
Turquoise Hill announces fourth quarter 2020 production, 2021 operational and financial guidance and provides an update on undercut criteria discussions

Turquoise Hill Resources Ltd. (“Turquoise Hill” or the “Company”) today announced fourth quarter 2020 production for Oyu Tolgoi, as well as operational and financial guidance for 2021 and provided an update on undercut criteria discussions.

Operational highlights

- Full year copper production of 149,631 tonnes vs original guidance range of 140,000 – 170,000 tonnes
- Full year gold production of 181,858 ounces vs original guidance range of 120,000– 150,000 ounces
- Full year mill throughput of 40,200,279 tonnes was slightly lower than 2019 due to the processing of more, harder Phase 4B ore
- Safety performance at Oyu Tolgoi in 2020 remained consistent with an All Injury Frequency Rate of 0.15
- The project has exceeded one million tonnes of material moved through Shaft 2 since commissioning
- Shaft 4 work is now focused on final pre-sinking activities
- 2021 C1¹ cash costs are expected to be in the range of negative \$0.50 to negative \$0.80 per pound of copper produced
- Access to higher copper and gold grades in Q4 2020 is expected to continue throughout 2021. Shipments across the Chinese border have been maintained despite COVID-19 measures in Mongolia

¹ C1 cash costs are a non-GAAP (Generally Accepted Accounting Principles) measure (i.e. not defined by International Financial Reporting Standards (IFRS)). It is presented in order to provide investors and other stakeholders with an additional understanding of performance and operations at the Oyu Tolgoi mine and is not intended to be used in isolation from, or as a replacement for, measures prepared in accordance with IFRS. Please refer to Non-GAAP Measures section of the Company’s Q3 MD&A for further information

2021 guidance

Oyu Tolgoi is expected to produce 160,000 to 180,000 tonnes of copper and 500,000 to 550,000 ounces of gold in concentrates in 2021 from processing of both open pit and underground development material. The increase in gold production in 2021 compared with 2020 is the result of transitioning to the higher-grade ore lower in Phase 4B. We have been advised by the manager that recent geotechnical concerns in Phase 4B have required changes to the mine design impacting both 2021 and 2022, resulting in a reduction in metal delivery expectations. In light of the additional optimisation of Phase 4B currently underway, which is expected to be completed in Q1 2021, the Company anticipates releasing its 2022 Outlook at the conclusion thereof.

Operating cash costs for 2021 are expected to be \$800 million to \$850 million.

Capital expenditure for 2021 on a cash-basis is expected to be approximately \$120 million to \$160 million for open-pit operations and \$1.1 billion to \$1.2 billion for the underground, exclusive of any expenditure on power.

Open-pit capital is mainly comprised of deferred stripping, equipment purchases, tailings storage facility construction and maintenance componentization. Underground capital is inclusive of VAT.

2021 C1 cash costs are expected to be in the range of negative \$0.50 to negative \$0.80 per pound of copper produced, an improvement upon 2020 due to the increased gold production and higher forecast 2021 price assumptions. Unit cost guidance assumes the midpoint of the expected 2021 copper and gold production ranges and gold commodity assumptions of \$1,880 per ounce.

Oyu Tolgoi underground update

- Work on the project has continued to progress despite COVID-19 controls and ongoing travel restrictions implemented by the Government of Mongolia. Although expatriates started to return to Mongolia from July through December 2020, COVID-19 cases in-country have resulted in increased restrictions on both domestic and international travel.
- With the assistance of vendor representatives now on site, installation and commissioning of equipment continues at Shafts 3 and 4. Activities at Shaft 4 are now focused on completing all construction and commissioning activities for load testing and verification in preparation for shaft sinking, which is expected to commence early in Q1 2021. Should flight restrictions continue, productivity on the project and the ability to perform specialised maintenance and commissioning activities could be impacted.
- First sustainable production for Panel 0 is not anticipated to be affected and we will communicate any implications, particularly for Panel 1 and Panel 2 ramp-up which Shaft 3 and 4 support, at an appropriate time.

