
Turquoise Hill announces financial results and review of operations for 2019

Turquoise Hill Resources today announced its financial results for the year ended December 31, 2019. All figures are in U.S. dollars unless otherwise stated.

“For 2019, the Oyu Tolgoi mine recorded another year of excellent operational results, and record industry-leading safety performance,” stated Ulf Quellmann, Turquoise Hill’s Chief Executive Officer. “Our team at Oyu Tolgoi continues to maximize our production efficiencies, which resulted in our full year copper production to fall within our original guidance, and our gold production exceeding our original targets. In addition, the mill throughput achieved its fourth year in a row of operating at above name-plate capacity.”

“2019 was also a pivotal year for the underground development with the completion of the above-ground infrastructure and Shaft 2. Shaft 2 is a critical piece of infrastructure that allows the team to accelerate the underground development. Productivity gains in the underground development over the last five months of 2019 have shown steady improvements with December achieving a new record of over 1,800 meters of lateral equivalent meters.”

“Today, COVID-19 presents a pandemic on a global scale that is affecting everyone and certainly also our business. We have got measures in place including a business resilience team at Oyu Tolgoi to monitor, manage and mitigate the effects of COVID-19. At this stage, the situation is very fluid and hence we are not in a position to specify the impact on cost and schedule. In the meantime, we continue to work closely with our customers, our suppliers and the Government of Mongolia”.

Highlights

Full Year 2019

- Safety is a top priority and is critical to our continued success. The Oyu Tolgoi mine achieved another strong AIFR of 0.16 per 200,000 hours worked for the year ended December 31, 2019. AIFR steadily declined since 2013, dropping 64% from 2013 through 2019.
- Full year copper production of 146,346 tonnes vs original guidance range of 125,000 – 155,000 tonnes.
- Full year gold production of 241,840 ounces vs original guidance range of 180,000 – 220,000 ounces.
- Full year mill throughput of 40,777,225 tonnes, an increase of 5% over 2018.
- Revenue of \$1.2 billion in 2019 decreased 1.2% over 2018, impacted by lower copper production partly offset by higher gold revenue driven by a higher average annual gold price in 2019.

- Cash used in operating activities before interest and taxes was \$341.7 million, a decrease from \$363.0 million generated in 2018, primarily reflecting the impact of reduced revenue.
- For 2019, Oyu Tolgoi's cost of sales was \$2.25 per pound of copper sold (2018: \$2.25), C1 cash costs¹ were \$1.37 per pound of copper produced (2018: \$1.59) and all-in sustaining costs¹ were \$2.08 per pound of copper produced (2018: \$2.20).
- Total operating cash costs¹ of \$774.5 million for 2019 came in under the Company's revised guidance and decreased 5.2% over 2018. This decrease was due to lower freight and royalty costs driven by lower volumes of concentrate sold and lower sales revenue respectively, and lower milling costs due to lower maintenance costs. These were partly offset by higher power study costs in 2019 compared to 2018.
- Underground expansion capital for 2019 was \$1.2 billion, meeting the upper-end of the Company's revised guidance.
- At the end of December 2019, Turquoise Hill had approximately \$2.2 billion of available liquidity, split between remaining project finance proceeds of \$0.5 billion and \$1.7 billion of cash and cash equivalents. We currently expect to have enough liquidity to fund our operations and underground development into Q2 2021.
- Shaft 2 construction was completed in October 2019, and was fully commissioned in February 2020. The service hoist allows for the movement of 300 people per cage cycle, adding to the maximum of 60 people per cage cycle through Shaft 1, while the production hoist has the ability to lift 35,000 tonnes of material to surface daily.
- Construction is progressing on Shafts 3 and 4 with both collars now installed. Final preparations are now underway to enable commencement of main sinking operations for both shafts during the second quarter of 2020.
- Since the restart of underground development in June 2016, 32.9 total equivalent kilometres and 155.3 cubic kilometres of mass excavation has been completed. Mining of the primary crusher 1 excavation which is over 30,000 cubic metres in volume was completed in June 2019 and handed over for civil construction work to commence.
- Detailed analysis work on the final mine design is still anticipated to be completed during the first half of 2020, and the Definitive Estimate, which will include the estimate of cost and schedule for the underground project based on the updated design of Panel 0, is still expected to be delivered in the second half of 2020.
- In May 2019, the Parliamentary Working Group (PWG) concluded and submitted its report to the Economic Standing Committee. From the report, a Resolution was put forward by the PWG and passed unanimously in a plenary session of the Parliament of Mongolia on November 21, 2019 and published on December 6, 2019.
- The Tavan Tolgoi Power Plant (TTPP) Feasibility Study was submitted to the Government of Mongolia on February 17, 2020 by Oyu Tolgoi LLC. The study is based on a 300 MW coal fired power plant to be located at the Tavan Tolgoi coal fields approximately 150 kilometres from Oyu Tolgoi.

