sample values.
Ground Truth Model (GTM)	A method for testing the accuracy of an estimate of tonnage and grade for a nominated ore block by comparing the estimate with the results obtained from mining and processing that block.
Indicator Estimation	Estimation of binary values (0,1) as defined by a threshold or cut-off grade.
Localised Uniform Conditioning (LUC)	Uniform Conditioning (UC) is a non-linear recoverable resource grade estimation technique. The "non-linear" component in this case refers to the transformation of original data values to Gaussian space. The "recoverable resource" is a strictly geostatistical definition for estimating the grade-tonnage curve of the dependent SMU distribution in a larger parent panel whose grade can be estimated more reliably than the individual SMUs. The "localised" version of UC (LUC) is the mapping of the SMU grade-tonnage curve to the individual SMUs in the panel.
Multiple Indicator Kriging (MIK)	Indicator Kriging (IK) is a non-linear recoverable resource grade estimation technique. Original data values are transformed to a binary distribution (1 or 0) depending on whether values are above or below a defined cut-off grade. The "multiple" extension is the adoption of several different cut-offs allowing the estimation of the complete grade-tonnage curve in a panel. MIK is particularly robust to grade outliers.
Ordinary Kriging (OK)	A linear (using original data values) grade estimation technique that uses a variogram in an attempt to minimize the estimation error of the volume being estimated.
Panel Caving (PC)	A natural caving method which uses ground stresses, rock structures and gravity to break the rock. Ore extraction advances across the ore body as panels are progressively developed.

Item	Description
Quality Assurance /Quality Control – QAQC	Prescribed procedures and quantitative checks designed to monitor the performance of a process or processes to ensure that they provide consistently reliable and accurate results and identify any variations in process performance.
Reverse Circulation (RC) Drilling	A method of drilling used to collect samples by using compressed air to remove drill cuttings from the bottom of the hole via the centre of the drill string so as to avoid contamination of cuttings by rock elsewhere in the hole.
Selective Mining Unit (SMU)	The minimum size block that can be mined selectively given the mining fleet configuration.
Stockwork	A style of alteration comprising fine disseminated veins containing mineralisation.
Stratabound	Mineralisation that is confined to a single stratigraphic unit or distinct band in the rock mass.
Sublevel Cave (SLC)	A top-down mining method which involves the development of a series of horizontal sublevels comprising parallel development drives that span the orebody and from which blast holes are drilled upward into the rock mass. Single or multiple rings of holes are blasted, retreating across the orebody, with the broken ore extracted from the sublevel drives in a pre-determined sequence.
Variogram	A quantitative method for determining the spatial correlation between sampled points in an ore deposit (mineralisation). The experimental variogram is a calculation of the variance between pairs of points <i>h</i> distance apart. The modelled variogram is a continuous function fitted to the experimental variogram points.

#### **Competent Person's Statement**

The Annual Mineral Resources and Ore Reserves Statement and Explanatory Notes have been compiled by Mr K. Gleeson. Mr Gleeson is the Head of Mineral Resource Management and a full-time employee of Newcrest Mining Limited. He is entitled to participate in Newcrest's executive equity long term incentive plan, details of which are included in Newcrest's 2017 Remuneration Report. Ore Reserves growth is one of the performance measures under that plan. He is a Member of The Australasian Institute of Mining and Metallurgy. Mr Gleeson has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Mr Gleeson consents to the inclusion of the material in this report in the form and context in which it appears.

The information in this report that relates to specific Mineral Resources and Ore Reserves is based on and fairly represents information compiled by the Competent Persons named in Tables 2 to 9. Each of these persons, other than Mr G. Job, was at the reporting date a full-time employee of Newcrest Mining Limited or its relevant subsidiaries, holds options (and in some cases, shares) in Newcrest Mining Limited and is entitled to participate in Newcrest's executive equity long term incentive plan, details of which are included in Newcrest's 2017 Remuneration Report. Replacement of Ore Reserves and Mineral Resources depletion is one of the performance measures of recent long term incentive plans. Mr Job is a full time employee of Harmony Gold Mining Company Limited, Newcrest's joint venture partner in each of the MMJVs.

All the Competent Persons named are Members of The Australasian Institute of Mining and Metallurgy and / or The Australian Institute of Geoscientists, and have sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Each Competent Person consents to the inclusion in this report of the matters based on his or her information in the form and context in which it appears.

#### **Ore Reserves and Mineral Resources Reporting Requirements**

As an Australian company with securities listed on the Australian Securities Exchange (ASX), Newcrest is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act and the ASX Listing Rules. Investors should note that it is a requirement of the ASX Listing Rules that the reporting of Ore Reserves and Mineral Resources in Australia comply with the JORC Code 2012 and that Newcrest's Ore Reserve and Mineral Resource report comply with the JORC Code 2012.

Deposit/Province	Mineral Resources Competent Person	Ore Reserve Competent Person
Cadia Valley	Stephen Guy	Geoffrey Newcombe
Telfer (Including satellites) O'Callaghans	James Biggam	Brett Ascott
Lihir	Glenn Patterson-Kane	Steven Butt
Gosowong	Rob Taube	Jimmy Suroto
Bonikro	Drissa Sankare	Emmanuel Kwarfo
Séguéla	Paul Kitto	NA
Namosi	Vik Singh	Geoffrey Newcombe
MMJV- Wafi, Nambonga	Greg Job (Harmony)	NA
MMJV-Golpu	Paul Dunham	Pasqualino Manca

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