

Explanatory Notes

13 February 2020



Explanatory Notes to the Annual Mineral Resources and Ore Reserves Statement – as at 31 December 2019

Summary

Newcrest Mining Limited has updated its Mineral Resource and Ore Reserve estimates for the twelve month period ending 31 December 2019 and for this purpose, has completed a detailed review of all production sources. The review has taken into account long-term metal prices, foreign exchange and cost assumptions, and mining and metallurgy performance to inform cut-off grades and physical mining parameters.

Newcrest announced on 11 March 2019 that it had entered into an agreement with TSX-listed Imperial Metal Corporation to acquire a 70% joint-venture interest in, and operator ship of, the Red Chris mine and surrounding tenements in British Columbia, Canada (Red Chris) (refer to market release “Newcrest to acquire potential Tier 1 orebody in Canada” dated 11 March 2019). Newcrest has completed the joint venture transaction with Imperial Metals Corporation (Imperial) and now owns a 70% interest in the Red Chris operation in British Columbia, Canada (refer to market release “Newcrest completes 70% acquisition of Red Chris” dated 16 August 2019).

Red Chris is a copper-gold porphyry with an operating open-pit mine. Imperial Metals has reported estimated Mineral Resources of 20 million ounces of gold and 13 billion pounds of copper¹². The acquired property comprises 23,142 hectares of land with 77 mineral tenures, five of which are mining leases and sits within the traditional territory of the Tahltan Nation.

Newcrest has commenced its planned work program, including additional exploration and resource definition drilling (refer to market release “Quarterly Exploration report for the three months ended 31 December 2019” date 30 January 2019), collection of geological, geotechnical and metallurgical data and studies to define the optimum high value open pit and underground mining scenarios, and is on track to complete these within a 3 year timeframe from the acquisition date. This work program will continue during 2020 and enable the Mineral Resource and Ore Reserves to be reported in accordance with the JORC Code 2012 when completed.

Molybdenum has been added to Mineral Resources and Ore Reserves at Cadia East as a minor by-product following approval of the Cadia molybdenum plant project (refer to market release “Quarterly Report For the three months ended 30 June 2019” dated 25 July 2019).

Group Ore Reserve

As at 31 December 2019, Group Ore Reserves are estimated to contain 52 million ounces of gold, 6.9 million tonnes of copper, 36 million ounces of silver and 0.12 million tonnes of molybdenum. This represents a decrease of approximately 2.2 million ounces of gold (~4%) and 0.1 million tonnes of copper (~1%), with an increase of approximately 0.1 million ounces of silver (~1%) and 0.12 million tonnes of molybdenum, compared with the estimate as at 31 December 2018.

¹² The information in this announcement that relates to the Mineral Resource estimates of Imperial is based on the “National Instrument 43-101 Technical Report” dated 30 September 2015 and filed by Imperial on SEDAR (www.sedar.com) in accordance with National Instrument 43-101 as required by Canadian securities regulatory authorities. The estimates of the Imperial Mineral Resources contain Measured and Indicated Mineral Resources of 1.0Bt at 0.35 g/t Au and 0.35% Cu for 12Moz contained gold and 8.0Blb contained copper and Inferred Mineral Resources of 0.7Bt at 0.32 g/t Au and 0.29% Cu for 8.1Moz contained gold and 5.0Blb contained copper (Data reported to two significant figures and this may cause discrepancies in totals). Note under Newcrest reporting convention for copper 13Blb contained copper is equivalent to 5.9Mt contained copper. See also Red Chris foreign estimates in the disclaimers of this presentation.

The Group Ore Reserves estimates as at 31 December 2019 are set out in Tables 7 to 11.

The Group Ore Reserves as at 31 December 2019 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
- The addition of 0.12 million tonnes of molybdenum as a minor by-product at Cadia East.

Group Mineral Resources

As at 31 December 2019, Group Mineral Resources are estimated to contain 110 million ounces of gold, 19 million tonnes of copper, 94 million ounces of silver and 0.19 million tonnes of molybdenum. This represents a decrease of approximately 3.5 million ounces of gold (~3%) and 0.1 million tonnes of copper (~1%), with an increase of 1.5 million ounces of silver (~2%) and 0.19 million tonnes of molybdenum, compared with the estimate as at 31 December 2018. The Group Mineral Resources estimates as at 31 December 2019 are set out in Tables 2 to 6. Mineral Resources are reported inclusive of Ore Reserves.

The Group Mineral Resources as at 31 December 2018 includes changes at numerous deposits following updated notional constraining shells and/or resource models. These include:

- Estimated mining depletion of approximately 3.1 million ounces of gold, 0.1 million tonnes of copper and 1 million ounces of silver
- Decrease at Telfer, post mining depletion, of approximately 0.5 million ounces of gold and 0.02 million tonnes of copper following updated resource models and re-optimised notional constraining shells for the open pit and sterilisation underground as the mine approaches end of operational life.
- The addition of 0.19 million tonnes of molybdenum as minor by-product at Cadia East.

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 changes 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 2018 reporting. Molybdenum has been added to Cadia East Mineral Resource and Ore Reserve. Following review of exchange rate assumptions the AUD:USD exchange rate assumption remains unchanged at 0.75 and local currency assumptions for the PNG Kina remain unchanged. Morobe Mining Joint Ventures (MMJV) and the Namosi Joint Venture (NJV) long term metal price and exchange rate assumptions (refer Table 1) are aligned to Newcrest assumptions. 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 & NJV
Mineral Resource Estimates	
Gold – USD/oz	1,300.00
Copper – USD/lb	3.40
Silver – USD/oz	21.00
Molybdenum – USD/lb	10.00
Ore Reserve Estimates	
Gold – USD/oz	1,200.00
Copper – USD/lb	3.00
Silver – USD/oz	18.00
Molybdenum – USD/lb	8.00
Long Term Exchange Rate AUD: USD	0.75

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). 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.

Red Chris Foreign Estimates

The estimates of Mineral Resources for the Red Chris deposit are qualifying foreign estimates under the ASX Listing Rules reported in accordance with the National Instrument 43-101 (NI 43-101) by Imperial and filed on SEDAR (www.sedar.com) on 30 September 2015. These qualifying foreign estimates were re-stated by Imperial in their July 2017 Mineral Resource and Mineral Reserve statement (www.imperialmetal.com) but have not been updated since 30 September 2015, and have not been depleted for production to date.

The supporting information required by ASX Listing Rule 5.12 was contained in the market release titled "Newcrest to acquire potential Tier 1 orebody in Canada" dated 11 March 2019 (original Red Chris release). Newcrest confirms that it is not aware of any new information or data relating to the Red Chris qualifying foreign estimates that materially impacts on the reliability of the estimates or Newcrest's ability to verify such foreign estimates following completion as mineral resources in accordance with Appendix 5A of the ASX Listing Rules. The supporting information provided in the original Red Chris release referred to in ASX Listing Rule 5.12 continues to apply and has not materially changed.

Cautionary statement

The estimates of Mineral Resources for the Red Chris deposit are qualifying foreign estimates under the ASX Listing Rules and are not reported in accordance with the JORC Code. Competent persons have not done sufficient work to classify the qualifying foreign estimates as Mineral Resources in accordance with the JORC Code. It is uncertain, that following evaluation and further exploration, the foreign estimates will be able to be reported as Mineral Resources in accordance with the JORC code.

Table 2 – 31 December 2019 Gold Mineral Resources

Dec-19 Mineral Resources		Measured Resource		Indicated Resource		Inferred Resource		Dec-19 Total Resource			Comparison to Dec-18 Total Resource		
Gold Mineral Resources (inclusive of 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)	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	Luke Barbetti	-	-	2,900	0.36	-	-	2,900	0.36	33	2,900	0.36	34
Ridgeway Underground		-	-	110	0.57	41	0.38	150	0.52	2.4	150	0.52	2.4
Other		32	0.30	80	0.35	11	0.70	120	0.37	1.4	120	0.37	1.5
Total Cadia Province										37			38
Main Dome Open Pit (incl.stockpiles)	Ashok Doorgapershad	4.7	0.38	16	0.66	0.35	0.23	21	0.59	0.41	24	0.60	0.46
West Dome Open Pit		-	-	120	0.66	0.02	0.66	120	0.66	2.5	150	0.63	3.1
Telfer Underground		-	-	32	1.7	11	1.4	44	1.6	2.3	50	1.6	2.7
Other		-	-	0.44	2.9	4.4	1.1	4.9	1.3	0.20	4.9	1.3	0.20
Total Telfer Province										5.4			6.4
Lihir	Benjamin Likia	83	1.9	530	2.3	67	2.3	680	2.3	49	690	2.3	50
Gosowong ¹	Denny Lesmana	-	-	2.7	10	0.41	8.2	3.1	10	1.0	3.3	10	1.1
Total Operational Provinces										93	96		
Non-Operational Provinces													
MMJV - Golpu / Wafi & Nambonga (50%) ²	David Finn / Greg Job	-	-	400	0.84	110	0.77	510	0.83	13	500	0.83	13
Namosi JV (72.49%) ³	Vik Singh	-	-	1,300	0.11	120	0.08	1,400	0.11	5.0	1,400	0.11	4.9
Total Non-Operational Provinces										18	18		
Total Gold Mineral Resources										110	110		

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

- ¹ 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. On 31 January 2020 Newcrest announced that it had agreed to sell its interest in PT Nusa Halmahera Minerals to PT Indotan Halmahera Bangkit (refer market release "Newcrest agrees to divest Gosowong for \$90m" dated 31 January 2020).
- ² 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.
- ³ Namosi refers to the Namosi unincorporated joint venture, in which Newcrest has a 72.49% interest. The figures shown represent 72.49% of the Mineral Resource at December 2019 compared to 71.82% of the Mineral Resource at December 2018.

Table 3 – 31 December 2019 Copper Mineral Resources

Dec-19 Mineral Resources	Competent Person	Measured Resource		Indicated Resource		Inferred Resource		Dec-19 Total Resource			Comparison to Dec-18 Total Resource					
Copper Mineral Resources (inclusive of Copper Ore Reserves)		Dry Tonnes (million)	Copper Grade (% Cu)	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	Luke Barbetti	-	-	2,900	0.26	-	-	2,900	0.26	7.5	2,900	0.26	7.6			
Ridgeway Underground		-	-	110	0.30	41	0.40	150	0.33	0.48	150	0.33	0.48			
Other		32	0.13	80	0.19	11	0.52	120	0.20	0.25	120	0.20	0.25			
Total Cadia Province										8.2			8.3			
Main Dome Open Pit (incl.stockpiles)	Ashok Doorgapershad	4.7	0.098	16	0.094	0.35	0.012	21	0.093	0.020	24	0.092	0.022			
West Dome Open Pit		-	-	120	0.062	0.02	0.058	120	0.062	0.072	150	0.062	0.10			
Telfer Underground		-	-	32	0.40	11	0.43	44	0.41	0.18	50	0.40	0.20			
Other		-	-	-	-	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										0.54			0.59			
Total Operational Provinces											8.8			8.9		
Non-Operational Provinces																
MMJV - Golpu / Wafi & Nambonga (50%) ⁴	David Finn / Greg Job	-	-	340	1.1	92	0.68	440	1.0	4.4	440	1.0	4.4			
Namosi JV (72.49%) ⁵	Vik Singh	-	-	1,300	0.35	330	0.37	1,600	0.35	5.8	1,600	0.35	5.7			
Total Non-Operational Provinces											10			10		
Total Copper Mineral Resources											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

⁴ 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.

