

Cadia PC1-2 Pre-Feasibility Study delivers attractive returns

Newcrest Mining Limited (ASX, TSX, PNGX: NCM) is pleased to announce that the Newcrest Board has approved the Cadia PC1-2 Pre-Feasibility Study (the Study), enabling the commencement of the Feasibility Stage (the Feasibility Study) and Early Works Program.

The Study updates and defines a significant portion of Cadia's future mine plan, with the development of PC1-2 accounting for ~20% of Cadia's current Ore Reserves. The approved commencement of the Early Works Program will allow critical infrastructure to be established in parallel with the Feasibility Study, before the commencement of the Main Works program in the second half of CY22. A\$120 million (~US\$90 million) of funding has been approved for this Early Works Program which is expected to commence in the December 2021 quarter.

Summary of Study Findings^{1,2,3,4}

- The PC1-2 Pre-Feasibility Study has the following key findings:
 - Estimated total capital expenditure of ~A\$1.3 billion (~US\$0.9 billion)
 - Real, after-tax Internal Rate of Return (IRR) of 21.5%
 - Net Present Value (NPV) of A\$2.0 billion (US\$1.5 billion)⁵
 - ~17 year mine life from first production, at an average of 15mtpa
 - Total ore production of 258mt producing 3.5moz of gold and 660kt of copper
 - Average All-In Sustaining Cost (AISC) of A\$54/oz (US\$41/oz)
 - Enhanced footprint design and productivity allowing:
 - Deferral of ~25% of the previously required footprint into a future PC1-3 project
 - A\$150 million (US\$112 million) reduction in the initial capital spend
 - Enhanced average gold and copper grades in the medium term
- Early Works Program of critical path activities for the establishment of PC1-2 is expected to commence in the December 2021 quarter
- Feasibility Study has now commenced

Newcrest Managing Director and Chief Executive Officer, Sandeep Biswas, said "The development of the PC1-2 cave is the next step in Cadia's block caving journey. The Study underpins an optimised mine design which we expect will deliver higher gold and copper grades and enable the deferral of capital expenditure in the medium term. We have significant financial headroom to fund the construction of PC1-2, together with our other organic growth options, from our expected cash flow generation over the development period and our strong balance sheet."

"This project, together with the expansion project currently in progress, is expected to sustain Cadia's position as one of the largest, lowest cost and long life gold mines in the world. The team at Cadia is passionately committed to building on this world class asset, driving employment and other benefits for the local community and other stakeholders, and maintaining a focus on innovation, continuous improvement and sustainable development" said Mr Biswas.

¹ The Pre-Feasibility Study has been prepared with the objective that its findings are subject to an accuracy range of $\pm 25\%$. The findings in the Study and the implementation of the PC1-2 Project are subject to all the necessary approvals, permits, internal and regulatory requirements and further works. The Study estimates are indicative only and are subject to market and operating conditions. They should not be construed as guidance.

² The production targets underpinning the Study estimates are contained in the column titled "PC1-2" in the table on Page 2 under the heading "Table of Key Study Findings".

³ The production targets are based on the utilisation of ~20% of the total Cadia East Ore Reserves as set out on Page 9, which has been prepared by a Competent Person in accordance with Appendix 5A of the ASX Listing Rules.

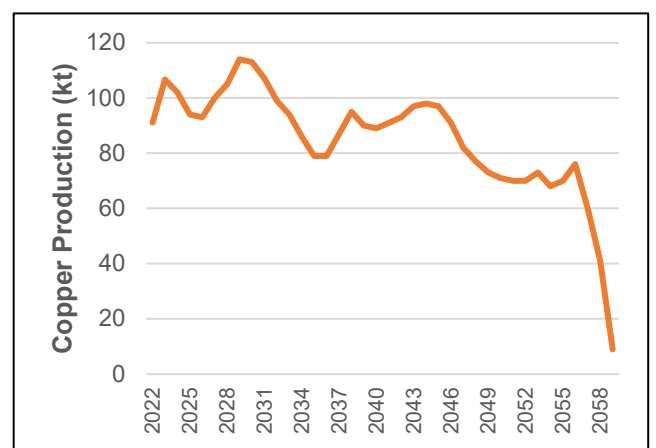
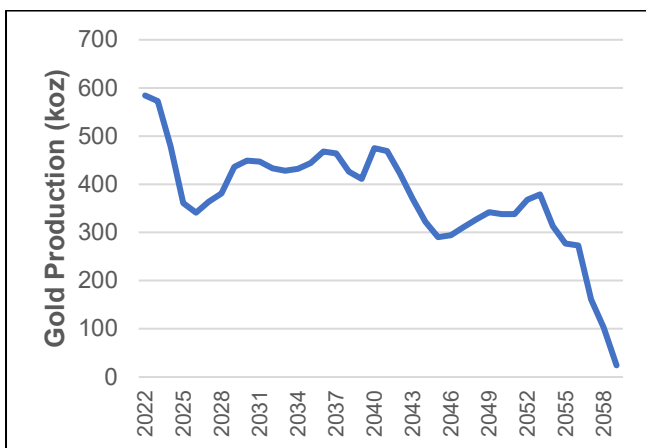
⁴ As Cadia's functional currency is AUD, the Study has been assessed in AUD. The outcomes in this release have been converted to USD using an exchange rate of 0.75.

⁵ Using a discount factor of 4.5% (real).

Table of Key Study Findings^{1,4,6}

Area	Measure	Unit	Study Outcomes	
			PC1-2 ³	Cadia LOM ⁷
Production	Average ore milled / throughput	mtpa	15	34
	LOM	years	17	~38
	Ore mined	mt	258	1,300
	Average gold grade	g/t	0.50	0.43
	Gold produced	moz	3.5	14
	Average annual gold production	koz	205	370
	Average copper grade	%	0.28	0.29
	Copper produced	mt	0.66	3.2
	Average annual copper production	kt	39	85
	Gold recoveries	%	83.6	80.6
	Copper recoveries	%	90.7	86.8
	Capital	Project capital	A\$m (real)	1,256
Sustaining capital		A\$m (real)	1,177	
Total life of mine capital		A\$m (real)	2,434	
Operating	AISC	A\$/oz sold	54	
Economic assumptions	Gold price	US\$/oz	1,500	
	Copper price	US\$/lb	3.30	
	AUD:USD exchange rate		0.75	

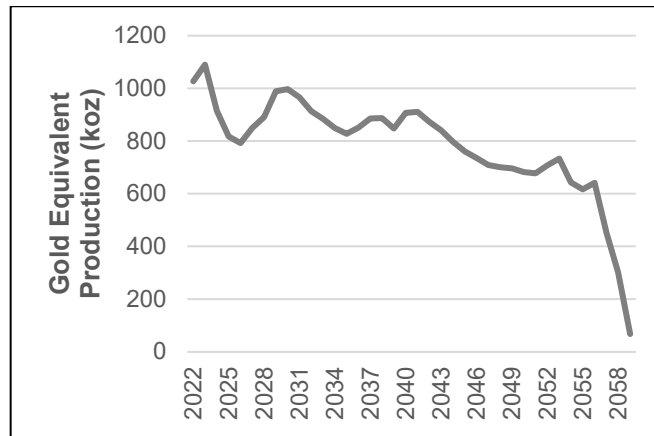
Cadia's indicative production profile^{1,6,7,8}



⁶ As described in the section titled "Permitting and Tailings", further approvals will be required for the throughput rate on which this is based and operations after 2030.