¹ Please refer to Section – NON-GAAP MEASURES – on page 18 of this press release for further information.

- In February 2020, the Company announced that Oyu Tolgoi LLC has been unable to reach a resolution of its dispute with the Mongolian Tax Authority with respect to its tax assessment, and will be proceeding with the initiation of a formal international arbitration proceeding in accordance with the dispute resolution provisions of the Investment Agreement and the Underground Plan.
- In March 2020, the Company announced that following the first positive test for COVID-19 in Mongolia, the Government of Mongolia increased its restrictions on flights in and out of the country and on the movement of goods and people within and across its borders. The Company announced there would be a slowdown on the underground project, the full impact of which is unknown at this time. The Company will update the market once more information is available.

Fourth quarter 2019

- Copper production in Q4'19 of 32,906 tonnes was lower compared to Q4'18 due to decreased head grade driven by the transition from Phases 4A and 6A, to Phase 4B, Phase 6B and lower grade stockpiles. As anticipated gold production in Q4'19 of 24,344 ounces was significantly lower compared to Q4'18 due to the planned transition from Phase 4A to the lower grade sources of Phase 4B and stockpiles.
- In Q4'19, mill throughput was higher than the same quarter of 2018 due to overall feed hardness being lower as a result of increased Phase 4B ore and Phase 6B ore, as well as lower grade stockpiles material feed in blending. Mill availability and equipment utilization were higher in Q4'19 than the same period of 2018.
- Shaft 2 construction was completed in October 2019 and the fully certified state commissioning certificate for Shaft 2 being received on February 19, 2020.
- Work advanced at Shaft 4 with the sinking stage installed into the shaft barrel and headframe modules installed. Work on the commissioning of the headframe and winder buildings is well advanced ahead of the commencement of sinking in the second quarter of 2020. At Shaft 3, we completed the construction of the sinking gantry and it was placed into the shaft during the first week of January 2020. Headframe module placement has commenced.
- A decision was made in Q4 to retain a mid-access drive only on the apex level of the mine design of Panel 0 (P0). This is one of a number of integral decision points in narrowing options to complete the final P0 mine design, however it is too early to accurately determine the potential impact on the overall cost or schedule. Recent work, including the mid-access drive decision, indicates that the schedule delay is within the 16 to 30 months range but is trending away from the lower end.
- Productivity improvements resulted in increased underground lateral development rates during the fourth quarter, with an average rate of 1,607 equivalent metres (eqm) per month compared to 1,214 eqm in the third quarter, with December seeing a record 1,809 eqm.
- Revenue of \$221.4 million in Q4'19 decreased 36.0% from \$346.2 million in Q4'18, primarily due to both a 79.2% decrease in gold production and a 20.7% decrease in copper production, reflecting the transition from mining Phase 4A to lower grade Phase 4B and stockpiles.
- Cash used in operating activities before interest and taxes was \$42.4 million, a decrease from \$146.1 million generated in Q4'18, primarily reflecting the impact of reduced revenue.

- Cost of sales was \$2.46 per pound of copper sold, C1 cash costs² were \$2.21 per pound of copper produced, and all-in sustaining costs² were \$2.97 per pound of copper produced.
- Total operating cash costs² of \$194.6 million in Q4'19 decreased 19.7% from \$242.3 million in Q4'18. This was principally due to lower milling and mining costs due to lower maintenance costs and lower royalty costs due to lower sales revenue.
- During Q4'19 underground development spend was \$289.7 million, resulting in total project spend since January 1, 2016 of approximately \$3.5 billion.