⁵ Namosi refers to the Namosi unincorporated joint venture, in which Newcrest has a 72.49% interest. The figures shown represent 72.49% of the Mineral Resource at December 2019 compared to 71.82% of the Mineral Resource at December 2018.

Table 4 – 31 December 2019 Silver Mineral Resources

Dec-19 Mineral Resources	Competent Person	Measured Resource		Indicated Resource		Inferred Resource		Dec-19 Total Resource			<i>Comparison to Dec-18 Total Resource</i>					
Silver Mineral Resources (Inclusive of Silver Ore Reserves)		Dry Tonnes (million)	Silver Grade (g/t Ag)	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)	<i>Dry Tonnes (million)</i>	<i>Silver Grade (g/t Ag)</i>	<i>Insitu Silver (million ounces)</i>			
Operational Provinces																
Cadia Valley Operations	Luke Barbetti	-	-	3,000	0.68	41	0.43	3,100	0.68	66	3,100	0.68	67			
Gosowong ⁶	Denny Lesmana	-	-	2.7	14	0.41	11	3.1	14	1.3	3.3	14	1.5			
Total Operational Provinces											68			69		
Non-Operational Provinces																
MMJV - Golpu / Wafi (50%) ⁷	David Finn / Greg Job	-	-	400	1.7	87	1.7	480	1.7	27	480	1.6	24			
Total Non-Operational Provinces											27			24		
Total Silver Mineral Resources											94			93		

Table 5 – 31 December 2019 Molybdenum Mineral Resources

Dec-19 Mineral Resources	Competent Person	Measured Resource		Indicated Resource		Inferred Resource		Dec-19 Total Resource			Comparison to Dec-18 Total Resource					
Molybdenum Mineral Resources (inclusive of Molybdenum Ore Reserves)		Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Insitu Molybdenum (million tonnes)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Insitu Molybdenum (million tonnes)			
Operational Provinces																
Cadia Valley Operations	Luke Barbetti	-	-	2,900	64	-	-	2,900	64	0.19	-	-	-			
Total Operational Provinces											0.19					
Total Molybdenum Mineral Resources											0.19					

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

⁶ 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. On 31 January 2020 Newcrest announced that it had agreed to sell its interest in PT Nusa Halmahera Minerals to PT Indotan Halmahera Bangkit (refer market release "Newcrest agrees to divest Gosowong for \$90m" dated 31 January 2020).

⁷ 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 2019 Polymetallic Mineral Resources

Dec-19 Mineral Resources	Competent Person	Tonnes	Grade			Contained Metal		
Polymetallic Mineral Resources (inclusive of Polymetallic Ore Reserves)		Dry Tonnes (million)	Tungsten Trioxide Grade (% WO ₃)	Zinc Grade (% Zn)	Lead Grade (% Pb)	Insitu Tungsten Trioxide (million tonnes)	Insitu Zinc (million tonnes)	Insitu Lead (million tonnes)
O'Callaghans								
Measured	Ashok Doorgapershad	-	-	-	-	-	-	-
Indicated		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	Ashok Doorgapershad	-	-	-	-	-	-	-
Indicated		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-18 Total Polymetallic Mineral Resources		78	0.33	0.49	0.24	0.26	0.38	0.19

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

Table 7 – 31 December 2019 Gold Ore Reserves

Dec-19 Ore Reserves	Competent Person	Proved Reserve		Probable Reserve		Dec-19 Total Reserve			Comparison to Dec-18 Total Reserve		
Gold Ore Reserves		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	Geoffrey Newcombe	-	-	1,400	0.45	1,400	0.45	20	1,400	0.47	21
Ridgeway Underground		-	-	80	0.54	80	0.54	1.4	80	0.54	1.4
Other		-	-	-	-	-	-	-	-	-	-
Total Cadia Province								21			22
Main Dome Open Pit (incl. stockpiles)	Glenn Patterson-Kane	4.7	0.38	2.2	0.57	7.0	0.44	0.099	9	0.52	0.15
West Dome Open Pit		-	-	47	0.77	47	0.77	1.2	63	0.75	1.5
Telfer Underground	Gito Patani	-	-	1.5	2.3	1.5	2.3	0.11	4.9	1.9	0.30
Total Telfer Province								1.4			2.0
Lihir	David Grigg	83	1.9	230	2.4	320	2.3	23	330	2.3	24
Gosowong ⁸	Mark Kaesehagen	-	-	1.2	7.5	1.2	7.5	0.30	1.4	8.1	0.37
Total Operational Provinces									46		
Non-Operational Provinces											
MMJV - Golpu (50%) ⁹	Pasqualino Manca	-	-	200	0.86	200	0.86	5.5	200	0.86	5.5
Total Non-Operational Provinces									5.5		
Total Gold Ore Reserves									52		
									54		

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

⁸ 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. On 31 January 2020 Newcrest announced that it had agreed to sell its interest in PT Nusa Halmahera Minerals to PT Indotan Halmahera Bangkit (refer market release "Newcrest agrees to divest Gosowong for \$90m" dated 31 January 2020).

⁹ 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.

Table 8 – 31 December 2019 Copper Ore Reserves

Dec-19 Ore Reserves	Competent Person	Proved Reserve		Probable Reserve		Dec-19 Total Reserve			Comparison to Dec-18 Total Reserve		
Copper Ore Reserves		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	Geoffrey Newcombe	-	-	1,400	0.29	1,400	0.29	4.0	1,400	0.30	4.1
Ridgeway Underground		-	-	80	0.28	80	0.28	0.23	80	0.28	0.23
Other		-	-	-	-	-	-	-	-	-	-
Total Cadia Province								4.3			4.3
Main Dome Open Pit (incl. stockpiles)	Glenn Patterson-Kane	4.7	0.098	2.2	0.084	7.0	0.094	0.0065	9	0.088	0.0082
West Dome Open Pit		-	-	47	0.080	47	0.080	0.037	63	0.076	0.048
Telfer Underground	Gito Patani	-	-	1.5	0.33	1.5	0.33	0.005	4.9	0.29	0.014
O'Callaghans	Michael Sykes	-	-	44	0.29	44	0.29	0.13	44	0.29	0.13
Total Telfer Province								0.18			0.20
Total Operational Provinces									4.4		
Non-Operational Provinces											
MMJV - Golpu (50%) ¹⁰	Pasqualino Manca	-	-	200	1.2	200	1.2	2.5	200	1.2	2.5
Total Non-Operational Provinces									2.5		
Total Copper Ore Reserves									6.9		
									7.0		

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

¹⁰ 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.

Table 9 – 31 December 2019 Silver Ore Reserves

Dec-19 Ore Reserves	Competent Person	Proved Reserve		Probable Reserve		Dec-19 Total Reserve			Comparison to Dec-18 Total Reserve		
Silver Ore Reserves		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	0.77	1,500	0.77	36	1,400	0.78	36
Gosowong ¹¹	Mark Kaesehagen	-	-	1.20	11.0	1.20	11.0	0.430	1.4	12	0.54
Total Operational Provinces									36		
Total Silver Ore Reserves									36		

Table 10 – 31 December 2019 Molybdenum Ore Reserves

Dec-19 Ore Reserves	Competent Person	Proved Reserve		Probable Reserve		Dec-19 Total Reserve			Comparison to Dec-18 Total Reserve		
Molybdenum Ore Reserves		Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Insitu Molybdenum (million tonnes)	Dry Tonnes (million)	Molybdenum Grade (ppm Mo)	Insitu Molybdenum (million tonnes)
Operational Provinces											
Cadia Valley Operations	Geoffrey Newcombe	-	-	1,300	88	1,300	88	0.12	-	-	-
Total Operational Provinces									0.12		
Total Molybdenum Ore Reserves									0.12		

NOTE: Data are reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals. Molybdenum Reserve represents the probable reserve from the date of first molybdenum concentrate production which is anticipated to be 1 July 2021.

¹¹ 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. On 31 January 2020 Newcrest announced that it had agreed to sell its interest in PT Nusa Halmahera Minerals to PT Indotan Halmahera Bangkit (refer market release "Newcrest agrees to divest Gosowong for \$90m" dated 31 January 2020).

Table 11 – 31 December 2019 Polymetallic Ore Reserves

Dec-19 Ore Reserves	Competent Person	Tonnes	Grade			Contained Metal		
Polymetallic Ore Reserves		Dry Tonnes (million)	Tungsten Trioxide Grade (% WO ₃)	Zinc Grade (% Zn)	Lead Grade (% Pb)	Insitu Tungsten Trioxide (million tonnes)	Insitu Zinc (million tonnes)	Insitu Lead (million tonnes)
O'Callaghans								
Proved	Michael Sykes	-	-	-	-	-	-	-
Probable		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
<i>Proved</i>	<i>Michael Sykes</i>	-	-	-	-	-	-	-
<i>Probable</i>		44	0.36	0.65	0.32	0.16	0.29	0.14
<i>Comparison to Dec-18 Total Polymetallic Ore Reserves</i>		44	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.

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 recoverable gold, copper and molybdenum, operating costs and the realisation costs (concentrate transport, smelting and refining).

1.1 Cadia East Underground¹³

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. The Cadia East Mining Pre-Feasibility Study was released in August 2018 and provides the supporting study for Ore Reserves. Newcrest also announced completion of the Stage 1 of Cadia Expansion Feasibility Study, comprising the next cave development of PC2-3 (within the overall Ore Reserve) and increased nameplate plant capacity to 33 mtpa on 15 October 2019. The second stage, which is in Feasibility Study, is focussed on a further increase in processing capacity to 35mtpa and recovery rate improvement projects. No material change to reserves was made 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 volcanoclastic 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

¹³ Information has been prepared and reported in accordance with JORC Code 2012. The market releases "Cadia Expansion Pre-Feasibility Study Findings" dated 22 August 2018 and "Stage 1 of Cadia Expansion Project approved to proceed" date 15 October 2019 included Table 1 appendix and detailed reporting under ASX Listing Rules 5.8 & 5.9.

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 2019 Mineral Resource is estimated using June 2016 resource model.