⁷ The production targets are based on the utilisation of 100% of the total Cadia East Ore Reserves as set out on Page 9, which has been prepared by a Competent Person in accordance with Appendix 5A of the ASX Listing Rules.

⁸ Assumptions for gold equivalent calculations include: Gold price of US\$1,500/oz, copper price of US\$3.30/lb, AUD:USD exchange rate of 0.75. Recovered Gold & Copper Production as provided in the charts as indicative of the forward metal sales profile. Gold-equivalent production (by-product basis) = Recovered Au oz + (Cu Price \$US/lb) x 2204 / (Au Price US\$/oz) x (Recovered copper tonnes as provided in the chart above, as indicative of the forward production profile). Gold grades are as set out in the indicative mine production profile on page 5. Based on LOM Au recovery of approximately 81% and approximately 87% for Cu. In the Company's opinion, all elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.



Mine development and sequence^{1,6,7}

Panel Cave	Start Construction	First Production	Ore (mt)
PC2-3	In Progress	FY23	128
PC1-2	FY22	FY26	258
PC1-3	FY31	FY32	137
PC3-1	FY34	FY37	168
PC2-4	FY37	FY39	115
PC1-4	FY43	FY45	156
PC2-5	FY46	FY47	22
PC5001	FY48	FY50	80

Total capital expenditure for the development of PC1-2 is estimated to be ~A\$1.3 billion (~US\$0.9 billion), with first production expected in CY25. The timing of PC1-2's development is expected to ensure that, in conjunction with the already approved PC2-3 project, the total Cadia mine production rate is sustained at ~35-36mtpa as production from the operational PC1 and PC2 caves begins to decline from FY24.

The PC1-2 Pre-Feasibility Study includes enhancements over previously published mine designs, which include:

- Optimised North/South footprint configuration to debottleneck extraction drives and boost production intensity by ~90% compared to previous designs
- Gold and copper production brought forward by prioritising PC1-2 higher grades
- Optimised pre-conditioning to enhance operator safety, mine schedules and reduce the underground development scope
- Crusher productivity and ventilation enhancements with the addition of a fifth tipping location and dedicated ventilation exhaust

It is planned to bring PC1-2 into production across two stages:

- **Stage 1**
 - Execute a 12 month Early Works Program to establish ventilation systems and other critical path development. This is expected to commence in the December 2021 Quarter and has an estimated cost of A\$120 million (US\$90 million)

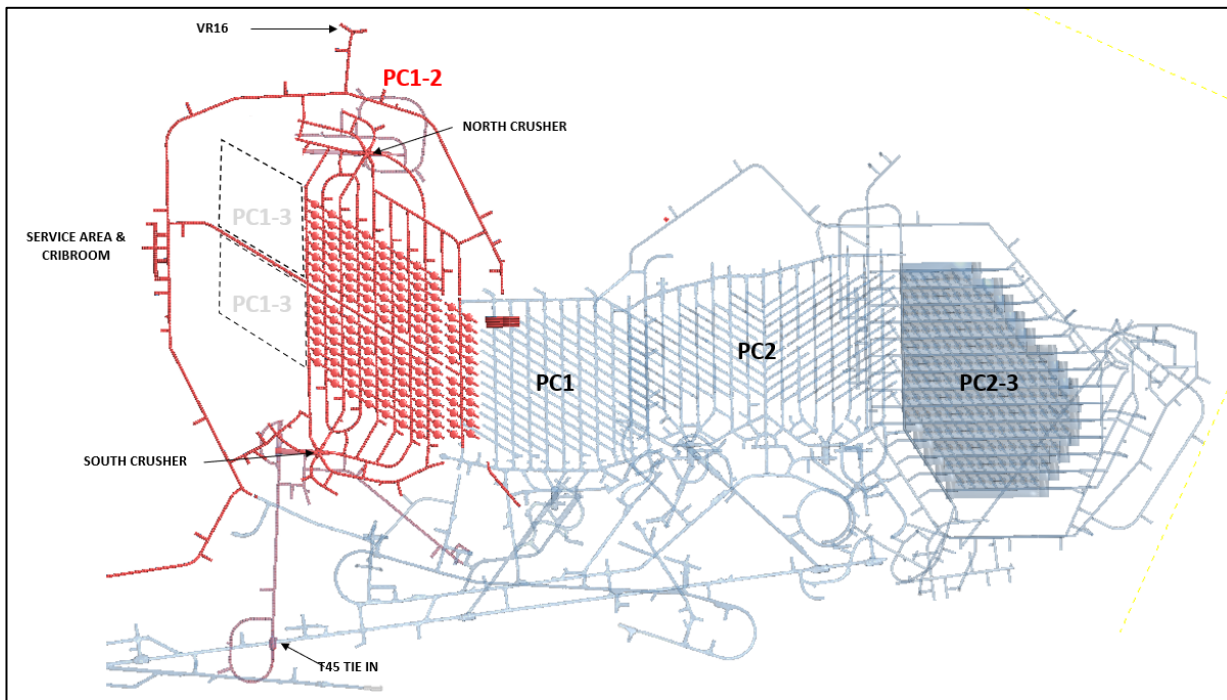
- Completion of the Feasibility Study will run concurrently with the Early Works Program and has an estimated cost of A\$14 million (US\$11 million)

