



Turquoise Hill announces second quarter 2019 production results and provides underground development update

Turquoise Hill today announced second quarter 2019 production for Oyu Tolgoi and provided an update on underground development.

Highlights:

- Copper production of 39,156 tonnes, a decrease of 0.6% vs Q2 2018
- Gold production of 71,825 ounces, an increase of 43.7% vs Q2 2018
- Mill throughput increased 2.3% year over year and 12.3% sequentially

The transition from mining Phase 4A to Phase 4B and stockpiles resulted in:

- Lower copper head grade of 0.46% vs 0.57% Q1 2019
- Lower gold head grade of 0.31g/t vs 0.58g/t Q1 2019
- Concentrate production decreased 14% vs Q1 2019
- Copper production decreased 14.6% vs Q1 2019
- Gold production decreased 40% vs Q1 2019

Copper and gold grades are expected to decline over the remainder of the year as Oyu Tolgoi processes a higher proportion of Phase 4B and Phase 6 ore, but the company is well positioned to meet its 2019 copper and gold production guidance.

The focus for the construction team remains completing Shaft 2, where works are progressing. Rope up preparation is well advanced and related work is expected to commence in July. The commissioning of Shaft 2 remains on track for October. Other critical infrastructure components such as the control room facility and the jaw crusher system are now complete and construction on shafts 3 and 4 is progressing well.

By implementing productivity improvements, the underground mining team achieved a record performance of over 1,000 metres of lateral development in June. Record monthly development was also achieved in June in the convey-to-surface decline as a result of excellent productivity in improved ground conditions.

Ulf Quellmann, Chief Executive Officer of Turquoise Hill stated, "In addition to the solid second quarter operational performance, we have also made good progress towards the completion of the definitive estimate. Working with Rio Tinto, we have identified a number of mine designs to address the stability risks associated with the original design, and continue to assess the impact on the cost and schedule of the project. Oyu Tolgoi is a world-class ore body with a very long life of mine. Developing the right new mine plan is essential in delivering maximum value for Turquoise Hill's shareholders."



Underground Development Update

Turquoise Hill, in conjunction with Rio Tinto, continues to review mine design options for the completion of the underground development of the Oyu Tolgoi mine and assess the impact on overall cost and schedule for the underground development. As previously disclosed in connection with Turquoise Hill's project development update on February 26, 2019, this review will result in a revised development plan reflecting appropriate risk reduction efforts.

Improved rock mass information and geotechnical data modelling has confirmed that there are stability risks associated with components of the existing mine design. Therefore, to address these risks, a number of mine design options are under consideration to complete the project. These options include assessment of the impact of the mid-access drives, location of the on-footprint components of the ore handling system, the sequence of crossing the panel boundaries during mining operations, and an option that alters the panel boundary approach and would leave temporary pillars in ore that would then be recovered later in the mine life, sub-blocking the previously planned three panels into five panels.

A number of options are being evaluated to determine the final design of "Panel 0," and this work is anticipated to continue into early 2020. Given the further technical work that is needed, the definitive estimate review is now expected to be delivered in the second half of 2020, reflecting the preferred mine design approach.

All options under consideration present a clear pathway to sustainable first production, albeit with different cost and schedule implications. To date, these have been defined to a level of accuracy associated with a conceptual study or order of magnitude study; therefore, significantly more work is required to complete the final assessment.

Based on these options, preliminary estimates indicate that sustainable first production could be delayed by 16 to 30 months compared to the original feasibility study guidance in 2016. This range includes contingency of up to eight months¹ reflecting the unexpected and challenging geotechnical issues, complexities in the construction of Shaft 2, and reflects the detailed work still required to reach a more precise estimate. The development capital spend for the project may increase by \$1.2 to \$1.9 billion over the \$5.3 billion previously disclosed. This results in sustainable first production now being expected between May 2022 and June 2023. These ranges incorporate a range of productivity assumptions, with optimization work at site and technical review guiding the final inputs into the definitive estimate review. Although further work is necessary to reach definitive conclusions, Turquoise Hill is assessing the carrying value of its investment in the Project and will announce any changes, along with any adjustments to deferred tax, in its Q2 results at the end of July 2019.

In addition to working closely with Rio Tinto, Turquoise Hill has engaged independent third-party consultants to provide the company with insights into the planning and estimate process currently underway, as well as progress of key construction work at the mine site.

Current information indicates that Oyu Tolgoi mineral reserves will not be materially impacted by the Hugo North mine design options being considered; however, ongoing reviews will be considered as the work progresses.