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 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 Indicated Mineral Resources based on an assessment of grade and geological continuity, data density and non-selective cave mining method. Resource classification was revised using quantitative criteria of slope of regression and sample spacing per domain for gold and copper. Direct Block Simulations were used to further validate the Indicated Mineral Resource classification.

Minor stockpiles are also classified as Indicated Mineral Resource.

Changes during the year were from depletion due to mining. The net effect is a decrease of 1.1 Moz in contained gold and 0.11 Mt in contained copper and 1.0 Moz in contained silver and addition of 0.19 million tonnes of molybdenum (minor by-product added to Mineral Resources this year) compared to the December 2018 estimate. Updated JORC Table 1 are included below.

Cadia East Mineral Resource

	Ore	Gold		Copper		Silver		Molybdenum	
	Mt	g/t	Moz	%	Mt	g/t	Moz	ppm	Mt
Total Mineral Resource	2,900	0.36	33	0.26	7.5	0.68	63	64	0.19
Measured Mineral Resource									
Indicated Mineral Resource	2,900	0.36	33	0.26	7.5	0.68	63	64	0.19
Inferred Mineral Resource									

JORC Table 1-Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	The data used for resource estimation is obtained from drill core (PQ, HQ, NQ), which is sampled and assayed on 2.0 metre intervals. Drill core is sampled by cutting the core in half with a diamond saw; this ensures sample representivity. The left hand of the cut core is placed in a calico bag, marked with the appropriate sample number (generated in acQuire) and sent to the laboratory for assaying. The remaining half-core is stored in the original tray on a pallet at the core processing facility for an unspecified period and then moved to storage at the Cadia Core Farm.
Drilling techniques	The Cadia East deposit has been diamond drilled with core sizes ranging from NQ3 (45.1 mm core diameter), HQ3 (61.1 mm core diameter) and PQ (85 mm core diameter). Triple tube is used to maximise core recovery. Most drill holes are collared as PQ or HQ for accurate and safe drilling.
Drill sample recovery	Core recovery is recorded as a measure of the drill run against the actual core in tray, and stored in an acQuire software database. Triple tube is used to maximise core recovery. There are only minor zones of lost core or poor core recovery. In total, not including the surface core to 20 metres depth, the average recovery equates to 99.5%.
Logging	The majority of diamond drill holes are geologically and geotechnically logged. The geological log includes lithology, alteration, structure, mineralisation and geotechnical parameters. All core is logged and photographed after marking up metre intervals and prior to cutting and sampling. Logging data are entered into the acQuire database via a laptop computer or historically via manual data entry. Logging intervals have been 1 m historically for various drilling programmes from 1993 to 2000. Subsequent to these

Criteria	Commentary
	<p>programmes lithology has been logged with intervals derived from combinations of rock type, alteration, structure, and mineralization.</p> <p>Hyperspectral imaging of selected drill core for type sections have been undertaken to assist in alteration modelling.</p>
Sub-sampling techniques and sample preparation	<p>Core samples are half core. Sample preparation is conducted at the Newcrest Laboratory facility located in Orange and all routine drill core samples are processed on site.</p> <p>Sample preparation for analysis is as follows: Samples are dried in an oven at 105°C for several hours. All of the samples are crushed to 2 mm maximum diameter by a Boyd crusher and split to a maximum weight of ~2.5 kg using a rotary sampler. Each sample is pulverised using a Labtechnics LM5 pulverizing mill to specified grind parameters of 95% passing 106 µm. A 250 g sub-sample is collected for analysis and submitted to the assay laboratory. From the 250 g sample, 30 g (historically 50 g) sample is used for fire assay and ~0.5 g used ICP-OES analysis. Pulp replicates and crushed coarse reject duplicates are routinely undertaken (1 in 20 samples). The sampling protocols are adequate to ensure representivity of porphyry copper-gold type mineralisation.</p>
Quality of assay data and laboratory tests	<p>Since June 2010 Newcrest Services Laboratory (Orange, NSW) has been the primary laboratory used for assaying. Prior to this ALS-Chemex (Orange) was used between May 2004 and May 2010. AMDEL (Orange) was used as the primary laboratory for assaying till May 2004. ALSChemex (Orange) is now the second laboratory for check assaying of samples. Check assays have also been completed at Genalysis (Townsville) and ALS-Chemex (Townsville) in the past.</p> <p>Samples are routinely assayed for gold, copper, silver, molybdenum, lead, zinc, sulphur and cyanide-soluble copper. Gold analysis is by fire assay with 30 g and 50 g charge and Atomic Absorption Spectroscopy (AAS) finish and detection limit of 0.01 ppm (g/t).</p> <p>Newcrest resource development QA/QC procedures have been in place since drilling and sampling programs at Cadia East began. All data received are checked and verified in accordance with the Newcrest Resource Management QA/QC and database management procedures. A monthly report is created to highlight current successes and issues. This report is issued to the laboratory and Newcrest management.</p> <p>The laboratory QA/QC currently involves analysis of the following.</p> <ul style="list-style-type: none"> • Blind reference material (standards) at a rate of one in twenty samples or one per batch, whichever is more. • Random Blank samples (Silurian samples or quartz pebbles sourced from local landscape suppliers). • Duplicates from the Boyd crusher coarse splits. • Duplicates from the LM5 pulveriser pulp. • Checks on grind and crush size from the sample preparation stage. • Replicate submissions of pulps to an alternate laboratory for analysis. • Visits to the laboratory and laboratory audits to confirm procedures are in place and applied/executed correctly. • Monthly QA/QC meetings with laboratory personnel to discuss results, procedures, issues arising. • Analysis of received sample weights. • External audits of QA/QC. <p>CVO procedures include:</p> <ul style="list-style-type: none"> • Visits to the laboratory for confirmation of actual procedures applied. • Monthly QA/QC meetings with laboratory personnel. • External audit of QA/QC. Cadia East QA/QC dates from 2000 to 2009. • From 2005, five standards manufactured from Cadia East material and prepared by Ore Research have been used. Three new standards were generated and certified in 2015 for gold, copper, silver, molybdenum, and sulphur. • The gold and copper standards performed well with no systematic biases present. Standard performance in general varies between -1 and +1 standard deviation. • Sulphur standards in general exhibited a negative grade bias and underperformed till December 2014. From this point sulphur standards continually exhibit a positive bias. • Duplicates show around 60% of the gold population has a relative paired difference (RPD) below 10%, unlike copper that has in excess of 95% below 10%. • Repeat assays at 1 in 20 from the Boyd crusher are regularly analysed for gold, copper and sulphur. No issues are observed in the repeat assay analysis.

Criteria	Commentary
	<ul style="list-style-type: none"> Pulps from two complete drill holes were re-submitted to a second laboratory. Results confirmed good repeatability between the laboratories with no systematic bias apparent.
Verification of sampling and assaying	<p>Cadia East is a bulk underground producing mine with relatively low grade variability (copper-gold porphyry), and there is no independent verification of significant intersections or use of twinned holes.</p> <p>All data and interpretative inputs to Mineral Resource estimates are checked and verified in accordance with a range of Newcrest standard operating procedures. Diamond drill core samples are processed in-house using a dedicated core processing facility, sample preparation and analytical laboratory. All resource logging data is automatically uploaded to the resource database via logging notebook computers. Newcrest employs a centralised resource drill hole database team to check, verify and validate new data and to ensure the integrity of the total resource database.</p> <p>Day-to-day management of the resource data is undertaken by the database administrator on site using the acQuire database system. Prior to resource estimation a centralised resource team conducts further data checks to ensure data integrity prior to estimation. The 2012 resource model flagged issues with Ag assays and detection limits for a range of drill holes. The 2016 resource model addressed these issues by validating the database against the original hard copy results. This saw the removal of negative values, correction of values below detection limit and correction of the raw assay values in the database to reflect that of the original hard copy. In addition, a campaign of re-assaying of stored pulps for silver was undertaken to bring the precision levels for silver assays to industry standard for Mineral Resource and Ore Reserve reporting.</p> <p>Regular internal and external reviews of all geological and Mineral Resource estimation processes are conducted to check the quality and integrity of these procedures. No adjustments have been made to assay data.</p>
Location of data points	<p>The Cadia East grid and coordinate system is consistent with all Cadia Valley Operations. The grid is aligned at 30 degrees to the east of true north and at 19 degrees to the east of magnetic north. Local RL is sea level +5000 metres.</p> <p>Surface topography across the Cadia East area is based on a combination of theodolite surveyed ground pick-ups and air photogrammetry. Photogrammetry is levelled by ground surveyed points. The data are considered accurate to within 500 mm.</p> <p>Drill hole collars positions are determined by mine surveyors.</p> <p>Currently, drill holes are surveyed using a Axis Champ Gyro Navigator system, with single shot surveys completed at 15m intervals downhole. Holes with a dip between +15 degrees from horizontal and -15 degrees from horizontal are surveyed using continuous survey method, producing a relative survey from collar. This system provides a rudimentary control on the drill hole path.</p> <p>Previously, drill holes were surveyed using a combination of electronic and gyroscope survey tools. Normally single shot surveys using the Ranger EMS system are completed at 30m intervals downhole. This system provides a rudimentary control on the drill hole path. Multi Shot EMS Surveys using the Reflex system are conducted at end of hole.</p> <p>Where drilling angles have permitted, recent holes have been gyroscope surveyed as close to the end of hole as possible. Where Gyro surveys were not taken due to poor access or unavailability, the Multishot surveys are checked, edited if required and smoothed with a 5 point smoothing formula.</p>
Data spacing and distribution	<p>The data spacing varies from 20 m x 20 m to 200 m x 200 m. In current caving operations the drill hole spacing is 60 m x 60 m. Cadia East is a copper-gold porphyry deposit mined on a bulk underground scale with grade distributions characterised by low nugget effects and long variogram ranges. As such the data spacing is sufficient to establish the degree of geological and grade continuity appropriate for Indicated Mineral Resource and Probable Ore Reserve classification.</p> <p>Drill hole data are 10 m downhole composited for geological interpretation and grade estimation. No other type of samples (e.g. grabs) nor compositing have been applied.</p>
Orientation of data in relation to geological structure	<p>Gold and copper mineralisation at Cadia East is predominately hosted in a sheeted quartz vein system that strikes East-West and dips 75° towards the north. Majority of the drill programs conducted prior to 2012 are surface drill holes and drilled orthogonal to the vein system orientation (North to South or South to North).</p> <p>Drill holes since 2012 are underground sub-vertical primarily for preconditioning of Panel Cave 1 Stage 1 and Panel Cave 2 Stage 1. These holes are assayed and used in resource estimates. In addition, horizontal infill holes are drilled occasionally from underground to map major structures and provide grade confidence for production reliability.</p>

Criteria	Commentary
	There does not appear to be any bias between drilling orientation and assay results.
Sample security	Samples are transported from drill site to the core shed by the drilling contractor. On completion of cutting the core, the samples are dispatched by courier to the Newcrest Laboratory in Orange. Sample dispatches are reconciled against Laboratory samples received and discrepancies reconciled by geology staff.
Audits or reviews	Independent external reviews of sampling techniques have been undertaken in the past with no fatal flaws identified.