- **Stage 2**

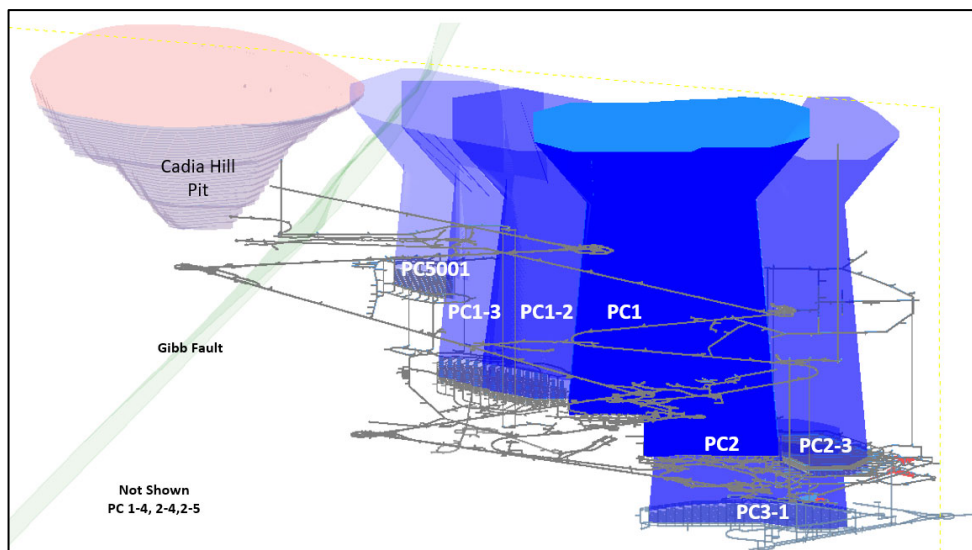
- Execute the PC1-2 Main Works Program following the conclusion of the Feasibility Study in the second half of CY22. The Main Works Program is expected to cost A\$1.12 billion (US\$0.84 billion) and is expected to be completed by CY29

The PC1-2 cave is expected to take approximately six years to reach its maximum production capacity from the time of the blasting of the first drawbell.

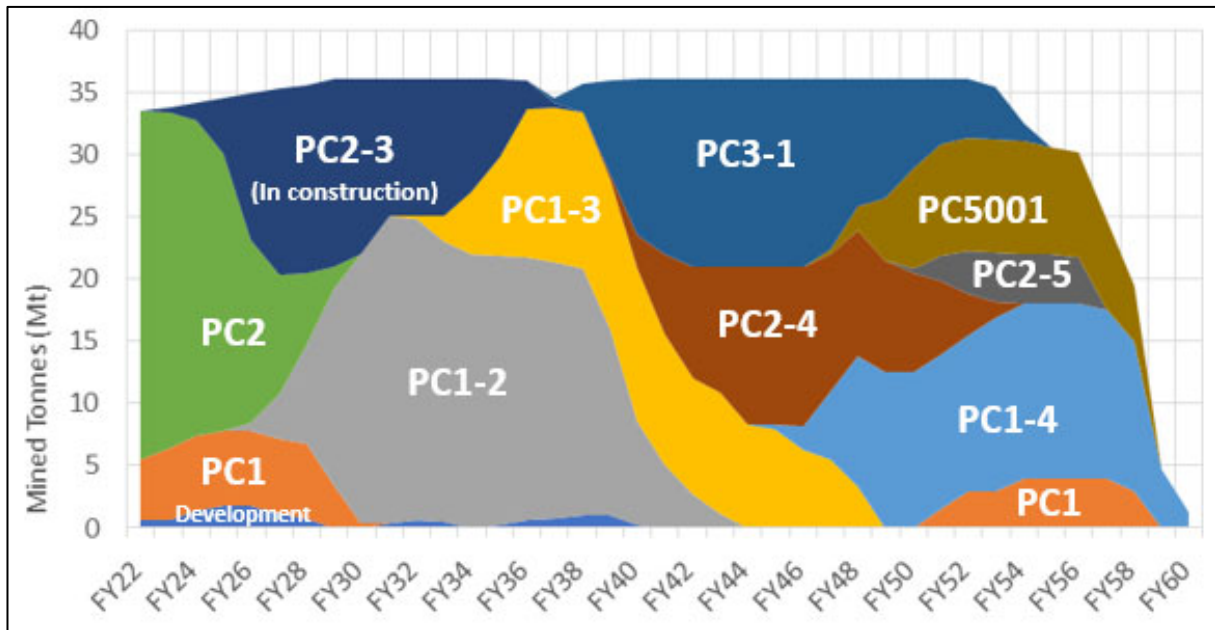
PC1-2 Extraction Level Design



Location of Planned Cadia East Caves in Schematic Section View



Indicative ore production profile^{1,6,7}



Indicative mine production profile^{1,6,7}

Period	Ore Source	Total Material Movement (mt)	Plant Feed (mt)	Average Gold Grade (g/t)	Average Copper Grade (%)
FY22 – 24	PC1, PC2, PC2-3	~101	~99	0.7	0.4
FY25 – 27	PC1, PC2, PC2-3, PC1-2	~105	~105	0.4	0.3
FY28 – 30	PC1, PC2, PC2-3, PC1-2	~107	~107	0.5	0.4
FY31 – 33	PC2-3, PC1-2, PC1-3	~107	~107	0.5	0.3
FY34 – 36	PC2-3, PC1-2, PC1-3	~107	~107	0.5	0.3
FY37 – 39	PC2-3, PC1-2, PC1-3, PC3-1, PC2-4	~107	~107	0.5	0.3
FY40 – 42	PC1-2, PC1-3, PC3-1, PC2-4	~107	~107	0.5	0.3
FY43 – 45	PC1-3, PC3-1, PC2-4, PC1-4	~107	~107	0.4	0.3
FY46 – 48	PC1-3, PC3-1, PC2-4, PC1-4, PC5001	~107	~107	0.3	0.3
FY49 – 51	PC3-1, PC2-4, PC1-4, PC5001, PC2-5, PC1	~107	~107	0.4	0.2
FY52 - 54	PC3-1, PC2-4, PC1-4, PC5001, PC2-5, PC1	~107	~107	0.4	0.2
FY55+	Remaining Reserves subject to ongoing studies				

Metal Price and Exchange Rate Sensitivity Analysis^{1,2,3,4}

The actual IRR of the Project will vary according to the gold and copper prices realised. Base case assumptions include a gold price of US\$1,500 per ounce, copper price of US\$3.30 per pound, and an AUD:USD exchange rate of 0.75.

The table below outlines how the estimated Base Case Project IRR of 21.5% varies using different price assumptions:

Scenario	Assumption (US\$)	IRR (%)
Gold price (per ounce)	1,200	18.0
Gold price (per ounce)	1,650	23.1
Copper price (per lb)	2.72	18.6
Copper price (per lb)	4.00	23.6

Permitting & Tailings

Cadia presently holds a major Project Approval for the Cadia East Project until CY31 (inclusive of the permit to develop PC1-2).