OPERATIONAL OUTLOOK FOR 2020

Oyu Tolgoi is expected to produce 140,000 to 170,000 tonnes of copper and 120,000 to 150,000 ounces of gold in concentrates in 2020 from both the open pit and the beginning of the underground development material being processed. Although the mid-point copper production range guidance is higher in 2020 versus the 2019 guidance, a lower gold production year is expected for 2020. This is due to the need to mine through lower grade material on the periphery of the South West pit as Phase 4B sinks towards the highest gold and copper grades in the bottom of the pit. It is anticipated that the higher grade ore will be accessed in 2021, resulting in a significant increase in gold production in 2021. Mill throughput for 2020 is expected to be approximately 40 million tonnes.

Operating cash costs² for 2020 are expected to be \$800 million to \$850 million.

Capital expenditure for 2020 on a cash-basis is expected to be approximately \$80 million to \$120 million for open-pit operations and \$1.2 billion to \$1.3 billion for the underground development 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 development capital includes both expansion capital and VAT.

C1 cash costs² are expected to be in the range of \$1.80 to \$2.20 per pound of copper produced, up from 2019 guidance largely reflecting the reduced gold production estimate. Unit cost guidance assumes the midpoint of expected 2020 copper and gold production ranges and commodity assumptions of \$2.71 per pound copper and \$1,362 per ounce gold.

2021 OUTLOOK

Production in 2021 is expected to increase to a range of 170,000 to 200,000 tonnes of copper, and 450,000 to 500,000 ounces of gold, as we transition to the higher grade ore in the lower benches of the pit and continue to increase the amount of underground development material processed.

OUR BUSINESS

Turquoise Hill is an international mining company focused on the operation and continued development of the Oyu Tolgoi copper-gold mine in Mongolia, which is the Company's principal and only material mineral resource property. The Company's ownership of the Oyu Tolgoi mine is held through a 66% interest in Oyu Tolgoi LLC

² Please refer to Section – NON-GAAP MEASURES – on page 18 of this press release for further information

(Oyu Tolgoi); the remaining 34% interest is held by Erdenes Oyu Tolgoi LLC (Erdenes), a Mongolian state-owned entity.

The Oyu Tolgoi mine is located approximately 550 kilometres south of Ulaanbaatar, Mongolia's capital city, and 80 kilometres north of the Mongolia-China border. Mineralization on the property consists of porphyry-style copper, gold, silver and molybdenum contained in a linear structural trend (the Oyu Tolgoi Trend) of deposits distributed over a 12 kilometres interval of a 25 kilometres corridor of mineralization. The first of those (the Oyut deposit) was put into production as an open-pit operation in 2013. A second deposit, Hugo North (Lift One), is under development as an underground operation.

The copper concentrator plant, with related facilities and necessary infrastructure, was originally designed to process approximately 100,000 tonnes of ore per day from the Oyut open pit. However, since 2014, the concentrator has improved operating practices and gained experience, which has helped achieve a consistent throughput of over 105,000 tonnes per day. Concentrator throughput for 2020 is targeted at over 110,000 tonnes per day and expected to be approximately 40 million tonnes for the year due to improvements in concentrator performance and ore characteristics.

At the end of Q4'19, Oyu Tolgoi had a total workforce (employees and contractors), including underground project construction, of approximately 13,800, of which 93% were Mongolians.

SELECTED ANNUAL FINANCIAL INFORMATION

(\$ in millions, except per share information)

	Year Ended December 31		
	2019	2018	2017
Revenue	\$ 1,166.0	\$ 1,180.0	\$ 939.8
Income (loss) for the year	\$ (476.9)	\$ 394.3	\$ 110.9
Net income (loss) attributable to owners of Turquoise Hill	\$ (150.5)	\$ 411.2	\$ 181.2
Basic and diluted income (loss) per share attributable to owners of Turquoise Hill	\$ (0.07)	\$ 0.20	\$ 0.09
Total assets	\$ 12,822.4	\$ 13,312.0	\$ 12,833.3
Long-term liabilities			
Borrowings and other financial liabilities	\$ 4,187.3	\$ 4,187.3	\$ 4,159.1
Decommissioning obligations	\$ 104.2	\$ 131.6	\$ 125.7
Deferred income tax liabilities	\$ 79.2	\$ 47.9	\$ 25.8

Note: Annual financial information has been extracted from the audited financial statements of Turquoise Hill, which are prepared in accordance with IFRS.