JORC Table 1-Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Cadia East copper-gold deposit is located approximately 20 km south-west of Orange in central NSW. Cadia East is situated within ML1405, granted 5 th Oct 1996 and covering 3116 ha. Leases are wholly owned by Newcrest. Infrastructure relating to mining of the deposit is also contained within ML1481, granted 8th March 2001 covering 584.1 ha., ML1689, granted 11 Sept 2012 covering 153.6 ha., and ML1690, granted 10 Sept 2013 covering 70.4 ha
Exploration done by other parties	<p>Gold was discovered in the Cadia Valley in 1851. Little Cadia was discovered and excavated by Samuel Stutchbury (Government Geologist) in May 1851. Mining occurred by the Canobolas Copper Mining Company from 1856 to 1861. Activity commenced in 1856 at the Cadiangullong Mine. The Scottish Australian Mining Company leased the land in July 1861. Mining commenced in October 1861. The erection of a smelter established a focus for the mine and a village arose for the mine and smelter workers. During the period from the 1870's to the turn of the century, the local population was largely sustained by small scale gold mining and brief periods of copper mining but never on a scale similar to the 1860s.</p> <p>In 1899 the Scottish Australian Mining Company turned to possible exploitation of the iron ores at Big Cadia. The lease at Big Cadia was confirmed in November 1907, but required the construction of a branch rail line from Spring Hill to Cadia. In February 1908, Carne reported that the principal focus of the Syndicate was to exploit the secondary copper ore under the Big Cadia (Iron Duke) iron lode. Other lodes in the area were being mined for sulphide ore for fluxing. Mining peaked during 1913 but closed down in 1914 when WW1 broke out. Intermittent mining was carried out until 1917 when the mine was permanently closed.</p> <p>Modern era exploration at Cadia was prompted by its proximity to the Cadia mineralised district, and in particular by the recognition of magnetic features, which can easily be interpreted as westward extensions or repetitions of the magnetic anomaly over the magnetite skarn at Big Cadia. In 1985, Homestake Australia drilled two percussion holes to a depth of 95 metres to test a magnetic anomaly with poor results.</p> <p>The Cadia area was acquired by Newcrest Mining in 1991. After initially exploring the Big Cadia (Iron Duke) skarn, the focus changed to Cadia Hill. The recognition of the porphyry-style system, partially obscured by post mineral Silurian sediment cover, resulted in a core drilling programme with the discovery hole being drilled in 1992. At the same time an extensive halo of low grade mineralisation was delineated to the northwest of the deposit confirming the northwest – southeast alignment of mineralisation.</p>
Geology	<p>The Cadia gold copper deposits are hosted by a late Ordovician to early Silurian shoshonitic volcano-intrusive complex which forms part of the larger zone of arc-related volcanic and associated intrusive rocks in the eastern Lachlan Fold Belt. Mineralisation at Cadia is hosted by the mid to late Ordovician Forest Reefs Volcanics and the underlying Weemalla Formation and by the late Ordovician – early Silurian Cadia Intrusive Complex (CIC). The CIC is a multi-phase alkalic intrusive suite petrographically ranging from gabbro to syenite with volumetric dominance by monzonite and diorite. All mineralisation in the CVO area is thought to be related to igneous and hydrothermal fluids derived from this complex of intrusive rocks. Post-mineral cover comprises Silurian Cadia Coach Shale and a relatively thin capping of Tertiary basalts and gravels in some areas. Recognised structural controls include the regional northwest corridor and post-mineral faulting. The NW corridor is a dilation zone thought to control the emplacement of the CIC. The post-mineral faulting is in two dominant orientations: northwest striking faults (including the PC40 fault through the Big Cadia skarn deposit and the North Fault at Ridgway); and north-south faults typically west over east thrust systems (including Cadiangullong and Gibb Fault).</p> <p>The Cadia East deposit is hosted within the Forest Reef Volcanics (FRV) and porphyry intrusions. A north-east trending mass of narrow sheet like dykes of monzonitic to dioritic compositions intrude the lower parts of the FRV at Cadia East. These intrusives are largely restricted to the eastern half of the deposit although some narrow dykes and isolated bodies of monzonite have been recognised in the western end. At the upper western end of the deposit immediately underneath the Gibb Fault, isolated narrow (10 m)</p>

Criteria	Commentary
	<p>intersections have been identified with south dipping mineralised quartz veining. These occurrences are interpreted to be the Cadia Hill Monzonite.</p> <p>Mineralisation at Cadia East can be divided into two broad overlapping zones: an upper, copper rich disseminated zone and a deeper gold-rich zone associated with sheeted veins. The upper zone forms a relatively small cap to the overall mineralised envelope and has a core of disseminated chalcopyrite, capped by chalcopyrite-pyrite mineralisation. The upper zone mineralisation is stratigraphically controlled within the volcanoclastic unit. This zone is transitional to the deeper vein style mineralization. The deeper zone is localised around a core of steeply dipping sheeted quartz-calcite-bornite-chalcopyrite-molybdenite, with the highest gold grades associated with the bornite-bearing veins. Copper and molybdenite form a mineralised blanket above and to the east of the higher grade gold envelope.</p>
Drill hole Information	<p>No exploration results are reported in this release, therefore this section is not relevant.</p> <p>The treatment of drill data has been articulated in Section 1.</p>
Data aggregation methods	<p>No exploration results are reported in this release, therefore this section is not relevant.</p> <p>Drill hole data are downhole composited to 10 m and used in the Mineral Resource estimate in entirety.</p>
Relationship between mineralisation widths and intercept lengths	<p>No exploration results are reported in this release, therefore this section is not relevant.</p> <p>Drill hole data are downhole composited to 10 m and used in the Mineral Resource estimate in entirety.</p>
Diagrams	No exploration results are reported in this release, therefore this section is not relevant.
Balanced reporting	No exploration results are reported in this release, therefore this section is not relevant.
Other substantive exploration data	No exploration results are reported in this release, therefore this section is not relevant.
Further work	No exploration results are reported in this release, therefore this section is not relevant.

JORC Table 1-Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	Data are stored in an SQL acQuire database. Assay and geological data are electronically loaded into acQuire and the database is replicated in Newcrest's centralised database system in Melbourne. Regular reviews of data quality are conducted by site and corporate teams prior to resource estimation, in addition to external reviews.
Site visits	The Competent Person for the Ore Resource estimate is an employee of Newcrest Mining Limited and is based on site.
Geological interpretation	<p>The geology model for the Cadia East deposit includes lithology and major structural faults. The structural interpretation was updated from the 2012 model for the pyrite faults, Ca-La Crunch faults and Carbonate faults across the Cadia East deposit. Modelling of the fault and lithological boundaries/planes relies on data obtained from drill core and underground mapping.</p> <p>Alteration and lithology were both interpreted in anticipation of being used as estimation domains, however, statistical testing did not give any convincing evidence of either being a major control on mineralisation so they have not been required to date.</p> <p>The major faults were used as estimation domains, with semi-soft boundaries implemented where geostatistical testing warranted.</p> <p>The factor most influencing grade continuity is that Cadia East is a porphyry copper-gold mineralisation exhibiting properties of the diffusion model, which adds high confidence in the geological interpretation.</p>
Dimensions	The Cadia East deposit occupies a mineralised zone 2.3 km in a strike length (East – West), 1.1 km in width and 1.8 km in a vertical extent. The deposit does not outcrop as it is overlain by between 80 and 200 metres of post mineralisation sandstones and shales.

Criteria	Commentary
Estimation and modelling techniques	<p>Geostatistical testing of the gold and copper grade distributions showed that the Cadia East mineralization exhibits classical diffusion properties (where the grades transgress from the high-grade core to lower-grade peripheries in a systematic and controlled manner).</p> <p>Variogram models for copper and gold also exhibit low nuggets and long ranges. The coefficient of variation of copper and gold are relatively low at around 1 - 1.5 indicating that grade estimation will not be problematic.</p> <p>Cadia East is a bulk mining (block cave) operation, and the SMU is basically the whole panel footprint divided vertically into yearly draw increments. However, individual draw point dimensions are taken into account for local estimation precision (the mineralisation style allows so).</p> <p>Ordinary Kriging (OK) of copper, gold, sulphur, silver, molybdenum and fluorine are undertaken directly into 20 m x 20 m x 20 m blocks.</p> <p>Prior to 2012 estimation domains were defined based on grade shells. Domain boundaries were treated as hard contacts. The 2012 and 2016 Resource Models were domained utilising structural surfaces for gold, copper, silver, molybdenum and sulphur. Semi-soft boundaries (20 m) were used between the Ca-La Crunch faults while the lower porphyry surface was treated as a hard boundary. The 0.1% copper grade shell was used to constrain estimation as a global domain. A review of the 2012 fluorine domains was conducted as per SRK recommendation and the fluorine estimation domains for the 2016 resource model utilises the Ca-La Nth structure, the lower porphyry surface and the combined basalt lithology. Fluorine is a potentially deleterious element.</p> <p>Kriging Neighbourhood Analysis is used to define the search neighbourhood for all elements. All elements are estimated independently of each other regardless of the degree of correlation, as each element has its own grade continuity characteristics which are not necessarily reflected in the correlations.</p> <p>Copper and gold grades are not capped as Monte Carlo based Metal-at-Risk analysis indicates that all the 10 m composites are representative of the mineralisation style.</p> <p>The resource model is validated via visual, geostatistical and production reconciliation methods.</p>
Moisture	All tonnages are calculated and reported on a dry tonnes basis.
Cut-off parameters	<p>A value algorithm is used to calculate the net smelter return (NSR) for each block using revenue and cost assumptions as of 31 December 2017.</p> <p>The NSR calculation takes into account Mineral Resource revenue factors, metallurgical recovery assumptions, transport costs and refining charges and royalty charges.</p> <p>The site operating costs include mining cost, processing cost, relevant site general & administration costs and relevant sustaining capital costs. This cost equates to a break even cut off value of approximately AUD18.50/t milled.</p> <p>Blocks with a value above AUD18.50/t are eligible to qualify for Mineral Resource reporting.</p>
Mining factors or assumptions	<p>As Cadia East is a bulk mining operation employing panel caving, the Mineral Resource reporting does not allow a block by block classification.</p> <p>Instead a shell is generated using AUD18.50/t as the value cut-off and the contents of the shell are reported in its entirety as the Mineral Resource (provided they are also classified Indicated and/or Inferred).</p>
Metallurgical factors or assumptions	Metallurgical amenability is derived from current operating Cadia Plant performance. Metallurgical factors have been incorporated into the value algorithm which constrains the Mineral Resource classification. These include recovery formulas for gold, copper, silver and molybdenum.
Environmental factors or assumptions	No environmental factors were deemed necessary for the resource estimate.
Bulk Density	All bulk density measurements are carried out in accordance with site standard procedures for Specific Gravity. Intervals for bulk density determination are selected according to lithology/ alteration/mineralisation type to best represent certain intervals as defined by the geologist. The measurements are performed on site by geologists or geological assistants as part of the logging process. Measurements are generally taken at 20 metre to 50 metre intervals down hole.