Newcrest is currently engaging with the NSW Department of Planning, Industry and Environment (DPIE) with respect to Newcrest's request for a modification to the existing approval to allow for an increased production rate above 32mtpa.

Further approvals will be required to continue mining operations beyond the existing approved mine life of CY31.

Estimated project capital expenditure profile^{1,4}

	FY22	FY23	FY24	FY25	FY26+	Total
Stage 1 Capital Expenditure (A\$m)	92	42	-	-	-	134
Stage 2 Capital Expenditure (A\$m) (in Feasibility Study)	-	122	214	348	438	1,122
Total Project Capital Expenditure (A\$m)	92	164	214	348	438	1,256
Total Project Capital Expenditure (US\$m)	69	123	161	261	329	942

Technology and value breakthrough strategies

Through the Feasibility Study, Newcrest will investigate the application of single pass caving, mechanical excavation and remote production during the execution of PC1-2, in line with its Next-Gen Caving strategy. These have not been assumed in the Study findings to date and represent upside opportunities.

Cadia East Mineral Resource⁹

The Cadia East Mineral Resource has been updated from that reported in the Annual Mineral Resources and Ore Reserves Statement as of 31 December 2020. The update includes mining depletion to 30 June 2021 and the incorporation of a revised resource estimate. A summary of material assumptions is outlined below and included in JORC Table 1 included in the Appendix (JORC Table 1 - Sections 1 to 3).

Mineral Resources are reported inclusive of Ore Reserves.

	Mineral Resource	Gold		Copper		Silver		Molybdenum	
	mt	g/t	moz	%	mt	g/t	moz	ppm	mt
Total Measured and Indicated	2,700	0.36	30	0.26	6.9	0.64	55	66	0.17
Measured Mineral Resource	-	-	-	-	-	-	-	-	-
Indicated Mineral Resource	2,700	0.36	30	0.26	6.9	0.64	55	66	0.17

	Mineral Resource	Gold		Copper		Silver		Molybdenum	
	mt	g/t	moz	%	mt	g/t	moz	ppm	mt
Inferred Mineral Resource	500	0.24	3.8	0.17	0.86	0.47	7.5	25	0.012

Summary of Mineral Resource

Geology and Geological Interpretation

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. 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 – dilation zone thought to control the emplacement of the Cadia Intrusive Complex and post-mineral faulting in two dominant orientations striking northwest and north-south.

The Cadia East deposit is hosted within the Forest Reef Volcanics 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 intersections have been identified with south dipping mineralised quartz veining. These occurrences are interpreted to be the Cadia Hill Monzonite.

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 chalcopryrite, capped by chalcopryrite-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-chalcopryrite-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.

The geology model for the Cadia East deposit includes lithology, alteration, and structural faults. Modelling of the fault planes and lithological boundaries comprises data obtained from drill core and underground mapping. The major faults are used as estimation domains, with semi-soft boundaries. The factor most influencing grade continuity is that Cadia East is a porphyry copper-gold mineralisation exhibiting properties of the diffusion model.

⁹ Data is reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals.
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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. All recent drilling is orientated.

Sampling and Sub-Sampling

Data used for resource estimation is obtained from drill core, which is sampled and assayed on 2.0 metre intervals. Drill core is sampled by cutting the core in half with a diamond saw. The left hand of the cut core is placed in a calico bag, marked with the appropriate sample number 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. Sample preparation is conducted at the Newcrest Laboratory facility located in Orange and all routine drill core samples are processed on site. Pulp replicates and crushed coarse reject duplicates are routinely undertaken.

Sample Analysis Methods

Samples are routinely assayed for gold by fire assay, copper, silver, molybdenum, lead, zinc, sulphur by ICP-OES analysis with additional cyanide-soluble copper analysis. Comprehensive QA/QC procedures have been in place since drilling and sampling programs at Cadia East began. These processes are undertaken at both the laboratory and site that includes a combination of check samples (blind reference material, random blanks, duplicates, repeats, replicates, and second lab checks), meetings, visits, and external audits. Various primary laboratories located on Orange have been used including Newcrest Services Laboratory since June 2010, ALS-Chemex between May 2004 and May 2010, and AMDEL prior to May 2004.

Estimation Methodology

Ordinary Kriging of copper, gold, sulphur, silver, molybdenum and fluorine are undertaken directly into 20 m x 20 m x 20 m blocks. Estimation domains (based on structural interpretation) have been revised and simplified for the 2021 resource model for Au, Cu, Ag, Mo and S. Semi-soft boundaries were used between all estimation domains. The 0.1% copper grade shell was used to constrain estimation as a global domain. All elements are estimated independently of each other. Copper and gold grades are not capped. The resource model is validated via visual, geostatistical and production reconciliation methods. Bulk density has been estimated in the 2021 model using Inverse Distance, which is a change from the previous estimate where bulk densities were assigned by lithology.

Mineral Resource Classification

The Cadia East Mineral Resource consists of majority Indicated Mineral Resource and a portion of Inferred Mineral Resource. Classification is based on an assessment of geological confidence as a function of geological and mineralisation continuity. Grade continuity and drill hole density is assessed using Extension Variance methods, whilst the reported resources were constrained within a 'value' shell representing the limit to eventual economic extraction.

Cut-off Grade

A value algorithm is used to calculate the net smelter return (NSR) for each block using revenue and cost assumptions as of 31 December 2020. The NSR calculation takes into account Mineral Resource revenue factors, metallurgical recovery assumptions, and site operating costs. Site operating costs include mining cost, processing cost, relevant site general & administration costs. The breakeven cut off value equates to approximately A\$18.00/t milled.

Mining and Metallurgical Methods and Parameters and Other Modifying Factors

No mining or environmental factors have been incorporated into the estimation. Metallurgical factors have been incorporated into the value algorithm which constrains the Mineral Resource classification.

Cadia East Ore Reserve¹⁰

The study has updated the Cadia East Ore Reserve from that reported in the Annual Mineral Resources and Ore Reserve Statement as at 31 December 2020. The update includes:

- Mining depletion to 30 June 2021
- Incorporation of a revised resource model
- Updated metallurgical recovery assumptions
- Updated metal price and break-even cost assumptions
- Removal of contained metal within unclassified material from the Ore Reserve
- Revised PC1-2 mining footprint

A summary of the material assumptions is outlined below and included in the Appendix (JORC Table 1 - Section 4).