Undercut criteria

Rio Tinto has publicly announced criteria which it considers need to be met before the project can begin caving operations by commencement of the undercutting process, currently scheduled for June 2021. These criteria include non-technical matters including securing the approval of the Government of Mongolia for the 2020 feasibility study, reaching an agreement with Turquoise Hill and the Government of Mongolia on the funding plan to bring the project to completion, and an extension of the existing power supply arrangements and the signing of a power purchase agreement with the state-owned power company for domestic supply. The criteria supporting the undercut decision, including the non-technical criteria publicly announced by Rio Tinto, have not been agreed to by the shareholders of Oyu Tolgoi LLC. Turquoise Hill does not agree that all of these additional non-technical criteria are either appropriate or necessary and is engaging with Rio Tinto and Erdenes Oyu Tolgoi LLC (“Erdenes”) to address the areas of disagreement, with the objective, which Turquoise Hill believes it shares with Erdenes, of preserving the timeline for project completion. If agreement is not reached on the undercut criteria in a timely manner, or if the undercut criteria proposed by Rio Tinto are included and not met, there is a risk that the undercut will not occur as planned. Any significant delay to the undercut would have a materially adverse impact on schedule as well as the timing and quantum of underground capital expenditure and would materially adversely impact the timing of expected cash flows from the Oyu Tolgoi underground project, thereby increasing the amount of Turquoise Hill’s incremental funding requirement.

Oyu Tolgoi Production Data

All data represents full production and sales on a 100% basis

	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2020	Full Year 2019	Full Year 2020
Open pit material mined ('000 tonnes)	28,122	26,834	23,218	23,979	23,663	101,316	97,694
Ore treated ('000 tonnes)	11,088	10,889	9,645	10,072	9,594	40,777	40,200
Average mill head grades:							
Copper (%)	0.42	0.42	0.47	0.45	0.50	0.45	0.46
Gold (g/t)	0.15	0.15	0.19	0.21	0.41	0.29	0.24
Silver (g/t)	1.06	1.14	1.22	1.22	1.16	1.13	1.18
Concentrates produced ('000 tonnes)	152.6	164.5	169.9	168.5	190.2	674.6	693.1
Average concentrate grade (% Cu)	21.6	21.4	21.5	21.5	21.9	21.7	21.6
Production of metals in concentrates:							
Copper ('000 tonnes)	32.9	35.2	36.5	36.3	41.6	146.3	149.6
Gold ('000 ounces)	24	26	31	37	88	242	182
Silver ('000 ounces)	190	214	212	219	231	867	876
Concentrate sold ('000 tonnes)	157.5	125.9	194.3	167.9	181.5	724.7	669.6
Sales of metals in concentrates:							
Copper ('000 tonnes)	32.3	25.8	39.7	34.4	37.9	149.9	137.8
Gold ('000 ounces)	25	20	31	34	66	274	150
Silver ('000 ounces)	244	146	220	201	194	896	760
Metal recovery (%)							
Copper	74.2	74.3	79.1	78.9	85.9	78.7	79.6
Gold	48.2	46.0	52.0	53.7	68.8	63.6	58.6
Silver	53.5	51.5	55.8	54.6	64.3	58.1	56.4



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Forward-looking statements and forward-looking information