SELECTED FINANCIAL METRICS ⁽¹⁾

	4Q 2019	4Q 2018	Change	12 months 2019	12 months 2018	Change
Revenue	221.4	346.2	-36.0%	1,166.0	1,180.0	-1.2%
Income (loss) for the period	109.5	95.0	--	(476.9)	394.3	--
Income (loss) attributable to owners of Turquoise Hill	113.1	101.0	--	(150.5)	411.2	--
Basic and diluted income (loss) per share attributable to owners of Turquoise Hill	0.06	0.05	--	-0.07	0.20	--
Revenue by metals in concentrates						
Copper	178.1	210.3	-15.3%	787.8	866.5	-9.1%
Gold	40.1	132.7	-69.8%	365.0	300.4	21.5%
Silver	3.2	3.0	6.7%	13.2	13.1	0.8%
Cost of sales	175.0	187.7	-6.8%	743.0	777.2	-4.4%
Production and delivery costs	125.2	143.3	-12.6%	559.1	568.0	-1.6%
Depreciation and depletion	49.8	44.6	11.7%	183.9	209.5	-12.2%
Capital expenditure on cash basis	318.6	371.8	-14.3%	1,308.1	1,304.3	0.3%
Underground	289.7	347.3	-16.6%	1,174.9	1,213.8	-3.2%
Open pit ⁽²⁾	28.9	24.5	18.0%	133.2	90.5	47.2%
Royalties	12.5	20.1	-37.8%	64.0	70.8	-9.6%
Operating cash costs ⁽³⁾	194.6	242.3	-19.7%	774.5	817.0	-5.2%
Unit costs (\$)						
Cost of sales (per pound of copper sold)	2.46	2.12	16.0%	2.25	2.25	0.0%
C1 (per pound of copper produced) ⁽³⁾	2.21	1.24	78.2%	1.37	1.59	-13.8%
All-in sustaining (per pound of copper produced) ⁽³⁾	2.97	2.01	47.8%	2.08	2.20	-5.5%
Mining costs (per tonne of material mined) ⁽³⁾	1.55	2.28	-31.9%	1.88	2.13	-11.7%
Milling costs (per tonne of ore treated) ⁽³⁾	5.01	6.82	-26.6%	6.48	7.11	-8.9%
G&A costs (per tonne of ore treated)	3.49	4.55	-23.2%	3.30	3.03	9.1%
Cash generated from (used in) operating activities	(153.6)	36.0	-526.7%	(11.7)	180.0	-106.5%
Cash generated from operating activities before interest and tax	42.4	146.1	-71.0%	341.7	363.0	-5.9%
Interest paid	206.6	130.5	58.3%	427.5	261.4	63.5%
Total assets	12,822	13,312	-3.7%	12,822	13,312	-3.7%
Total non-current financial liabilities	4,371	4,367	0.1%	4,371	4,367	0.1%

⁽¹⁾ Any financial information in this MD&A should be reviewed in conjunction with the Company's consolidated financial statements or condensed interim consolidated financial statements for the reporting periods indicated.

⁽²⁾ Open-pit capital expenditure includes both sustaining and non-underground development activities.

⁽³⁾ Please refer to NON-GAAP MEASURES – on page 18 of this press release for further information.

2019 versus 2018

- Revenue of \$1,166.0 million in 2019 decreased 1.2% compared to \$1,180.0 million in 2018, primarily due to the 9.1% decrease in copper revenue, driven by the 8% decrease in copper production, reflecting the transition from mining Phase 4A to lower grade Phase 4B and stockpiles. This was partly offset by higher gold revenue driven by a 9.9% increase in average annual gold price from 2018 to 2019.
- Loss for 2019 was \$476.9 million compared with income of \$394.3 million in 2018. This \$0.9 billion differential was primarily due to the \$0.6 billion impairment charge recorded in Q2'19 together with \$0.3 billion of additional deferred tax assets that were recognized in 2018 compared to 2019. Both items were

impacted by the Company's update on the Oyu Tolgoi underground project on July 15, 2019, wherein the Company disclosed a projected increase in underground development capital ranging between \$1.2 billion and \$1.9 billion over the \$5.3 billion previously disclosed in addition to a range of possible further delays to sustainable first production (now expected between May 2022 and June 2023). Recent work, including the mid-access drive decision, indicates that the schedule delay is within the 16 to 30 months range but is trending away from the lower end.