	Ore		Gold		Copper		Silver		Molybdenum	
	mt	g/t	moz	%	mt	g/t	moz	ppm	mt	
Total Ore Reserve	1,300	0.43	18	0.29	3.7	0.71	29	83	0.11	
Proved Ore Reserve	-	-	-	-	-	-	-	-	-	
Probable Ore Reserve	1,300	0.43	18	0.29	3.7	0.71	29	83	0.11	

Summary of Ore Reserve

Material Assumptions for Ore Reserves

The Cadia East Panel Cave is an operating mine in the Cadia Valley province, which incorporates learnings from operational execution to date. Work is progressing on a Mining Feasibility Study for the PC1-2 mining block and is anticipated to be completed in CY22. If required, any adjustment to the Ore Reserves statement will be made following the completion of this study.

Ore Reserve Classification

The Probable Ore Reserve is based on Indicated Mineral Resources and diluting material. No Measured Mineral Resources are stated for this deposit. The resource classification is based on an assessment of geological confidence as a function of geological and mineralisation continuity.

Mining Method

Mining studies 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. 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.

Ore Processing

Processing of the Cadia East underground ore stream will be through the Cadia Valley Operations Ore Treatment Plant Concentrators 1 & 2. Metal recovery is through gravity and conventional flotation to a copper/gold concentrate. This circuit processes Cadia East material with similarly styled material to future ore sources. Cadia East is the sole source of feed for both Concentrator 1 and Concentrator 2. Production of up to 36mtpa¹¹ is anticipated to be produced through the concentrators. While the scale of the processing is expected to position the operation amongst 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 in practice at Cadia Valley Operations.

An update to the process plant infrastructure and metallurgical recovery assumptions were completed during the Cadia Expansion Feasibility Study (2019) and Cadia Expansion Project - Stage 2 (2020) including proposed upgrades to the circuit to boost throughput and metallurgical recovery. These assumptions have been validated to at least a Feasibility Study 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. Metallurgical recoveries for gold are anticipated to range between approximately 75% and 85%

¹⁰ Data is reported to two significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals.

¹¹ Subject to permitting and regulatory approvals.

and metallurgical recoveries of copper are expected to range between approximately 80% and 90% through the life of the project.

The molybdenum plant is currently in commissioning, with first production expected by the end of September 2021. The plant will produce a molybdenum concentrate sold as a separate saleable product with revenue from molybdenum included in the Ore Reserve estimation process. Fluorine is the key deleterious element for the gold/copper concentrate product with smelter penalties incurred on the basis of fluorine content. The PC1-2 Pre-Feasibility Study has made allowance for additional regrind capacity to remove fluorine from the final concentrate.

Cut-Off Grade

The Cadia East Ore Reserve employs a value-based cut-off by determining the NSR value equal to the relevant site operating cost. The NSR calculation takes into account Ore Reserve revenue factors, metallurgical recovery assumptions, transport costs and refining charges and royalty charges. The site operating costs include mining cost, processing cost, relevant site general and administration costs and relevant sustaining capital costs. This cost equates to a break even cut off value of approximately A\$19.80/t milled.

Estimation Methodology

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 Cadia caving operations. The Ore Reserve has been evaluated through a financial model. All operating and capital costs as well as Ore Reserve revenue factors stated in this document were included in the financial model. A discount factor of 4.5% real was applied. This process demonstrated that the Cadia East Ore Reserve has a positive NPV. 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.

Material Modifying Factors

All development has mining factors for dilution and mining recovery applied to accurately represent the expected mined tonnes. PCBC™ software is used for cave production scheduling and estimation of grade for material drawn from the block caves. The resource estimate includes internal dilution and external dilution is included as part of the draw model, with no mining recovery factors applied to the Ore Reserve estimate. These assumptions are supported by the actual reconciliation between the reserve estimate and mill performance for the project to date being within acceptable uncertainty ranges for the style of mineralisation and mining method under consideration.

Other Modifying Factors

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 and efficient recovery of water a key consideration. Studies to finalise the engineering approach to the repair of the current tailings storage facilities and to determine the long-term tailings storage beyond the current facilities are ongoing and will be submitted for further approval as required over the life of the asset. Studies that look to improve water recovery from tailings, including the use of alternative technologies, are also ongoing.

Appendix 1

JORC Table 1 –Cadia East

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. All recent drilling is orientated.
Drill sample recovery	Triple tube is used whilst drilling to maximise core recovery. Core recovery is routinely recorded by geologists and core technicians through measuring the drill run against the actual core in tray. Core recovery is stored in an acQuire software database. Analysis of recovery against grade show no apparent biases. Across the Cadia East orebody, there are 75 occurrences with less than 80% recovery and nominally > 1 g/t Au or > 0.5%, spread over 56 holes. This analysis shows there are no material problems with core recovery.
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 is 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 programmes lithology has been logged with intervals derived from combinations of rock type, alteration, structure, and mineralization. Hyperspectral imaging of selected drill core for type sections have been undertaken to assist in alteration modelling.
Sub-sampling techniques and sample preparation	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. Sample preparation for analysis is as follows: Samples are dried in an oven at 105C for several hours. All of the samples are crushed to 2 mm maximum diameter by a Boyd crusher and split to a weight of ~2.5 kg using a rotary sampler. Each sample is pulverised using a Labechnics LM5 pulverizing mill to specified grind parameters of 95% passing 106 m. A 250g sub-sample is collected for analysis and submitted to the assay laboratory. From the 250 g sample, a 30g or 50g sample is used for fire assay and ~0.5gm for 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.
Quality of assay data and laboratory tests	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. Samples are routinely assayed for gold, copper, silver, molybdenum, lead, zinc, sulphur and cyanide-soluble copper. Gold analysis is by fire assay with 30g or 50g charge and Atomic Absorption Spectroscopy (AAS) finish and detection limit of 0.01 ppm (g/t). Copper, silver and molybdenum analysis is by Inductively Coupled Plasma (ICP) or Multi Element Two Acid Digest (Aqua Regia) Optical Emission Spectroscopy (ME2ADOES) and detection limit of 5ppm, 0.2ppm and 0.2ppm respectively. 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. The laboratory QA/QC currently involves analysis of the following: <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).