Criteria	Commentary
Classification	<p>The Mineral Resource estimate has been classified as Indicated Mineral Resource only, based on an assessment of geological confidence as a function of geological and mineralisation continuity. Criteria used to classify the resource estimate are summarised below:</p> <ul style="list-style-type: none"> • Constrained inside a AUD18.50/t value shell; <ul style="list-style-type: none"> ○ Indicated resources are constrained within the value shell. ○ Value algorithm incorporates mining, processing, transport and administration costs. Metallurgical recovery formulas are applied to all metals. • Grade continuity and drill hole density; <ul style="list-style-type: none"> ○ Classification is based on Extension Variance methods. These methods are consistent with classification approaches used at other Newcrest and JV sites (for similar mineralisation styles). Based on this work; a block is Indicated if its informing data is on average ≤ 100 m (weighted average distances) away and/or has a gold slope of regression value of >0.75. ○ Through the classification process, approximately 6% of gold and copper of the total undepleted mineral resource is within indicated blocks of greater than 120m weighted average distance. For an Indicated Resource it is considered reasonable for the relative uncertainty to be $\pm 15\%$ in tonnage, grade and metal (exclusive of each other, i.e., each variable has to satisfy the criteria) for an annual production volume at a 90% confidence level. Geostatistical evaluations indicate that based on the annual processing throughput this criteria are satisfied. Relative uncertainties and confidence level estimates are considered for both gold and copper. ○ Mine to mill reconciliation for FY19 was 100% tonnes, 100% gold metal and 102% copper metal supports the above classification. • Geological and mineralisation continuity; <ul style="list-style-type: none"> ○ Mineralisation at Cadia East is a very large, diffuse, low to moderate grade porphyry related gold-copper-silver-molybdenum deposit. Aside from the Gibb Fault, structural dismemberment is negligible and does not affect continuity. <p>The resource classification methodology has been tested with geostatistical evaluations, and appropriately confirms the Competent Person's view of the deposit.</p>
Audits or reviews	<p>The current Mineral Resource estimate has been externally reviewed by SRK in December 2016 and there are no issues or concerns with the Mineral Resource inputs, process and execution. SRK conclude that the Mineral Resource estimate is suitable for reporting in accordance with the requirements of the JORC Code (2012).</p>
Discussion of relative accuracy/ confidence	<p>For an Indicated Resource it is considered reasonable for the relative uncertainty to be $\pm 15\%$ in tonnage, grade and metal (exclusive of each other, i.e., each variable has to satisfy the criteria) for an annual production volume at a 90% confidence level. Geostatistical evaluations indicate that based on the annual processing throughput this criteria are satisfied. Relative uncertainties and confidence level estimates are considered for both gold and copper.</p> <p>Detailed monthly mine reconciliations have been maintained since production commenced. The mine reconciliations confirm that the in situ tonnage, grade and metal variances are well within the Indicated Resource relative uncertainty band.</p> <p>Mine to mill reconciliation for FY19 was 100% tonnes, 100% gold metal and 102% copper metal.</p>

Ore Reserve

In October 2019 the Newcrest Board approved the gating of Stage 1 of the Cadia Expansion Feasibility Study (refer market release "Stage 1 of Cadia Expansion Project approved to proceed" dated 15 October 2019). The mining component of the study focussed on the PC2-3 mining panel and assessed a number of mine design options as well as completing the detailed engineering required for execution. In the remainder of the mining panels at Cadia East the study re-affirmed the pre-feasibility mine design and operating sequences which are designed to be safe, resilient and maintain production continuity as panels (PC1 and PC2 in the first instance) are depleted. The operational production profiles have been developed for the individual cave footprints and constrained by the established cave extraction sequence.

The rate of ore mined from Cadia is expected to vary over time according to draw rates, cave maturity and cave interaction as further caves are developed. From FY27 onwards, life of mine (LOM) Cadia mining rates are

generally expected to be in the range of 33-35mtpa, with an average of 34mtpa used for financial evaluation purposes. Gold recovery improvements resulting from Stages 1 and 2 are expected to achieve LOM gold recovery rates of around 80% and copper recovery rates of around 85%.

The Study (including Stage 2 PFS) also provides the support for an updated Ore Reserve with no material changes compared to the December 2018 estimate. There is a decrease in the contained metal in the Cadia East Ore Reserve of 0.8 Moz in contained gold, 0.1 Mt in contained copper and an increase of 0.2 Moz in contained silver and the addition of 0.12 million tonnes of molybdenum (minor by-product added to Ore Reserves this year), compared with the December 2018 estimate. Changes during the year include depletion due to mining and mining factor assumption changes as result of updated Feasibility Study. Updated JORC Table 1 has been included below.

The Molybdenum plant is likely to be commissioned during calendar year 2021. For reporting reserves calculation purposes revenue from Molybdenum has only been included from 1 July 2021. Prior to this date the processing of ore will continue as currently undertaken and no specific Molybdenum concentrate will be produced. Once operating, and under the operational parameters identified as likely in the Feasibility Study, the molybdenum plant will continue to operate during the full remaining life of the Cadia East deposit. Changes during the year include depletion due to mining and mining factor changes as result of updated Feasibility Study.

Cadia East Ore Reserve

	Ore	Gold		Copper		Silver	
	Mt	g/t	Moz	%	Mt	g/t	Moz
Total Ore Reserve	1,400	0.45	20	0.29	4.0	0.78	34
Proved Ore Reserve							
Probable Ore Reserve	1,400	0.45	20	0.29	4.0	0.78	34

	Ore	Molybdenum	
	Mt	ppm	Mt
Total Ore Reserve	1,300	88	0.12
Proved Ore Reserve			
Probable Ore Reserve	1,300	88	0.12

JORC Table 1-Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource Estimate for conversion to Ore Reserves	<p>Cadia East is a large low to moderate grade, porphyry related gold and copper deposit that is located immediately east of Cadia Hill and separated by a major thrust fault (the Gibb Fault). Known mineralisation extends approximately 2.3 kilometres east-west, 1.1 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 and shales. The mineralisation can be divided into two broad overlapping zones; an upper, copper-rich, disseminated zone and, a deeper gold-rich zone associated with sheeted veins.</p> <p>The Mineral Resource grades were estimated with Ordinary Kriging of 10 m composites for six elements: gold, copper, silver, molybdenum, sulphur, and fluorine. The grades were estimated directly into 20 m x 20 m x 20 m blocks.</p> <p>The Mineral Resource is classified based on geological confidence as a function of grade continuity and drill hole density, as well as geological and mineralisation continuity. Indicated Mineral Resources were constrained within a 'value' shell representing the limit to eventual economic extraction.</p> <p>The reported Cadia East Mineral Resources are inclusive of Ore Reserves.</p>

Criteria	Commentary										
Site Visits	The Competent Person for the Ore Reserve estimate is an employee of Newcrest Mining Limited and is based on site.										
Study Status	<p>A Pre-Feasibility Study was completed in 2018 to update the supporting basis for the Cadia East Ore Reserve estimate. Cadia East Panel Cave is an operating mine for the Cadia Valley Operations (CVO) province and the Pre-Feasibility Study incorporates learnings from operational execution to date. The Pre-Feasibility Study shows that the mine plan is technically achievable and economically viable taking into consideration all material Modifying Factors.</p> <p>A Feasibility Study for the PC2-3 mining block has been completed as part of the Cadia East Expansion Feasibility Study. This study provides an update for the mining plan for this specific area of the operation along with updates to the production plan, site cost and metallurgical parameters for the life of mine Ore Reserves plan. These updates did not result in any material change in the Ore Reserve estimate.</p>										
Cut-off Parameters	<p>The Cadia East Ore Reserve employs a value based cut-off determined from the Net Smelter Return (NSR) value equal to the site operating cost included within the Pre-Feasibility Study and as updated in the PC2-3 Feasibility Study.</p> <p>The NSR calculation takes into account revenue factors, metallurgical recovery assumptions, transport costs, refining charges, and royalty charges.</p> <p>The site operating costs include mining cost, processing cost, relevant site general & administration costs and relevant sustaining capital costs. This cost equates to a break even cut off value of approximately AUD18.50/t milled.</p>										
Mining factors or assumptions	<p>Estimation of the Cadia East Ore Reserve involved standard steps of mine optimisation, mine design, production scheduling and financial modelling. Factors and assumptions have been based on operating experience and performance in CVO caving operations. The basis of the analysis is considered at Pre-Feasibility Study level or higher.</p> <p>The preceding Feasibility Study (2010) and current underground cave mining activities at Cadia East support the appropriateness of the selected mining methods as the basis of the forward Ore Reserve estimate.</p> <p>Ongoing geotechnical studies and monitoring utilising experience and data from the current underground operations provide ongoing key direction for stability, design and schedule sequence parameters.</p> <table border="1"> <thead> <tr> <th>Mine Design Parameter</th><th>Value</th></tr> </thead> <tbody> <tr> <td>Undercut Design & Strategy</td><td>High Post Undercut for PC2-3 block. W Cut with Apex level for all other blocks.</td></tr> <tr> <td>Extraction Level Layout</td><td>El Teniente</td></tr> <tr> <td>Extraction Spacing</td><td>32m x 20m</td></tr> <tr> <td>Draw Column Height</td><td>Maximum PC1 – 1200 m PC2 – 1400 m PC2-3 – 1400 m PC1-2 – 1170 m PC1-4 – 1120 m PC5001 – 850 m PC3-1 – 460 m</td></tr> </tbody> </table> <p>The following Modifying Factors have been applied:</p> <ul style="list-style-type: none"> All development has mining factors for dilution and recovery applied to accurately represent the expected mined tonnes; and PCBC™ software is used for cave production scheduling and estimation of grade for material drawn from the block caves. <p>Due to the approach adopted in the resource model where low grade material is included within all mining zones, no additional mining dilution or recovery factors have been applied to the Ore Reserve estimate. This assumption is supported by the grade control processes undertaken and the actual reconciliation between</p>	Mine Design Parameter	Value	Undercut Design & Strategy	High Post Undercut for PC2-3 block. W Cut with Apex level for all other blocks.	Extraction Level Layout	El Teniente	Extraction Spacing	32m x 20m	Draw Column Height	Maximum PC1 – 1200 m PC2 – 1400 m PC2-3 – 1400 m PC1-2 – 1170 m PC1-4 – 1120 m PC5001 – 850 m PC3-1 – 460 m
Mine Design Parameter	Value										
Undercut Design & Strategy	High Post Undercut for PC2-3 block. W Cut with Apex level for all other blocks.										
Extraction Level Layout	El Teniente										
Extraction Spacing	32m x 20m										
Draw Column Height	Maximum PC1 – 1200 m PC2 – 1400 m PC2-3 – 1400 m PC1-2 – 1170 m PC1-4 – 1120 m PC5001 – 850 m PC3-1 – 460 m										