- Cost of sales in 2019 was \$743.0 million compared to \$777.2 million in 2018, reflecting a 2.9% decrease in the volumes of concentrates sold together with the impact of reduced depreciation and depletion due to certain long-lived assets reaching the end of their depreciable lives during 2018. This was partly offset by a higher unit cost of production due to lower head grades and recoveries.
- Capital expenditure on a cash basis for 2019 was \$1,308.1 million compared to \$1,304.3 million in 2018, comprising amounts attributed to the underground project and open-pit activities of \$1,174.9 million and \$133.2 million, respectively. Open-pit capital expenditure includes deferred stripping of \$48.0 million and tailings storage facility spending of \$24.9 million.
- Total operating cash costs³ of \$774.5 million for 2019 decreased 5.2% over 2018 due to lower freight and royalty costs driven by lower volumes of concentrate sold and lower sales revenue respectively, and lower milling costs due to lower maintenance costs. These were partly offset by higher power study costs in 2019 compared to 2018.
- Cost of sales were \$2.25 per pound of copper sold in 2019, consistent with \$2.25 per pound of copper sold in 2018 reflecting lower volumes of metals in concentrate sold offset by higher unit cost of production due to lower head grades and recoveries.
- Oyu Tolgoi's C1 cash costs³ in 2019 were \$1.37 per pound of copper produced, a decrease from \$1.59 per pound of copper produced in 2018, and are presented net of revenues from gold and silver sales. The decrease was mainly due to higher gold and silver credits driven by the 21.5% increase in gold sales revenue from 2018. This also led to the 2019 C1 cash costs³ of \$1.37 per pound of copper produced coming in under the previous guidance range of \$1.50 to \$1.70 per pound of copper produced.
- All-in sustaining costs³ in 2019 were \$2.08 per pound of copper produced, compared with \$2.20 per pound of copper produced in 2018. The decrease was impacted by the same factors that led to the lower C1 cash costs. This was partly offset by higher major parts costs and higher other sustaining open pit capital resulting mainly from capitalized deferred stripping in 2019 driven by an increase in the proportion of waste removed.
- Mining costs³ in 2019 were \$1.88 per tonne of material mined compared with \$2.13 per tonne of material mined in 2018. The decrease was mainly due to increased material mined as well as lower maintenance costs and fuel costs.
- Milling costs³ in 2019 were \$6.48 per tonne of ore treated compared with \$7.11 per tonne of ore treated in 2018. The decrease was mainly due to increased milled ore, lower maintenance cost due to savings in major shutdown and lower consumables costs due to lower power costs.

³ Please refer to Section – NON-GAAP MEASURES – on page 18 of this press release for further information.

- G&A costs in 2019 were \$3.30 per tonne of ore treated compared with \$3.03 per tonne of ore treated in 2018. The increase was due to increased power plant study costs.
- Cash used in operating activities of \$11.7 million decreased from cash generated of \$180.0 million in 2018. This was principally due to \$166.0 additional interest paid in 2019 compared to 2018 resulting mainly from the difference in timing of payment of the completion support fee to Rio Tinto. In addition, the decrease was impacted by lower sales revenue and negative movements in working capital.