Criteria	Commentary
	<ul style="list-style-type: none"> • 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>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. In 2021, three new CRMs were purchased from Ore Research, certified for gold, copper, silver, molybdenum, and sulphur in addition to a full 4-Acid digest suite.</p> <p>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%.</p> <p>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.</p> <p>Second laboratory pulp check sample assays were undertaken based on primary assays above 0.2g/t Au (20 times detection limit). Two despatches (Holes UE524 to UE537) of PC 1-2 pulps were sent to ALS Orange in 2020.</p>
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 on site by geologists 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 estimate flagged issues with Ag assays and detection limits for a range of drill holes. The 2016 resource estimate 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 the current Mineral Resource estimate.</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 500mm.</p> <p>Drill hole collars positions are determined by mine surveyors. Drill holes were surveyed downhole 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. 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>

Criteria	Commentary
Data spacing and distribution	<p>The data spacing varies from 20 m x 20 m to 250 m x 250 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 classification.</p> <p>Drill hole data are 10 m downhole composited for grade estimation. No other type of samples (e.g. grabs) nor compositing has 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> <p>There does not appear to be any bias between drilling orientation and assay results.</p>
Sample security	<p>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.</p>
Audits or reviews	<p>Independent external reviews of sampling techniques have been undertaken in the past with no fatal flaws identified.</p>

Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<p>The Cadia East copper-gold deposit is located approximately 20 km southwest of Orange in central NSW.</p> <p>Six granted mining leases (ML) comprise the Cadia Valley Operations and cover a total area of 5,223 hectares. The leases are owned by Cadia Holdings Pty Ltd, a subsidiary of Newcrest Mining Limited.</p> <p>Cadia East is situated within ML1405, granted 5th 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.</p>
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 1870s 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. 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 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>

Criteria	Commentary
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 Cadia 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.</p> <p>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) 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 chalcopryite, capped by chalcopryite-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-chalcopryite-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	A resource definition program is in concept stages with the objective of testing mineralisation located on the periphery of the Cadia East deposit.

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 Mineral Resource estimate is an employee of Newcrest and is based on site.

Criteria	Commentary
Geological interpretation	<p>The geology model for the Cadia East deposit includes lithology, alteration and major structural faults. The structural interpretation was updated from the 2016 model, combining CA-LA North fracture zone, Cat Fault and Church Fault, reclassification of the SF3 Lower Porphyry to the Carbonate 2 Fault, reduction in size of the CA-LA Central fault, and an updated interpretation of the Eastern basin-bounding P faults. Modelling of the fault and lithological boundaries/planes relies on data obtained from drill core and underground mapping.</p> <p>Alteration and lithology are not used as estimation domains. Statistical testing does 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 are used as estimation domains, with semi-soft boundaries implemented where geostatistical testing warranted. 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	<p>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.</p>
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 indicating that grade estimation will not be problematic.</p> <p>Cadia East is a bulk mining (block cave) operation, and the SMU is 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). Ordinary Kriging 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 estimates 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. The February 2021 resource estimate is based on updated structural model and incorporates new drill information within Panel Cave 1-2 and Panel Cave 2-3 localities up to the 1st February 2021. The structural domains used in the 2016 resource estimate have been revised and simplified for the 2021 resource estimate for Au, Cu, Ag, Mo and S. Semi-soft boundaries (20 m) were used between all estimation domains. The data constraint wireframe (appearance of first copper sulphide dominance and/or 0.1% Cu grade shell) used for the 2016 remained for the 2021 model, as changes were relatively minor, and the geometry and dimensions are similar.</p> <p>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>The decision to apply (or not) grade caps were based on a combination of factors;</p> <ul style="list-style-type: none"> • Metal contained in the top percentile of the declustered population; • Continuity of the distribution in histograms; • Mean and variance plots; • Historical production reconciliation. <p>Capping was only applied to selected elements and domains. Copper and gold grades are not capped as analysis indicates that 10m composites are representative of the mineralisation style. A high-yield restriction was applied to molybdenum in the eastern estimation domain to bring the estimated block model grade to the declustered composite grade.</p> <p>Bulk density has been estimated in the 2021 model using Inverse Distance (squared). This is a change from the 2016 resource estimate where bulk densities were assigned to lithology followed by gold grade bins.</p> <p>The resource estimate is validated via visual, geostatistical and production reconciliation methods.</p>
Moisture	<p>All tonnages are calculated and reported on a dry tonnes basis.</p>

Criteria	Commentary
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 2020.</p> <p>The NSR calculation takes into account Mineral Resource revenue factors, metallurgical recovery assumptions, and site operating costs. The site operating costs include mining cost, processing cost, relevant site general & administration costs. This cost equates to a break even cut off value of approximately AUD18.00/t milled.</p> <p>Blocks with a value above AUD18.00/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. Instead a shell is generated using AUD18.00/t as the value cut-off and the contents of the shell are reported in its entirety as the Mineral Resource, provided they also meet continuity and data density requirements to be classified as either Indicated and/or Inferred Mineral Resources.</p>
Metallurgical factors or assumptions	<p>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 metallurgical recovery formulas for gold, copper, silver and molybdenum.</p>
Environmental factors or assumptions	<p>No environmental factors were deemed necessary for the resource estimate.</p>
Bulk Density	<p>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.</p> <p>Bulk density has been estimated in the 2021 model using Inverse Distance (squared). This is a change from the 2016 resource estimate where bulk densities were assigned to lithology followed by gold grade bins.</p>
Classification	<p>The Cadia East Mineral Resource consists of majority Indicated Mineral Resource and a portion of Inferred Mineral Resource. There are no in situ Measured Mineral Resources at Cadia East.</p> <p>Newcrest utilises a resource classification approach that must assess and satisfy two criteria;</p> <ul style="list-style-type: none"> • Geological and grade continuity, and; • Reasonable prospects for eventual economic extraction (RPEEE). <p>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. The geological continuity is satisfied by restraining the resource model to an interpretation that encompasses first appearance of copper dominated sulphides and/or a 0.1% copper grade cut-off. The grade continuity component is confined to gold, as gold has lesser grade continuity than copper, and if gold grade continuity is satisfied then the copper grade continuity is automatically satisfied. Gold also contributes the most revenue in the core of the deposit. Both gold and copper become equal revenue contributors in the peripheries of the mineralization. Revenue contribution from molybdenum and silver are not material in the global scheme. Newcrest's guidelines are that for an Indicated Mineral Resource, the relative error for an annual production increment is less than 15% on a 90% Confidence Interval (CI). For an Inferred Mineral Resource, the relative error for Cadia East is deemed to be approximately 30% on a global basis. The classical Extension Variance technique is used for assessing drill spacing error for an annual production increment. The drill density must satisfy a 90% CI on an annual production basis for a drilling grid over each individual domain. A drilling grid can be thought of as the average drillhole spacing in the domain (and/or deposit). A variogram weighted distance is used to estimate the average weighted drillhole spacing, as nugget effects are low and the ranges relatively long at Cadia East.</p> <p>For the RPEEE criteria, an NSR value algorithm was developed comprising of metal price, metallurgical recovery, and cost assumption. A NSR value calculation is used to generate working Indicated and Inferred shells from the block model. The working Indicated and Inferred shells are manually re-interpreted to form smooth classification shapes which are subsequently used to stamp the resource model with the final classification.</p> <p>The resource classification methodology has been tested with geostatistical evaluations, and appropriately confirms the Competent Persons view of the deposit.</p>

