

27 September 2022

Rio Tinto to start underground mining at Kennecott copper operations

Rio Tinto has approved a \$55 million¹ investment in development capital to start underground mining and expand production at its Kennecott copper operations in Utah, United States.

Underground mining will initially focus on an area known as the Lower Commercial Skarn (LCS), which will deliver a total of around 30kt² of additional high quality mined copper through the period to 2027 alongside open cut operations. The first ore is expected to be produced in early 2023, with full production in the second half of the year. It will be processed through the existing facilities at Kennecott, one of only two operating copper smelters in the United States.

Kennecott holds the potential for significant and attractive underground development. The LCS is the first step towards this, with a Mineral Resource of 7.5 Mt at 1.9% copper, 0.84 g/t gold, 11.26 g/t silver, and 0.015% molybdenum identified based on drilling and a Probable Ore Reserve of 1.7 Mt at 1.9% copper, 0.71 g/t gold, 10.07 g/t silver, and 0.044% molybdenum³.

Underground battery electric vehicles are currently being trialed at Kennecott to improve employee health and safety, increase productivity and reduce carbon emissions from future underground mining fleets. A battery electric haul truck and loader supplied by Sandvik Mining and Rock Solutions are being used to evaluate performance and suitability as part of underground development work.

Rio Tinto Copper chief executive Bold Baatar said, “This investment will allow us to quickly bring additional volumes of high quality copper to the market and build our knowledge and capabilities as we evaluate larger scale underground mining at Kennecott. We are progressing a range of options for a significant resource that is yet to be developed at Kennecott, which could extend our supply of copper and other critical materials needed for electric vehicles and renewable power technologies.”

“Trialling underground battery electric vehicles is an exciting step in our work to create a safer workplace for our employees, increase the productivity of the mine and reduce emissions from our operations. We look forward to seeing their potential for deployment.”

Existing underground infrastructure is currently being extended to enable early access to the next underground resource and undertake characterisation studies. A Feasibility Study to inform decisions on the next phase of underground production is expected to be completed in 2023. This will be one of several potential stages currently being investigated.

Feasibility studies are also being progressed to extend open pit mining at Kennecott beyond 2032.

The Table 1 Release was made in accordance with the JORC Code and the ASX Listing Rules. Mineral Resources are reported in addition to Ore Reserves. Mineral Resources and Ore Reserves are quoted on a 100 per cent basis.

¹ All dollar values are in USD.

² Lower Commercial Skarn production targets referred to in this release are reported as recoverable copper and are underpinned as to 100% by Probable Ore Reserves. These estimates of Ore Reserves were reported in a release to the Australian Securities Exchange (ASX) dated 31 August 2022 “Rio Tinto Kennecott Mineral Resources and Ore Reserves” (Table 1 Release) and have been prepared by Competent Persons in accordance with the requirements of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code).

³ The Mineral Resource and Ore Reserve estimates referred to in this release were set out in the Table 1 Release. The Competent Person responsible for the information in that release that relates to Mineral Resources is Mr Ryan Hayes, a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM). The Competent Person responsible for the information in that release that relates to Ore Reserves is Mr Stephen McInerney, a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Rio Tinto confirms that it is not aware of any new information or data that materially affects the information included in the Table 1 Release, that all material assumptions and technical parameters underpinning the estimates in the Table 1 Release continue to apply and have not materially changed, and that the form and context in which the Competent Persons’ findings are presented have not been materially modified.

Mineral Resource declaration

The Table 1 Release sets out Measured, Indicated and Inferred Mineral Resources at the Kennecott Copper operation with the first time reporting of the Lower Commercial Skarn. A tabulation of the additions to Mineral Resource due to the LCS is provided in Table A.

Table A Rio Tinto Kennecott Lower Commercial Skarn Mineral Resources as at 31 July 2022

	Likely mining method ^(a)	Measured resources					Indicated resources					Inferred resources					Total mineral resources					Rio Tinto Interest
		as at July 2022					as at July 2022					as at July 2022					as at July 2022					
		Tonnage		Grade			Tonnage		Grade			Tonnage		Grade			Tonnage		Grade			
Copper ^(b)		Mt	% Cu	g/t Au	g/t Ag	% Mo	Mt	% Cu	g/t Au	g/t Ag	% Mo	Mt	% Cu	g/t Au	g/t Ag	% Mo	Mt	% Cu	g/t Au	g/t Ag	% Mo	%
Bingham Canyon (US)																						
- Lower Commercial Skarn	U/G	0.2	2.52	1.27	10.56	0.056	1.1	2.08	0.72	9.43	0.029	6.2	1.84	0.86	11.62	0.011	7.5	1.89	0.84	11.26	0.015	100.0

(a) Likely mining method: O/P = open pit/surface; U/G = underground.

(b) Copper Resources are stated on a dry in situ weight basis.

Ore Reserve declaration

The Table 1 Release also sets out additional Probable Ore Reserves at the Kennecott Copper operation, with the first time reporting of Ore Reserves associated with the Lower Commercial Skarn. A tabulation of the additions to Ore Reserve due to the LCS is provided in Table B.

Table B Rio Tinto Kennecott Lower Commercial Skarn Ore Reserves as at 31 July 2022

	Type of mine ^(a)	Probable ore reserves as at July 2022					Total ore reserves as at July 2022					Average mill recovery %					Rio Tinto share Recoverable Metal				
		as at July 2022					as at July 2022					Rio Tinto Interest					Rio Tinto Interest				
		Tonnage	Grade				Tonnage	Grade				Cu	Au	Ag	Mo	%	Mt Cu	Moz Au	Moz Ag	Mt Mo	%
Copper ^(b)		Mt	% Cu	g/t Au	g/t Ag	% Mo	Mt	% Cu	g/t Au	g/t Ag	% Mo										
Bingham Canyon (US)																					
- Lower Commercial Skarn	U/G	1.7	1.90	0.71	10.07	0.044	1.7	1.90	0.71	10.07	0.044	90	71	76	71	100	0.030	0.028	0.421	0.001	

(a) Type of mine: O/P = open pit/surface, U/G = underground.

(b) Copper Reserves are reported as dry mill feed tonnes.

A copy of the Table 1 Release is available on Rio Tinto's website at riotinto.com/invest/financial-news-performance/resources-and-reserves

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This announcement is authorised for release to the market by Steve Allen, Rio Tinto's Group Company Secretary.

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