Q4'19 vs Q4'18

- Revenue of \$221.4 million decreased 36.0% from \$346.2 million primarily due to a 79.2% decrease in gold production and the 20.7% decrease in copper production. The decreased production and a 3.9% decrease in copper price was partly offset by a 17.1% increase in the average gold price in the period.
- Income for the period was \$109.5 million compared with income of \$95.0 million in Q4'18. This was primarily due to \$112.0 million higher deferred tax assets recognized in Q4'19 compared to Q4'18 partly offset by lower gross margin driven by the reduced revenue. Income attributable to owners of Turquoise Hill in Q4'19 was \$113.1 million or \$0.06 per share, compared with income of \$101.0 million or \$0.05 per share in Q4'18.
- Cost of sales of \$175.0 million decreased 6.8% from \$187.7 million in Q4'18 reflecting 17.7% lower volumes of concentrates sold partly offset by the impact of increased unit cost of sales per pound of copper sold due to decreased head grades.
- Unit cost of sales of \$2.46 per pound of copper sold increased 16.0% from \$2.12 reflecting lower average mill head grades and recoveries impacted by transitioning to the lower grade Phase 4B ore.
- Capital expenditure on a cash basis of \$318.6 million compared to \$371.8 million in Q4'18, comprised of \$289.7 million attributed to the underground project and \$28.9 million to open-pit activities.
- Total operating cash costs⁴ of \$194.6 million in Q4'19 decreased 19.7% from \$242.3 million in Q4'18. This was principally due to lower milling and mining costs due to lower maintenance costs and lower royalty costs due to lower sales revenue.
- Oyu Tolgoi's C1 cash costs⁴ of \$2.21 per pound of copper produced increased from \$1.24 primarily reflecting the impact of the 69.8% lower gold sales revenue credits in Q4'19 compared to Q4'18.
- All-in sustaining costs⁴ of \$2.97 increased 47.8% from \$2.01 in Q4'18. Similar to the C1 cash costs, the increase was primarily due to a reduction in gold revenue credits, partly offset by lower royalty costs resulting from the lower sales revenue in Q4'19 compared to Q4'18.
- Mining costs⁴ of \$1.55 per tonne of material mined decreased 31.9% from \$2.28 per tonne of material mined in Q4'18. The decrease was due to higher material mined resulting in lower cycle time and lower fuel costs as a result of mining in higher benches.
- Milling costs⁴ of \$5.01 per tonne of ore treated decreased 26.6% from \$6.82 of ore treated in Q4'18 mainly due to lower maintenance service costs and cost savings in major plant shutdowns.

⁴ Please refer to Section – NON-GAAP MEASURES – on page 18 of this press release for further information.

- G&A costs per tonne of ore treated of \$3.49 per tonne of ore treated decreased 23.2% from \$4.55 per tonne of ore treated due to lower administrative expenses partly offset by increased power study costs.
- Cash used in operating activities of \$153.6 million decreased from cash generated of \$36.0 million in Q4'18. This was principally due to \$76.1 million higher interest paid in 2019 compared to 2018 resulting mainly from the difference in timing of payment of the completion support fee to Rio Tinto. In addition, the decrease was impacted by the 36.0% decrease in sales revenue.

OYU TOLGOI

Safety performance

Underground development by its nature increases specific levels of safety risk and reinforces why safety is Oyu Tolgoi's main priority. The mine's management is committed to reducing risk and injury. Overall, in 2019 Oyu Tolgoi achieved an industry leading AIFR of 0.16 per 200,000 hours worked against a target of 0.21. Oyu Tolgoi Operations ended the year of 2019 with AIFR of 0.09 against target of 0.15, which represents the best safety performance to date. Oyu Tolgoi Underground ended the year of 2019 with AIFR of 0.21 against a target of 0.26. In addition, there are other safety metrics that are common in the mining industry, utilized by Oyu Tolgoi to continuously monitor safety performance.

COVID-19 Response

The Company is closely monitoring the impact of the COVID-19 virus on its business and operations. The Oyu Tolgoi Business Resilience Team is meeting on a daily basis and taking a considered and risk-based approach to managing our response and actions for the prevention of COVID-19. As part of a range of broader measures, we have temperature and health screenings in place, and a dedicated hotline for employees who are on or off site to call in for advice or information sharing. To assist with the battle against COVID-19, Oyu Tolgoi LLC has donated MNT100 million to the Government of Mongolia, and through the Oyu Tolgoi-sponsored Gobi Oyu Development Support Fund, we further committed MNT200 million to the Umnugobi emergency committee, and MNT10 million to the Khanbogd Emergency Commission for prevention support. We are also sharing our prevention and hygiene controls we have in place with local companies as they prepare to resume their operations and border crossings.