The company will continue to focus on minimizing the impact to the project schedule and cost as it works through the detailed analysis and testing of each mine design option, and work continues concurrently to finalize the critical underground infrastructure and shaft construction.

Turquoise Hill will evaluate the impact of the estimated delays to sustainable first production as well as increases in underground capital expenditure on its cash flows, liquidity and financing projections, and will update the market in conjunction with the progression of the definitive estimate review.

¹ As described above, the level of accuracy of these estimates is preliminary in nature and subject to a range of variables including the timing of commissioning of Shaft 2, which is currently on track for October 2019, in line with previous guidance. The confidence level of these estimates is at a level associated with a Conceptual or Order of Magnitude Study, and further work is required between now and the second half of 2020 to refine the mine design options and study them to a level of confidence and accuracy associated with Feasibility Study quality estimates.

Oyu Tolgoi Production Data

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

	2Q 2018	3Q 2018	4Q 2018	1Q 2019	2Q 2019	1H 2019	1H 2018	Full Year 2018
Open pit material mined ('000 tonnes)	22,792	22,523	22,863	23,943	24,408	48,351	45,923	91,309
Ore treated ('000 tonnes)	10,164	9,652	9,361	9,255	10,394	19,649	19,725	38,738
Average mill head grades:								
Copper (%)	0.48	0.51	0.55	0.57	0.46	0.51	0.50	0.51
Gold (g/t)	0.26	0.38	0.56	0.58	0.31	0.44	0.25	0.36
Silver (g/t)	1.17	1.19	1.22	1.25	1.20	1.23	1.24	1.22
Concentrates produced ('000 tonnes)	178.8	179.8	189.0	210.1	180.6	390.7	356.1	724.9
Average concentrate grade (% Cu)	22.0	21.9	21.9	21.8	21.7	21.8	22.0	21.9
Production of metals in concentrates:								
Copper ('000 tonnes)	39.4	39.4	41.5	45.8	39.2	85.0	78.2	159.1
Gold ('000 ounces)	50	77	117	120	72	192	92	285
Silver ('000 ounces)	225	230	238	247	238	486	446	914
Concentrate sold ('000 tonnes)	220.0	171.9	191.4	184.9	225.3	410.3	383.1	746.4
Sales of metals in concentrates:								
Copper ('000 tonnes)	46.1	36.0	40.2	38.5	46.6	85.1	80.4	156.7
Gold ('000 ounces)	51	55	111	98	116	213	82	248
Silver ('000 ounces)	250	201	216	200	245	445	456	873
Metal recovery (%)								
Copper	79.7	80.9	84.8	83.8	80.2	82.2	79.6	81.4
Gold	59.8	64.7	71.7	70.1	63.6	68.2	57.6	65.2
Silver	58.4	62.8	67.1	63.2	59.2	61.2	56.4	60.9

Turquoise Hill will host a conference call and webcast to discuss second quarter 2019 production and the underground update on Tuesday, July 16, 2019 at 8:00am EDT / 5:00am PDT. The conference call can be accessed through the following dial-in details:

North America: 416 764 8609 | 888 390 0605

International: +1 416 764 8609

[Online webcast link](#)

Contact

Investors and Media

Roy McDowall

+ 1 514-848-1506

Roy.mcdowall@turquoisehill.com

Follow us on Twitter @TurquoiseHillRe



Forward-looking statements

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, information regarding the timing and amount of 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, liquidity, funding requirements and planning, and statements regarding timing and status of underground development, the development options under consideration for the design of Panel O and the related cost and schedule implications, timing and status of the Tavan Tolgoi-based power project, capital and operating cost estimates, timing of completion of the definitive estimate review, mill throughput, 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 and projected gold, copper and silver grades, anticipated capital and operating costs, anticipated future production and cash flows, the anticipated location of certain infrastructure and sequence of mining in Panel O and the status 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.

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; the outcome of the definitive estimate review; matters relating to proposed exploration or expansion; mining operational and development risks, including geotechnical risks and ground conditions; litigation risks; regulatory restrictions (including environmental regulatory restrictions and liability); Oyu Tolgoi LLC'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, blockages 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 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.

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 the Company's Annual Information Form dated as of March 13, 2019 in respect of the year ended December 31, 2018 (the "AIF") as supplemented by our Management's Discussion and Analysis of Financial Condition and Results of Operations for the three months ended March 31, 2019 (MD&A).

Readers are further cautioned that the list of factors enumerated in the "Risk Factors" section of the AIF and in the 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.