Criteria	Commentary
Audits or reviews	Derisk Geomining Consultants (Derisk) has conducted an independent review of the Cadia East Mineral Resource estimate and concluded that the estimate has been prepared using accepted industry practice, has been completed in accordance with the JORC Code guidelines, and is suitable for preparing a public report documenting the Mineral Resource estimate. There were no material concerns identified by Derisk.
Discussion of relative accuracy/ confidence	<p>Newcrest's guidelines are that for an Indicated Mineral Resource, the relative error for an annual production increment is less than 15% on a 90% CI. For an Inferred Mineral Resource, the relative error for Cadia East is deemed to be approximately 30% on a global basis. Geostatistical evaluations indicate that based on the annual processing throughput this criteria is 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 Mineral Resource relative uncertainty band.</p> <p>The reserve estimate to mill reconciliation for FY21 was 99% tonnes, 96% gold and 102% copper.</p>

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 consists of majority Indicated Mineral Resource and a portion of Inferred Mineral Resource. Classification is based on an assessment of geological confidence as a function of geological and mineralisation continuity, with reported resources constrained within a 'value' shell representing the limit for a reasonable prospect of eventual economic extraction.</p> <p>The reported Cadia East Mineral Resources are inclusive of Ore Reserves.</p>
Site Visits	The Competent Person for the Ore Reserve estimate is an employee of Newcrest and has visited site frequently over the past 12 months.
Study Status	The PC1-2 Pre-Feasibility Study completed in 2021 is the supporting basis for the Cadia East Ore Reserve estimate. Cadia East is an operating mine for the Cadia province and the PC1-2 Pre-Feasibility Study incorporates learnings from operational execution to date. The PC1-2 Pre-Feasibility Study shows that the mine plan is technically achievable and economically viable taking into consideration all material Modifying Factors.
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 PC1-2 Pre-Feasibility Study.</p> <p>The NSR calculation takes into account Ore Reserve revenue factors, metallurgical recovery assumptions, transport costs, refining charges, and royalty charges. 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 AUD19.80/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 of the existing Cadia caving operations. The basis of the analysis is considered at Pre-Feasibility Study level or higher.</p> <p>Ongoing geotechnical studies and monitoring utilising experience and data from the current underground operations provide ongoing direction for key Mine Design Parameters, including:</p> <ul style="list-style-type: none"> Undercut design and Strategy - High Post Undercut Extraction Level Layout - El Teniente Extraction Spacing - 32m x 20m

Criteria	Commentary
	<ul style="list-style-type: none"> Maximum Draw Column Height - 1350m (PC1), 1400m (PC2), 850m (PC2-3), 1350m (PC1-2), 600m (PC1-4), 800m (PC5001) and 650m (PC3-1). <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 estimation of material grades as material is progressively drawn from the block caves. Grade control and reconciliation processes are undertaken regularly at Cadia East. The parameters used for material mixing within the software and supported by the actual reconciled metal production against forecast metal production project to date being within an acceptable range for the style of mineralisation and mining method under consideration. <p>No additional mining modifying factors have been applied to the Ore Reserve estimate.</p> <p>The resource estimate has been classified as Indicated and Inferred Mineral Resources. The Ore Reserve estimate is based on Indicated Mineral Resources only with additional external dilution included in the draw models.</p> <p>The remaining mining blocks for Cadia East are brownfields projects and will require the following mining infrastructure to support the extraction level development of each block:</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 up to 36mtpa¹² 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 Cadia with many years of operational experience.</p> <p>The process plant infrastructure and metallurgical recovery assumptions used to determine the Ore Reserve are supported by the PC1-2 Pre-Feasibility Study. The baseline metallurgical recovery performance is supported by reconciliation of Cadia East ore through the currently installed processing plant to date. Process plant upgrades are currently in progress as part of the Cadia Expansion Project - Stage 2 the completion is expected late FY22. The Expansion Project includes upgrades to the circuit to boost throughput and metallurgical recovery. Metallurgical recoveries for gold are anticipated to range between 70% and 85% with a life of mine average of approximately 81%. Metallurgical recoveries of copper are expected to range between 80% and 90% with a life of mine average of approximately 87%. Metallurgical recoveries of molybdenum are expected to range between 65% and 75%.</p> <p>The construction of a molybdenum plant is currently in progress. 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.</p> <p>Fluorine is the key deleterious element for the gold/copper concentrate product with smelter penalties incurred on the basis of fluorine content. The PC1-2 Prefeasibility study has made allowance for additional regrind capacity to remove fluorine from the final 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>

¹² Subject to permitting and regulatory approvals.

Criteria	Commentary
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, - Ventilation Infrastructure; and - Additional tailings storage capacity. <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>The PC1-2 Pre-Feasibility Study (2021) and the PC2-3 Feasibility Study (2019) form the basis of the capital and operating costs supporting 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>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. These included charges for deleterious elements, e.g. fluorine where applicable.</p> <p>Royalties are calculated as 4% of block revenue less all off site realisation costs (TCRCs), less ore treatments costs and less one third of site general and admin cost.</p>
Revenue factors	<p>The financial assessment of the Ore Reserve estimate is based on long term metal prices and exchange rate assumptions of US\$1,300/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 Ore Reserve revenue factors are consistent with Newcrest metal price guideline for the December 2020 Ore Reserve reporting.</p> <p>The NSR calculation considers the Ore 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 Cadia is not a constraint in the estimation of the Ore Reserve.</p> <p>Cadia has sold copper concentrate for its operational life into the world concentrate markets, current market conditions are assumed to continue. 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 Ore Reserve revenue factors stated in this document were included in the financial model. A discount factor of 4.5% 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>Socio-economic evaluations of Cadia 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).</p> <p>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>
Other	<p>Cadia Holdings Pty Ltd (CHPL) holds six current mining leases covering Cadia. Cadia 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. Cadia are in material compliance with all legal and regulatory requirements.</p>