Key operational metrics for 2019 and Q4'19 are as follows:

Oyu Tolgoi Production Data

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

	4Q 2019	4Q 2018	Change	Full Year 2019	Full Year 2018	Change
Open pit material mined ('000 tonnes)	28,122	22,863	23.0%	101,316	91,310	11.0%
Ore treated ('000 tonnes)	11,088	9,361	18.4%	40,777	38,738	5.3%
Average mill head grades:						
Copper (%)	0.42	0.55	-23.6%	0.45	0.51	-11.8%
Gold (g/t)	0.15	0.56	-73.2%	0.29	0.36	-19.4%
Silver (g/t)	1.06	1.22	-13.1%	1.13	1.22	-7.4%
Concentrates produced ('000 tonnes)	152.6	189	-19.3%	674.6	724.9	-6.9%
Average concentrate grade (% Cu)	21.6	21.9	-1.4%	21.7	21.9	-0.9%
Production of metals in concentrates:						
Copper ('000 tonnes)	32.9	41.5	-20.7%	146.3	159.1	-8.0%
Gold ('000 ounces)	24.3	117	-79.2%	241.8	285	-15.2%
Silver ('000 ounces)	190	238	-20.2%	866.6	914	-5.2%
Concentrate sold ('000 tonnes)	157.5	191.4	-17.7%	724.7	746.4	-2.9%
Sales of metals in concentrates:						
Copper ('000 tonnes)	32.3	40.2	-19.7%	149.9	156.7	-4.3%
Gold ('000 ounces)	24.7	111	-77.7%	273.6	248	10.3%
Silver ('000 ounces)	243.6	216	12.8%	895.9	873	2.6%
Metal recovery (%)						
Copper	74.2	84.8	-12.5%	78.7	81.4	-3.3%
Gold	48.2	71.7	-32.8%	63.6	65.2	-2.5%
Silver	53.5	67.1	-20.3%	58.1	60.9	-4.6%

Underground development

As previously announced on July 15, 2019, improved information with respect to rock mass and geotechnical data modelling has confirmed that there are stability risks associated with components of the Feasibility Study 2016 mine design.

To address these risks, a number of refinements are under review to determine the final mine design, and the first of the key decisions that has been made is to retain a mid-access drive only on the apex level of the mine design of Panel 0. A mid-access drive is essentially a horizontal tunnel that cuts transversely across the mine footprint and allows development both to the north and south within the orebody and accelerates the time to first sustainable production.

Current estimates indicate that sustainable first production could be delayed by 16 to 30 months compared with the Q1'21 estimate in the original feasibility study guidance in 2016, and the development capital spend for the project may increase by \$1.2 billion to \$1.9 billion over the \$5.3 billion previously disclosed. The range of project durations under consideration influence the differences in capital costs estimated to complete the project and the increase includes Shaft 2 delay related costs. These ranges incorporate a range of productivity

assumptions. A new program of work is underway to optimize performance, while technical reviews are ongoing to guide the final inputs into an updated detailed cost estimate for the Hugo North Lift 1 development. Recent work, including the mid-access drive decision, indicates that the schedule delay is within the 16 to 30 months range but is trending away from the lower end.

Decisions regarding the sequencing of the first panel of mining, Panel 0, productivity inputs and ore pass locations continue and are expected to be completed by the first half of 2020. These will take into consideration the consequential impacts on cost, schedule and other key variables such as Mineral Reserves, project ramp-up profile and peak production together with improvements in productivity. The resulting Pre-Feasibility Study designs are being detailed to Feasibility Study standard, then scheduled and costed to form the Definitive Estimate are due in the second half of 2020. In the interim, underground development continues and we look forward to providing the market with any updates to the schedule and development capital spend.

Shaft 2 has now been successfully commissioned and the operational passport documentation has been accepted by General Agency for Specialized Inspection (GASI) as complete. First full load and full speed testing of the Production Hoist has been witnessed by GASI, and the full system has been operated to move material from the Shaft 2 jaw crusher to the surface. The first large-scale personnel movements using the Shaft 2 service cage commenced during the fourth quarter.

On December 13, 2019, the Mongolian Minister of Mining and Heavy Industry and company executives attended a celebration for the opening of Shaft 2 on site. A full trial of the Shaft 2 Production Hoist system to the Coarse Ore Stockpile was completed in December and successfully delivered approximately 20,000 tonnes of ore to the concentrator.