Criteria	Commentary
	<p>resource model and mill performance at the project to date being within an acceptable uncertainty range for the style of mineralisation under consideration.</p> <p>The resource model is comprised of Indicated Mineral Resources only. Mine plans are based on the extraction of caving blocks solely delineated on the basis of these Indicated Mineral Resources.</p> <p>Ore Reserves estimates and statements are required to include estimates of dilution. The dilution included in the total Ore Reserve is approximately 75Mt which is comprised of unclassified material. This is a relatively small proportion (6% of the gold metal and 5% of the copper metal) of the tabled Ore Reserve and does not have a material impact upon the estimate. As this is dilution material associated with the block cave mining method, it has been incorporated into the Ore Reserve estimate. Even without consideration of the metal contained in the dilution incorporated in the Ore Reserve, the economic analysis indicates an economic Probable Ore Reserve.</p> <p>The remaining mining blocks for Cadia East are brownfields projects and will require the following mining infrastructure to support the caves:</p> <ul style="list-style-type: none"> • Ventilation fans and refrigeration equipment; • Materials handling systems extensions; • Additional crushing and conveying equipment; and • Underground workshop, service and personnel facilities.
Metallurgical factors or assumptions	<p>Processing of the Cadia East underground ore stream will be through Cadia Valley Operations Ore Treatment Plant concentrators 1 & 2. Metal recovery is through gravity and conventional flotation to a copper/gold concentrate. This circuit currently processes Cadia East Material with a similarly styled material to future ore sources. Cadia East is the sole source of feed for both Concentrator 1 and Concentrator 2. Production of 33mtpa is anticipated to be produced through the concentrators. While the scale of processing will position the operation among the world's largest gold mines, the technology associated with the ore processing is industry standard for this style of deposit and is already custom and practice at CVO with many years of operational experience.</p> <p>An update to the process plant infrastructure and recovery assumptions were completed during the Cadia Expansion Feasibility Study (2019) including proposed upgrades to the circuit to boost throughput and recovery. These assumptions have been validated to at least a PFS level through detailed analysis, laboratory testwork and the baseline confirmed as representative by reconciliation of production parameters to date of Cadia East ore through the currently installed processing plant. Recoveries for gold are anticipated to range between approximately 70% and 85%. Recoveries of copper are expected to range between approximately 80% and 87% through the life of the project. Recoveries of molybdenum are expected to range between 65% and 75%.</p> <p>The construction of a molybdenum plant has been gated into execution, driven by the production schedule with grades of molybdenum expected to rise to economic levels. The molybdenum plant is planned to create a specific molybdenum concentrate sold as a separate saleable product with revenue from molybdenum included in the Ore Reserve estimation process. This plant is likely to be commissioned during calendar year 2021. For Ore Reserves estimation purposes revenue from molybdenum has only been included from 1 July 2021. Prior to this date the processing of ore will continue as currently undertaken and no specific molybdenum concentrate will be produced. Once operating, and under the operational parameters identified as likely in the Feasibility Study, the molybdenum plant will continue to operate during the full remaining life of the Cadia East deposit.</p> <p>Fluorine is the key deleterious element for the gold/copper concentrate product with smelter penalties incurred on the basis of fluorine content. Newcrest has installed sufficient auxiliary processing facilities to remove fluorine from the final concentrate as a penalty element from sales of its concentrate.</p>
Environmental	<p>Cadia presently holds a Project Approval for the Cadia East Project under both NSW and Commonwealth legislation until 30 June 2031. Minor amounts of waste will be generated from the Cadia East mine and these will be stored within existing waste storage facilities.</p> <p>Modifications to this Project Approval under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) will be required over the life of the Ore Reserves period with the storage of tailings a key consideration. Studies to determine the long term tailings storage beyond the current facilities are ongoing and will be submitted for modification as required over the life of the asset.</p>
Infrastructure	<p>A majority of the surface infrastructure is now complete for the Cadia East mine. Additional surface infrastructure planned for the future includes:</p> <ul style="list-style-type: none"> • Additional circuit crushing & grinding capacity; and

Criteria	Commentary
	<ul style="list-style-type: none"> • Molybdenum plant. <p>Underground infrastructure will continue to operate over the mine life as additional mining blocks are established to maintain the mill rate. Both surface and additional underground infrastructure requirements are dictated by the production schedule.</p> <p>Provision has been made in the Ore Reserves estimate for future capital expenditure requirements relating to infrastructure during the life of the mine based on most recent estimates.</p>
Costs	<p>Capital and operating costs have been determined as part of the Pre-Feasibility Study. Updates to these costs have been completed as part of the PC2-3 Feasibility Study but have not materially altered the Ore Reserve.</p> <p>Capital cost estimates are based on multiple market prices across all technical disciplines and include processing upgrade and mine development costs along with associated infrastructure, project establishment and sustaining capital costs. These provisions have been allowed for during the life of the mine based on most recent Pre-Feasibility plan estimates. Contingency has also been factored into the project capital cost estimate consistent with the level of accuracy of the study.</p> <p>The operating cost estimate is based on the current operating cost base modified for changing activity levels and reasonable cost base reductions over the life of the mine. The operating costs include the mining cost, processing cost, relevant site general and administration costs. Ore Reserve cost estimates have been reviewed as part of the study execution, are reviewed annually and are considered to be to a Pre-Feasibility Study level.</p> <p>Long term metal prices and exchange rate assumptions adopted in the Pre-Feasibility 2018 are US\$1,200/oz for gold, US\$3.00/lb for copper, US\$18/oz for silver and US\$8/lb for molybdenum at a USD:AUD exchange rate of 0.75. These assumptions are consistent with Newcrest metal price guidelines for December 2019 Ore Reserve reporting. No cost impact is expected from deleterious elements.</p> <p>Transport and refining charges have been developed from first principles consistent with the application and input assumptions for these costs used by the current operation.</p> <p>Royalties are calculated as 4% of block revenue less all off site realisation costs (TCRC's), less ore treatments costs and less one third of site general and admin cost.</p>
Revenue factors	<p>Long term metal prices and exchange rate assumptions adopted in the Pre-Feasibility Study 2018 Ore Reserve estimation process are US\$1,200/oz for gold, US\$3.00/lb for copper, US\$18/oz for silver and US\$8/lb for molybdenum at a USD:AUD exchange rate of 0.75. These assumptions are consistent with Newcrest metal price guideline for the December 2019 Ore Reserve reporting.</p> <p>The NSR calculation takes into account reserve revenue factors, metallurgical recovery assumptions, transport costs and refining charges and royalty charges.</p>
Market assessment	<p>Newcrest is a price taker and gold is sold on the open market and subject to price fluctuations. Supply and demand for gold from CVO is not a constraint in the estimation of the Ore Reserve.</p> <p>CVO has sold copper concentrate for its operational life into the world concentrate markets and this is assumed to continue under conditions similar to Newcrest's current market agreements over the life of the operational plan.</p> <p>Concentrate volume forecasts were derived from the Pre-Feasibility Study production schedule.</p>
Economic	<p>The Ore Reserve has been evaluated through a financial model. All operating and capital costs as well as revenue factors stated in this document were included in the financial model. A discount factor of 4.75% real was applied. This process demonstrated the Cadia East Ore Reserve to have a positive NPV.</p> <p>Sensitivities were conducted on the key input parameters including commodity prices, capital and operating costs, ore grade, discount rate, exchange rate and recovery which confirmed the estimate to be robust. The NPV range has not been provided as it is commercially sensitive.</p>
Social	<p>The Cadia East project builds on the agreements and social licence for operation as developed for Ridgeway SLC & Block Cave and the Cadia Hill open pit as part of the Cadia Valley Operations permits and licencing. Socio-economic evaluations of the Cadia Valley Operations (Cadia or CVO) incorporating community and stakeholder surveys and engagement activities and regional economic impact assessments, has shown positive impacts on employment, income, business turnover and Gross Regional Product (GRP). Cadia regularly consults and this continued engagement with the community and developing and maintaining one-on-one relationships with key stakeholders, will be vital to the maintenance of a social licence to operate.</p>

Criteria	Commentary
Other	<p>Cadia Holdings Pty Ltd (CHPL) holds four current mining leases covering CVO. CVO has a number of legal and marketing arrangements related to its ongoing operational requirements. None of these arrangements are likely to materially impact upon the Cadia East Ore Reserve estimate. CVO are in material compliance with all legal and regulatory requirements.</p> <p>The Cadia East deposit is located in an area which has been seismically active both prior to and subsequent to mining by CVO. These events can produce seismic loading at the site and this risk is taken into account in the design of the infrastructure.</p> <p>The storage of tailings and the efficient recovery of water during tailings placement is a requirement for the Ore Reserve. CVO has recently experienced a failure of one of its tailings storage facilities, the Northern Tailings Storage Facility (NTSF). Studies to determine the storage of tailings beyond the current facilities, including components that seek to improve the recovery of water are being progressed in line with the requirements identified in the Pre-Feasibility Study and the recommendations of the NTSF Independent Technical Review Board. Modifications to the current site operating permits and licence will be submitted once these studies are complete and as required over the life of the asset. This element of the plan represents a risk to the Ore Reserves if a viable tailings storage solution cannot be found.</p>
Classification	<p>The Ore Reserve classification is based on Indicated Mineral Resources only. No Measured Mineral Resources are stated for this deposit. This classification is based on geological confidence as a function of continuity and complexity of geological features; data spacing and distribution and estimation quality parameters including distance to informing samples for block grade estimation.</p> <p>Unclassified material has been included within the Probable Ore Reserve as mined dilution due to the non-selective nature of block cave mining. This is a relatively small proportion (1.3 Moz gold or 6% & 0.2Mt copper or 5%) of the tabled Ore Reserve. Even without consideration of unclassified material in the mining inventory, the proportion of Indicated material would still conclusively deliver a Probable Ore Reserve.</p> <p>It is the Competent Person's view that the classifications used for the Ore Reserves are appropriate.</p>
Audits or reviews	<p>SRK Consulting (Australasia) Pty Ltd (SRK) was commissioned to conduct an independent review of the mining section of the Pre-Feasibility Study, which included the Ore Reserve estimation processes and results.</p> <p>SRK concluded that the Ore Reserve estimate had been prepared appropriately and has been appropriately classified as a Probable Ore Reserve. SRK identified that final cave volumes have the potential to be a material issue over the life of the Ore Reserve however current estimates are appropriate at this time.</p>
Discussion of relative accuracy/ confidence	<p>The accuracy of the estimates within this Ore Reserve is mostly determined by the order of accuracy associated with the Mineral Resource model, the geotechnical input and the cost factors used.</p> <p>The Competent Person views the Cadia East Ore Reserve a reasonable assessment of the global estimate. Some risk and opportunity is associated with the Ore Reserve process due to the prolonged operating life of the mine. Key opportunity and risk areas are associated with:</p> <ul style="list-style-type: none"> • Cost base assumptions rely on current technology and macroeconomic factors. Changes to these assumptions will have an impact on the Ore Reserve estimate. • The Modifying Factors (key inputs) for Ore Reserve estimation rely upon the geology and geotechnical data inherent to the orebody. This data, such as geological structures and rock mass properties, is to the appropriate definition and have been applied within Pre-Feasibility Study, however further orebody data is required to confirm the geological and geotechnical information and is planned as part of the Forward Works Programme. <p>Overall reconciled performance of the Cadia East Ore Reserve estimate for FY19 was 100% tonnes, 100% gold metal and 102% copper metal when reconciled to mill production.</p>

1.2 Ridgeway Underground¹⁴

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

¹⁴ 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.