Criteria	Commentary
	<p>The Cadia East deposit is located in an area which has been seismically active both prior to and subsequent to mining. 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. Cadia experienced a failure of one of its tailings storage facilities, the Northern Tailings Storage Facility (NTSF) in 2018. 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. These elements of the plan represents a risk to the Ore Reserves.</p> <p>The central west of NSW has recently experienced a period of prolonged drought. During that period sufficient water was in place for uninterrupted production at the Cadia mine site. A risk to the Ore Reserve is present if future periods of prolonged drought are worse than those recently experienced and if suitable quantities of water cannot be obtained during those periods.</p>
Classification	<p>The Probable Ore Reserve is based on Indicated Mineral Resources. No Measured Mineral Resources are stated for this deposit. The resource classification is based on an assessment of geological confidence as a function of geological and mineralisation continuity, with reported resources constrained within a 'value' shell representing the limit for a reasonable prospect of eventual economic extraction.</p> <p>It is the Competent Persons view that the classifications used for the Ore Reserves are appropriate.</p>
Audits or reviews	<p>An independent review has been conducted of the Cadia East Ore Reserves estimate and concluded that the estimate has been completed in accordance with the JORC Code reporting guidelines using industry accepted practices. There were no material concerns identified by the independent reviewer.</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 estimate, 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 FY21 was 99% tonnes, 96% gold metal and 102% copper metal when reconciled to mill production.</p>

Forward Looking Statements

This document includes forward looking statements and forward looking information within the meaning of securities laws of applicable jurisdictions. Forward looking statements can generally be identified by the use of words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “believe”, “continue”, “objectives”, “targets”, “outlook” and “guidance”, or other similar words and may include, without limitation, statements regarding estimated reserves and resources, certain plans, strategies, aspirations and objectives of management, anticipated production, study or construction dates, expected costs, cash flow or production outputs and anticipated productive lives of projects and mines. Newcrest continues to distinguish between outlook and guidance. Guidance statements relate to the current financial year. Outlook statements relate to years subsequent to the current financial year.

These forward looking statements involve known and unknown risks, uncertainties and other factors that may cause Newcrest’s actual results, performance and achievements or industry results to differ materially from any future results, performance or achievements, or industry results, expressed or implied by these forward-looking statements. 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 Newcrest operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation. For further information as to the risks which may impact on Newcrest’s results and performance, please see the risk factors included in the Annual Information Form dated 13 October 2020 lodged with ASX and SEDAR and the Operating and Financial Review included in the Appendix 4E and Financial Report for the year ended 30 June 2021 which is available to view at www.asx.com.au under the code “NCM” and on Newcrest’s SEDAR profile.

Forward looking statements are based on Newcrest’s good faith assumptions as to the financial, market, regulatory and other relevant environments that will exist and affect Newcrest’s business and operations in the future. Newcrest does not give any assurance that the assumptions will prove to be correct. There may be other factors that could cause actual results or events not to be as anticipated, and many events are beyond the reasonable control of Newcrest. Readers are cautioned not to place undue reliance on forward looking statements, particularly in the current economic climate with the significant volatility, uncertainty and disruption caused by the COVID-19 pandemic. Forward looking statements in this document speak only at the date of issue. Except as required by applicable laws or regulations, Newcrest does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in assumptions on which any such statement is based.

Non-IFRS Information

Newcrest’s results are reported under International Financial Reporting Standards (IFRS). This document includes certain non-IFRS financial information within the meaning of ASIC Regulatory Guide 230: ‘Disclosing non-IFRS financial information’ published by ASIC and within the meaning of Canadian Securities Administrators Staff Notice 52-306 – Non-GAAP Financial Measures. Such information includes: ‘Free Cash Flow’ (calculated as cash flow from operating activities less cash flow related to investing activities and ‘AISC’ (All-In Sustaining Cost) as per the updated World Gold Council Guidance Note on Non-GAAP Metrics released November 2018. AISC will vary from period to period as a result of various factors including production performance, timing of sales and the level of sustaining capital and the relative contribution of each asset. These measures are used internally by Newcrest management to assess the performance of the business and make decisions on the allocation of resources and are included in this document to provide greater understanding of the underlying performance of Newcrest’s operations. The non-IFRS information has not been subject to audit or review by Newcrest’s external auditor and should be used in addition to IFRS information. Such non-IFRS financial information/non-GAAP financial measures do not have a standardised meaning prescribed by IFRS and may be calculated differently by other companies. Although Newcrest believes these non-IFRS/non-GAAP financial measures provide useful information to investors in measuring the financial performance and condition of its business, investors are cautioned not to place undue reliance on any non-IFRS financial information/non-GAAP financial measures included in this document. When reviewing business performance, this non-IFRS information should be used in addition to, and not as a replacement of, measures prepared in accordance with IFRS, available on Newcrest’s website, the ASX platform and SEDAR.

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 2001 and the ASX. 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 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) and that Newcrest’s ore reserve and mineral resource estimates comply with the JORC Code.

Newcrest is also subject to certain Canadian disclosure requirements and standards, as a result of its secondary listing on the Toronto Stock Exchange (TSX), including the requirements of National Instrument 43-101 (NI 43-101). Investors should note that it is a requirement of Canadian securities law that the reporting of Mineral Reserves and Mineral Resources in Canada and the disclosure of scientific and technical information concerning a mineral project on a property material to Newcrest comply with NI 43-101.

Newcrest's material properties are currently Cadia, Lihir and Wafi-Golpu. Copies of the NI43-101 Reports for Cadia, Lihir and Wafi-Golpu, which were released on 14 October 2020, are available at www.newcrest.com.au and on Newcrest's SEDAR profile.

Competent Person's Statement

The information in this document that relates to Cadia East Ore Reserves is based on and fairly represents information compiled by Mr Ian Austen. Mr Ian Austen is the Mining Study Manager and a full-time employee of Newcrest Mining Limited. He is a shareholder 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 2021 Remuneration Report. He is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Ian Austen has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code and as a Qualified Person under NI 43-101. Mr Ian Austen approves the disclosure of scientific and technical information contained in this document and consents to the inclusion of material of the matters based on his information in the form and context in which it appears.

The information in this document that relates to Cadia East Mineral Resources is based on and fairly represents information compiled by Mr Luke Barbetti. Mr Luke Barbetti is the Principal – Cadia Integrated Planning and a full-time employee of Newcrest Mining Limited. He is a shareholder 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 2021 Remuneration Report. He is a Member of the Australian Institute of Geoscientists. Mr Luke Barbetti has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code and as a Qualified Person under NI 43-101. Mr Luke Barbetti approves the disclosure of scientific and technical information contained in this document and consents to the inclusion of material of the matters based on his information in the form and context in which it appears.

Authorised by the Newcrest Disclosure Committee

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