Certain statements made herein, including statements relating to matters that are not historical facts and statements of the Company's beliefs, intentions and expectations about developments, results and events which will or may occur in the future, constitute "forward-looking information" within the meaning of applicable Canadian securities legislation and "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements and information relate to future events or future performance, reflect current expectations or beliefs regarding future events and are typically identified by words such as "anticipate", "could", "should", "expect", "seek", "may", "intend", "likely", "plan", "estimate", "will", "believe" and similar expressions suggesting future outcomes or statements regarding an outlook. These include, but are not limited to, statements and information regarding: the scope of the undercut criteria and the expected timing of the undercut; discussions with the Government of Mongolia, Oyu Tolgoi LLC (and its stakeholders) and/or Rio Tinto plc and its subsidiaries ("Rio Tinto") with respect to the undercut criteria and timing; discussions with, and the nature of the Company's relationship and interaction with, the Government of Mongolia on the continued operation and development of Oyu Tolgoi, including with respect to the definitive estimate and the potential termination, amendment or replacement of the Oyu Tolgoi Underground Mine Development and Financing Plan (the "Underground Plan"); the willingness and ability of the parties to the Underground Plan to amend or replace the Underground Plan; the arbitration proceedings, including the potential benefits, timing and outcome of the arbitration proceedings; the expectations set out in the 2020 Oyu Tolgoi Technical Report ("OTTR20"); the timing and amount of future production and potential production delays; statements in respect of the impacts of any delays on the Company's cash flows; expected copper and gold grades; the merits of the class action complaints filed against the Company; liquidity, funding sources, funding requirements and planning and the status and nature of the Company's ongoing discussions with Rio Tinto with respect to future funding plans and requirements (including as contemplated by the Memorandum of Understanding dated September 9, 2020 (the "MoU")); the amount of any funding gap to complete the Oyu Tolgoi underground project; the amount and potential sources of additional funding; the Company's ability to re-profile its existing project debt in line with current cash flow projections; the amount by which a successful re-profiling of the Company's existing debt would reduce the Company's currently projected funding requirements; the Company's and Rio Tinto's understanding regarding the raising of supplemental senior debt and the Company's ability to raise supplemental senior debt; the Company's and Rio Tinto's understanding regarding the process for identifying and considering other funding options; the Company's and Rio Tinto's understanding regarding the scope and timing for an equity offering by the Company to address any remaining funding gap; the Company's intention to prioritize funding by way of debt and/or hybrid financing over equity funding; the Company's expectation of the anticipated funding gap; the timing of studies, announcements and analyses; status of underground development; the mine design for Panel 0 of Hugo North Lift 1 and the related cost and production schedule implications; the re-design studies for Panels 1 and 2 of Hugo North Lift 1 and the possible outcomes, content and timing thereof; expectations regarding the possible recovery of ore in the two structural pillars to the north and south of Panel 0; the possible progression of a state-owned power plant ("SOPP") and related amendments to the Power Source Framework Agreement ("PSFA") as well as power purchase agreements; the timing of construction and commissioning of the potential SOPP; sources of interim power; the potential impact of COVID-19 on the Company's business, operations and financial condition; capital and operating cost estimates; mill and concentrator throughput; the outcome of formal international arbitration proceedings; anticipated business activities, planned expenditures, corporate strategies, and other statements that are not historical facts.

Forward-looking statements and information are made based upon certain assumptions and other important factors that, if untrue, could cause the actual results, performance or achievements of the Company to be materially different from future results, performance or achievements expressed or implied by such statements or information. There can be no assurance that such statements or information will prove to be accurate. Such statements and information are based on numerous assumptions regarding present and future business strategies, local and global economic conditions, and the environment in which the Company will operate in the future, including the price of copper, gold and silver; projected gold, copper and silver grades; anticipated capital and operating costs, anticipated future production and cash flows; the anticipated location of certain infrastructure in Hugo North Lift 1; sequence of mining within and across panel



boundaries; the availability and timing of required governmental and other approvals for the construction of the SOPP; the ability of the Government of Mongolia to finance and procure the SOPP within the timeframes anticipated in the PSFA, as amended; the willingness of third parties to extend existing power arrangements; the criteria to be applied before commencing the undercutting process, and the ability of the Company to negotiate and finalize the undercut criteria and commence the undercutting process; the expected timing of the undercut and the potential for delays (which could materially adversely affect the timing of expected cash flows from the Oyu Tolgoi underground project and increase the amount of the expected incremental funding requirement); the status and nature of the Company's relationship and interaction with the Government of Mongolia on the continued operation and development of the Oyu Tolgoi mine and Oyu Tolgoi LLC internal governance (including the outcome of any such interactions or discussions); the willingness and ability of the parties to the Underground Plan to amend or replace the Underground Plan; the nature and quantum of the current and projected economic benefits to Mongolia resulting from the continued operation of Oyu Tolgoi; the status and nature of the Company's ongoing discussions with Rio Tinto with respect to future funding plans and requirements (including as contemplated by the MoU) as well as the commencement and conclusion of the arbitration proceedings, including the potential benefits, timing and outcome of the arbitration proceedings. Certain important factors that could cause actual results, performance or achievements to differ materially from those in the forward-looking statements and information include, among others: copper, gold and silver price volatility; discrepancies between actual and estimated production; mineral reserves and resources and metallurgical recoveries; development plans for processing resources; public health crises such as COVID-19; matters relating to proposed exploration or expansion; mining operational and development risks, including geotechnical risks and ground conditions; litigation risks, including the outcome of the class action complaints filed against the Company; regulatory restrictions (including environmental regulatory restrictions and liability); Oyu Tolgoi LLC or the Government of Mongolia's ability to deliver a domestic power source for the Oyu Tolgoi project within the required contractual time frame; communications with local stakeholders and community relations; activities, actions or assessments, including tax assessments, by governmental authorities; events or circumstances (including strikes, blockades or similar events outside of the Company's control) that may affect the Company's ability to deliver its products in a timely manner; currency fluctuations; the speculative nature of mineral exploration; the global economic climate; dilution; share price volatility; competition; loss of key employees; cyber security incidents; additional funding requirements, including in respect of the development or construction of a long-term domestic power supply for the Oyu Tolgoi project; capital and operating costs including with respect to the development of additional deposits and processing facilities; and defective title to mineral claims or property. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements and information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. All such forward-looking statements and information are based on certain assumptions and analyses made by the Company's management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believes are reasonable and appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements or information.