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 2019 Mineral Resource has been estimated from the same resource grade model since 2009.

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 2018 estimate.

Ridgeway Mineral Resource

	Ore	Gold		Copper		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 2018 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 Hill¹⁵

Cadia Hill Mineral Resources now only comprise historical stockpiles.

Mineral Resource

Surface stockpiles from Cadia Hill estimated to contain approximately 0.3 Moz gold and 0.04 Mt of copper remain in Mineral Resource. Minor depletion occurred since December 2018.

Cadia Hill Stockpile Mineral Resource

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	32	0.30	0.31	0.13	0.041
Measured Mineral Resource	32	0.30	0.31	0.13	0.041
Indicated Mineral Resource					
Inferred Mineral Resource					

1.4 Cadia Extended¹⁶

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 and Cadia East costs assumptions. There has been no change to the Cadia Extended Mineral Resource to that reported in December 2018.

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					

¹⁵ 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.

¹⁶ 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

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

1.5 Big Cadia¹⁷

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. 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 2018.

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.

¹⁷ 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. Telfer Main Dome open pit, SLC and Western Flanks Ore Reserves are planned to be exhausted during 2020 with production limited to West Dome open pit and M Reef selective underground unless further Ore Reserve are developed. Telfer is not a material mining project for Newcrest.

2.1 Telfer Open Pit Mineral Resources¹⁸

Main Dome

The Main Dome deposit is the largest deposit in the Telfer area and occurs as a series of stacked strata bound 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 2019 Mineral Resource is estimated from the 2018 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 2019 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

¹⁸ 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.

Measured Mineral Resource including low grade stockpiles.

The Main Dome Mineral Resource, including both low grade stockpiles has decreased by 0.05 Moz in contained gold and 0.02 Mt in contained copper, compared with the December 2018 estimate, due to mining depletion.

Telfer Main Dome Mineral Resource (Open pit and Stockpiles)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	21	0.59	0.41	0.093	0.020
Measured Mineral Resource	4.7	0.38	0.058	0.098	0.0047
Indicated Mineral Resource	16	0.66	0.35	0.094	0.015
Inferred Mineral Resource	0.35	0.23	0.0026	0.012	<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 2019 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 2019 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 decreased by 0.66 Moz gold and copper decreased by 0.02 Mt. This was primarily driven by an updated resource model and notional spatial constraint, mining depletion and updated metallurgical recovery assumptions and updated long term costs compared with the December 2018 estimate.

Telfer West Dome Mineral Resource

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	120	0.66	2.5	0.062	0.072
Measured Mineral Resource					
Indicated Mineral Resource	120	0.66	2.5	0.062	0.072
Inferred Mineral Resource	0.023	0.66	0.00048	0.058	<0.001

2.2 Telfer Open Pit Ore Reserves¹⁹

The Ore Reserves for the combined Telfer open pits have undergone a reduction relative to December 2018. The reduction in Ore Reserve at Telfer Main Dome open pit is driven by mining depletion. The reduction in the West Dome Ore Reserve is driven by mining depletion, updated economic assumptions and resource model update.

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 2019. The Ore Reserves are defined using a block value cut-off approach. The Main Dome Ore Reserve includes low grade stockpiles.

The Main Dome Ore Reserve has decreased by 0.06 Moz in contained gold and <0.01 Mt of copper compared with the December 2018 estimate due to mining depletion and stockpile reclaim. Note it is expected the remaining open pit Main Dome Ore Reserves (0.1 million ounces of gold) will be mined during the first half of 2020 as the open pit is nearing final completion.

Telfer Main Dome Ore Reserve (Open pit and Stockpiles)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	7.0	0.44	0.099	0.094	0.0065
Proved Ore Reserve	4.7	0.38	0.058	0.098	0.0047
Probable Ore Reserve	2.2	0.57	0.041	0.084	0.0019

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 0.35 Moz of contained gold and minor reduction in contained copper, compared with the December 2018 estimate due to mining depletion, updated costs assumptions and updated resource estimate.

Telfer West Dome Ore Reserve

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	47	0.77	1.2	0.080	0.037
Proved Ore Reserve					
Probable Ore Reserve	47	0.77	1.2	0.080	0.037

¹⁹ 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) ²⁰

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 SLC resource model was updated during 2019 to reflect additional drilling in these areas.

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 previously established Mineral Resource was depleted for production to 31 December 2019. 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). No surface stockpiles are included in the resource estimate.

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 December 2019 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, SLC mining and processing costs assumptions and contains no mining dilution. Non-contiguous blocks above resource profit were excluded from the Mineral Resource reported volume.

Western Flanks: The Western Flanks Mineral Resource 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.

The Western Flanks Mineral Resource is reported above a NSR cut-off based on resource metal pricing and selective underground mining and processing costs assumptions. Changes during the year include updated

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resource model, a spatial constraint to restrict to contiguous areas above resource profit cut-off 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 2018 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 same as used in December 2018. 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 0.35 Moz in contained gold and 0.02 Mt contained copper, compared with the December 2018 estimate. Mineral Resource decreases for M Reefs are driven primarily by mining depletion.

Telfer Underground Mineral Resource

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	44	1.6	2.3	0.41	0.18
Measured Mineral Resource					
Indicated Mineral Resource	32	1.7	1.8	0.40	0.13
Inferred Mineral Resource	11	1.4	0.53	0.43	0.05

Ore Reserve

Telfer underground Ore Reserves have undergone a continued review since December 2018. 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. Updated resource models have been provided for mining areas including the 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 2018. The reduction in SLC Ore Reserves is driven primarily by mining depletion. Note the SLC is now predominantly mining remnant Ore Reserves with the mining operation expected to be completed during 2020.

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

Western Flanks: The Western Flanks comprise a series of higher grade veins and a reef horizon. Western Flanks is mined using long-hole open stope mining methods. 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 mining depletion, updated resource model and minor mining design adjustments. Note the Western Flanks is mining last of existing Ore Reserves with mining operations expected to be completed during 2020.

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 2019 on M30, M35, M40 and M50 reefs. Ore Reserve decreases for

the M Reef are driven primarily by depletion from mining.

Overall the combined Telfer underground Ore Reserve (SLC, Western Flanks and selective M Reefs) has decreased by 0.2 Moz in contained gold and <0.01 Mt in contained copper, compared with the December 2018 estimate, through mining depletion.

Telfer Underground Ore Reserve

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	1.5	2.3	0.11	0.33	0.0051
Proved Ore Reserve					
Probable Ore Reserve	1.5	2.3	0.11	0.33	0.0051

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 Resource²¹

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 2018.

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

²¹ 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 Resource²²

The December 2019 Telfer Satellites Mineral Resource was re-estimated in 2015 using updated 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 2018.

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'Callaghans²³

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 2018.

²² 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.

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O'Callaghans Mineral Resource

	Ore	Tungsten Trioxide		Copper		Zinc		Lead	
	Mt	%	Moz	%	Mt	%	Moz	%	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	0.25	0.023	0.24	0.022	0.19	0.017	0.11	0.0097

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 2018.

O'Callaghans Ore Reserve

	Ore	Tungsten Trioxide		Copper		Zinc		Lead	
	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)²⁴

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

²⁴ 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.

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 July 2017 resource model uses 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 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.

Lihir Total Mineral Resource is comprised on insitu Indicated Mineral Resource within the Ladolam open pit and previously mined and stockpiled Measured Mineral Resource (refer table below).

The reduction in Mineral Resource at Lihir has been driven by mining depletion and stockpile reclaim. The net result is a decrease in the Lihir Total Mineral Resource of approximately 1.3 Moz in contained gold compared to that reported in December 2018.

Lihir Total Mineral Resource (Ladolam Open Pit & Stockpiles)

	Ore	Gold	
	Mt	g/t	Moz
Total Mineral Resource	680	2.3	49
Measured Mineral Resource	83	1.9	5.2
Indicated Mineral Resource	530	2.3	39
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 2019 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 Lihir Ore Reserve has decreased by 0.8 Moz in contained gold due to mining depletion and stockpile reclaim offset by updated pit designs and metallurgical recovery assumptions compared to that reported in December 2018.

Lihir Total Ore Reserve

	Ore	Gold	
	Mt	g/t	Moz
Total Ore Reserve	320	2.3	23
Proved Ore Reserve	83	1.9	5.2
Probable Ore Reserve	230	2.4	18

5. GOSOWONG PROVINCE (INDONESIA)²⁵

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 Ltd²⁶ (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. On 31 January 2020 Newcrest announced that it had agreed to sell its interest in PT Nusa Halmahera Minerals to PT Indotan Halmahera Bangkit (refer market release “Newcrest agrees to divest Gosowong for \$90m” dated 31 January 2020). The divestment is expected to be completed in the first quarter of 2020.

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 2019 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

²⁵ 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.

²⁶ Newcrest Singapore Holdings Pte Ltd is a wholly owned subsidiary in the Newcrest Mining Group.

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 2019 to account for mine production and additional resource and grade control drilling since the December 2018 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 0.02 Moz in contained gold and 0.1 Moz contained silver, compared to the December 2018 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	1.0	14	0.47	25	0.85
Measured Mineral Resource					
Indicated Mineral Resource	0.83	15	0.41	28	0.76
Inferred Mineral Resource	0.20	9.5	0.061	14	0.092

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 Toguraci Ore Reserves is based on a February 2019 resource model update.

The cut-off grades applied for the December 2019 estimate are based on an annual review of long term cost assumptions. Contained metal in the Ore Reserve estimate has decreased by 0.07 Moz in contained gold and by 0.09 Moz in contained silver since the December 2018 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		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Ore Reserve	0.35	13	0.14	26	0.29
Proved Ore Reserve					
Probable Ore Reserve	0.35	13	0.14	26	0.29

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 and KN orebodies

Mineral Resource

The Kencana Mineral Resource estimate was updated during 2019 to account for mine production and additional resource and grade control drilling data since December 2018.

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 0.08 Moz in contained silver, compared to the December 2018 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	1.4	9.1	0.40	8.39	0.37
Measured Mineral Resource					
Indicated Mineral Resource	1.2	9.5	0.36	8.61	0.32
Inferred Mineral Resource	0.20	6.7	0.044	7.16	0.047

Ore Reserve

An underhand cut-and-fill mining method is used at Kencana. The Kencana Ore Reserve is based on the August 2019 resource model update. The cut-off grades applied for the December 2019 estimate are based on an annual review of the long term cost assumptions.

The Kencana Ore Reserve estimate has been decreased by 0.01 Moz in contained gold and decreased by 0.01 Moz in contained silver compared to the December 2018 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	0.88	5.6	0.16	5.1	0.14
Proved Ore Reserve					
Probable Ore Reserve	0.88	5.6	0.16	5.1	0.14

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 2019 Gosowong underground Mineral Resources.

Mineral Resource

The Mineral Resource is essentially unchanged compared to the December 2018 estimate.

Other Deposits Mineral Resource

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	0.68	4.6	0.10	5.7	0.12
Measured Mineral Resource					
Indicated Mineral Resource	0.68	4.5	0.098	5.7	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 71.82% interest in the joint venture and is manager of project activities. Newcrest's interest in the joint venture has increased from 71.82% to 72.49% as a result of dilution of Mitsubishi Materials Corporation interest during FY19. NJV agreed metal price assumptions are now the same as Newcrest.

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 estimate for Waisoi and a Mineral Resource estimate for Wainaulo (both of which are contained in the Waivaka district).

The NJV is not a material mining project for Newcrest.

6.1 Wainaulo²⁷

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 volcanoclastic 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 chalcocite are the dominant copper sulphides observed in fresh rock. Controls on mineralisation are predominantly proximal

²⁷ 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.

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 × 50 m × 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. A scoping study was undertaken in December 2018 to ensure that the resource was economical using a block caving extraction methodology. A conceptual cave outline was generated and the contents are reported in its entirety (including planned dilution) as per other Newcrest caving Mineral Resources. The Wainaulo Mineral Resource estimate has increased by 0.01 million tonnes of copper due to increased Newcrest ownership. No change to Wainaulo Mineral Resource from that reported at December 2018.

Wainaulo Mineral Resource (72.49%)

	Ore	Copper	
	Mt	%	Mt
Total Mineral Resource	210	0.43	0.89
Measured Mineral Resource			
Indicated Mineral Resource			
Inferred Mineral Resource	210	0.43	0.89

Ore Reserve

No Ore Reserve has been estimated for the Wainaulo deposit.

6.2 Waisoi²⁸

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 cut-off) 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 is 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).

²⁸ 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.

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 Waisoi resource model was re-estimated in 2017 with 18 additional holes (mostly geometallurgical and geotechnical). Bivariate Uniform Conditioning was used to estimate copper and gold. Ordinary Kriging was used to estimate sulphur and molybdenum. Bivariate Direct Block simulations were used to validate the copper and gold estimates on SMU scale (25m x 25m x 15m). Resource classification was revised using Newcrest standard techniques including slope of regression, sample spacing and extension variances. Classification was undertaken using copper only. The Mineral Resource value algorithm was updated with revised cost assumptions and metal prices. Oxide material was excluded from reporting as the sulphide content was too low for floatation.

The December 2019 Waisoi Mineral Resource estimate has increased by 0.1 million ounces of gold and 0.1 million tonnes of copper due to increased Newcrest ownership.

Waisoi Mineral Resource (72.49%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	1,400	0.11	5.0	0.34	4.9
Measured Mineral Resource					
Indicated Mineral Resource	1,300	0.11	4.6	0.35	4.6
Inferred Mineral Resource	130	0.081	0.33	0.27	0.33

Ore Reserve

No Ore Reserve has been estimated for the Waisoi deposit.

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.

A Pre-Feasibility study evaluating options to exploit the mineral resources of the Wafi-Golpu Project was completed in 2012 with an optimised study released in 2014. In 2015 a Feasibility Study was completed for Stage 1 (high grade / low tonnes start-up block cave mine) and Prefeasibility Study for Stage 2 (life-of-mine block cave mine).

In March 2018, an updated Wafi-Golpu Feasibility Study was released that proposed a starter block cave larger and deeper than the 2015 findings (16mtpa), three block caves in total along with updated power generation and the preferred method of DSTP for tailings management. A Special Mining Lease application for the Wafi-Golpu Project was submitted to PNG government in August 2016 and amended supporting documentation to the SML was submitted on 20 March 2018. A Wafi-Golpu Memorandum of Understanding was signed with PNG government on 11 December 2018 (refer market release “Wafi-Golpu Memorandum of Understanding signed” dated 11 December 2018).

7.1 Nambonga²⁹

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. Chalcopyrite is the dominant copper sulphide mineral in and proximal to the porphyry, and galena and sphalerite are present in steep, late-forming structures.

Mineral Resource

The Nambonga deposit is a low grade Inferred Mineral Resource and no mining has been conducted in the project area. The Nambonga Mineral Resource estimate is based on an updated resource model that includes additional drilling, revised geological interpretation and is constrained in an outline that approximates the degree of selectivity afforded by a block cave mining method. The Nambonga Mineral Resource is unchanged from December 2018.

Nambonga Mineral Resource (50%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Mineral Resource	24	0.69	0.53	0.20	0.047
Measured Mineral Resource					
Indicated Mineral Resource					
Inferred Mineral Resource	24	0.69	0.53	0.20	0.047

Ore Reserve

No Ore Reserve has been estimated for the Nambonga deposit.

7.2 Wafi³⁰

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 2019. 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. Ordinary Kriging was used to estimate gold, 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 Wafi Mineral Resource has increased by 0.1 million ounces of gold and 2.6 million ounces of silver due to updated resource model since December 2018.

²⁹ 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.

³⁰ 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.

Wafi Mineral Resource (50%)

	Ore	Gold		Silver	
	Mt	g/t	Moz	g/t	Moz
Total Mineral Resource	72	1.6	3.7	4.4	10
Measured Mineral Resource					
Indicated Mineral Resource	54	1.7	2.9	4.4	7.6
Inferred Mineral Resource	19	1.4	0.82	4.2	2.5

Ore Reserve

No Ore Reserve has been estimated for the Wafi deposit.

7.3 Golpu³¹

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-phyrlic Golpu Porphyry, quartz eye bearing Golpu West Porphyries, and the mafic rich, hornblende phyrlic 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 × 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 2018 and is the basis of the 2018 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 × 40 m × 40 m parent blocks with sub-celling to 10 m × 10 m × 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. Gold and copper are the only economic elements included in the value estimate. The 2018 Golpu Mineral Resource reports the contained metal content of silver but revenues are not included in the estimation of the reporting cut-off. The Mineral Resource is classified into Indicated or Inferred Mineral Resource categories based on data

³¹ Information prepared and reported in accordance with JORC Code 2012. Refer to market release "Updated Wafi-Golpu Feasibility Study" dated 19 March 2018 and "Supplementary Data on the Updated Wafi-Golpu Feasibility Study" dated 12 April 2018 for Table 1 Appendix and detailed reporting under 5.8 & 5.9 of ASX Listing Rules.

spacing and grade and geological continuity.

The Golpu Mineral Resource remains unchanged from that reported in December 2018 (50% terms).

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

Ore Reserve

In March 2018 Newcrest released an updated Wafi-Golpu Feasibility Study prepared by the Wafi-Golpu Joint Venture (WGJV) project team. This study incorporated the findings from the earlier Pre-Feasibility and Feasibility Studies announced in February 2016, interpretation of the additional orebody data derived from further drilling and geotechnical studies, together with further work undertaken on mine design, hydrology, tailings and port and power options. The updated Study draws on extensive data collection undertaken since 2016, providing a deeper understanding of the project's geotechnical, oceanographic, environmental and social parameters (refer market release "Updated Wafi-Golpu Feasibility Study" dated 19 March 2018 and "Supplementary Data on the Updated Wafi-Golpu Feasibility Study" dated 12 April 2018).

The Feasibility Study Update Ore Reserve estimate is based on outcomes of this study. This estimate is materially in line with previous estimates and reflects updated long term cost and metal price assumptions and optimised designs in the Golpu Feasibility Study Update. BC44 and BC42, which are at a feasibility level of accuracy, account for 49% of gold reserves and 52% of copper reserves. BC40, which is at a pre-feasibility level of accuracy, accounts for 51% of gold reserves and 48% of copper reserves.

The WGJV is completing approval processes to commence a substantial work program, including establishment of underground access for further drilling of the Golpu deposit and the construction of a bridge over the Markham River, which is an integral feature of the proposed new Northern Access road from the Highlands Highway to the mine site. The Golpu Ore Reserve remains unchanged from that reported in December 2018 (50% terms).

Golpu Ore Reserve (50%)

	Ore	Gold		Copper	
	Mt	g/t	Moz	%	Mt
Total Ore Reserve	200	0.86	5.5	1.2	2.5
Proved Ore Reserve					
Probable Ore Reserve	200	0.86	5.5	1.2	2.5

Glossary of Terms

Item	Description
Atomic Absorption Spectroscopy (AAS)	An analytical method that measures the concentrations of elements in a 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 discrete 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.

Item	Description
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.
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 h 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, a full-time employee of Newcrest Mining Limited and holds options and 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 2019 Remuneration Report. He is a Fellow 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 11. 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 2019 Remuneration Report. 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 is in accordance with the JORC Code 2012 and that Newcrest's Ore Reserves and Mineral Resources comply with this requirement.

Deposit/Province	Mineral Resources Competent Person	Ore Reserve Competent Person
Cadia Valley	Luke Barbetti	Geoffrey Newcombe
Telfer (Including satellites) O'Callaghans	Ashok Doorgapershad	Glenn Patterson-Kane: Open Pit Gito Patani: Underground Michael Sykes: O'Callaghans
Lihir	Benjamin Likia	David Grigg
Gosowong	Denny Lesmana	Mark Kaesehagen
Namosi	Vik Singh	NA
MMJV- Wafi, Nambonga	Greg Job (Harmony)	NA
MMJV-Golpu	David Finn	Pasqualino Manca

Authorised for release by the Newcrest Board Executive Committee

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