With respect to forward-looking information concerning the continued operation and development of Oyu Tolgoi, the Company has based its assumptions and analyses on certain factors which are inherently uncertain. Uncertainties and assumptions include, among others: the timing and cost of the construction and expansion of mining and processing facilities; the timing and availability of a long-term domestic power source (or the availability of financing for the Company or the Government of Mongolia to construct such a source) for Oyu Tolgoi; the ability to secure and draw down on the supplemental debt under the Oyu Tolgoi project financing facility and the availability of additional financing on terms reasonably acceptable to Oyu Tolgoi LLC, Rio Tinto and the Company to further develop Oyu Tolgoi as well as the status and nature of the Company's ongoing discussions with Rio Tinto with respect to future funding plans and requirements (including as contemplated by the MoU); the status and nature of the Company's relationship and interaction with the Government of Mongolia on the continued operation and development of Oyu Tolgoi and Oyu Tolgoi LLC internal governance (including the outcome of any such interactions or discussions); the willingness and ability of the parties to the Underground Plan to amend or replace the Underground Plan; the nature and quantum of the current and projected economic benefits to Mongolia resulting from the continued operation of Oyu Tolgoi; the criteria to be applied before commencing the undercutting process, and the ability of the Company to negotiate and finalize the undercut criteria and commence the undercutting process; the expected timing of the undercut and the potential for delays (which could materially adversely affect the timing of expected cash flows from the Oyu Tolgoi underground project and increase the amount of the expected incremental funding requirement); the potential impact of COVID-19; the impact of changes in, changes in interpretation to or changes in enforcement of, laws, regulations and government practices in Mongolia; the availability and cost of skilled labour and transportation; the obtaining of (and the terms and timing of obtaining) necessary environmental and other government approvals, consents and permits; delays, and the costs which would result from delays, in the development of the underground mine (which could significantly exceed the costs projected in OTTR20); projected copper, gold and silver prices and their market demand; and production estimates and the anticipated yearly production of copper, gold and silver at Oyu Tolgoi.

The cost, timing and complexities of mine construction and development are increased by the remote location of a property such as Oyu Tolgoi. It is common in mining operations and in the development or expansion of existing facilities to experience unexpected problems and delays during development, construction and mine start-up. Additionally, although Oyu Tolgoi has achieved commercial production, there is no assurance that future development activities will result in profitable mining operations.



Readers are cautioned not to place undue reliance on forward-looking information or statements. By their nature, forward-looking statements involve numerous assumptions, inherent risks and uncertainties, both general and specific, which contribute to the possibility that the predicted outcomes will not occur. Events or circumstances could cause the Company's actual results to differ materially from those estimated or projected and expressed in, or implied by, these forward-looking statements. Important factors that could cause actual results to differ from these forward-looking statements are included in the "Risk Factors" section in Company's annual information form for the year ended December 31, 2019 ("AIF"), as supplemented by the "Risks and Uncertainties" section of the Company's third quarter 2020 management's discussion and analysis dated September 30, 2020 ("MD&A").

Readers are further cautioned that the list of factors enumerated in the "Risk Factors" section of the AIF and in the "Risks and Uncertainties" section of the Company's MD&A that may affect future results is not exhaustive. When relying on the Company's forward-looking statements and information to make decisions with respect to the Company, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Furthermore, the forward-looking statements and information contained herein are made as of the date of this document and the Company does not undertake any obligation to update or to revise any of the included forward-looking statements or information, whether as a result of new information, future events or otherwise, except as required by applicable law. The forward-looking statements and information contained herein are expressly qualified by this cautionary statement.