Shaft 2 is a 10-metre diameter shaft sunk to approximately 1.3 kilometres below the surface. The shaft uses the world's largest production hoist motor able to lift 60 tonnes and can carry 300 people in the service hoist. When operating at maximum capacity, the production hoist has the ability to lift 35,000 tonnes of material to the surface daily.

The Load out conveyor and Shaft 2 integrated materials handling system is fully commissioned. The Shaft 2 production and logistics capability is a key enabler of increased underground development and construction of critical underground infrastructure such as the Primary Crusher 1 and the material handling systems that support the start of production ramp-up.

Primary Crusher 1 civil works are ongoing, and the team has successfully poured the sixth level crusher wall and installed steel for preparation of pour seven. The Surge Bin chute and Spile Bar chute were both installed. Additional resources have been mobilised to assist with contractor management and training.

Work advanced at Shaft 4 with the sinking stage installed into the shaft barrel and headframe modules installed. Work on the commissioning of the headframe and winder buildings is well advanced ahead of the commencement of sinking in the second quarter of 2020. At Shaft 3, we completed the construction of the sinking gantry and it was placed into the shaft during the first week of January 2020. Headframe module placement has commenced.

Underground development in Q4'19 has accelerated. Focus on productivity gains on the most critical development areas over the past five months has reaped substantial improvements. Underground development progressed 4.8 total equivalent kilometres and completed 9 cubic kilometres of mass excavation during the quarter. Since the restart of underground development, 32.9 total equivalent kilometres and 155.3 cubic kilometres of mass excavation have been completed. The following table provides a breakdown of the various components of completed development (excluding conveyor declines) since project restart:



Oyu Tolgoi Underground Project Development Progress Excluding Conveyor Declines			
Year	Total Equivalent Development (Km)	Lateral Development (Km)	Mass Excavation ('000' m³)
2016	1.6	1.5	3.0
Q1'17	1.0	0.8	5.2
Q2'17	1.4	0.9	9.2
Q3'17	1.4	1.2	8.3
Q4'17	2.2	1.9	8.9
2017	6.1	4.8	31.6
Q1'18	2.6	2.1	11.6
Q2'18	2.4	2.1	8.6
Q3'18	3.0	2.1*	23.3*
Q4'18	2.3	1.6	16.0
2018	10.3	7.9	59.5
Q1'19	3.2	2.3	21.4
Q2'19	3.2	2.4	19.3
Q3'19	3.6	3.2	11.4
Q4'19	4.8	4.5	9.0
2019	14.9	12.4	61.1
Total	32.9	26.7	155.3

Notes:

Totals may not match due to rounding.

*Lateral development and mass excavation amount for Q3'18 have been updated to reflect revised results.

Oyu Tolgoi Conveyor Decline Project Development Progress			
Year	Total Equivalent Development (Km)	Lateral Development (Km)	Mass Excavation ('000' m³)
2016	0.0	0.0	0.0
Q1'17	0.1	0.1	0.0
Q2'17	0.4	0.4	0.2
Q3'17	0.9	0.9	0.5
Q4'17	0.9	0.8	0.5
2017	2.3	2.3	1.2
Q1'18	0.8	0.8	0.1
Q2'18	0.8	0.8	0.1
Q3'18	0.8	0.8	0.3
Q4'18	0.6	0.6	0.1
2018	3.0	3.0	0.6
Q1'19	0.8	0.8	0.8
Q2'19	0.9	0.9	0.8
Q3'19	0.9	0.7	4.9
Q4'19	1.1	0.7	8.3
2019	3.7	3.1	14.7
Total	9.0	8.3	16.5

Note: Totals may not match due to rounding.

Oyu Tolgoi spent \$289.7 million on underground development during Q4'19. Total underground project spend from January 1, 2016 to December 31, 2019 was approximately \$3.5 billion. Underground project spend on a cash basis includes expansion capital, VAT and capitalized management services payment and excludes capitalized interest. In addition, Oyu Tolgoi had further capital commitments⁵ of \$0.8 billion as of December 31, 2019. Since the restart of project development, Oyu Tolgoi has committed over \$3.0 billion to Mongolian vendors and contractors.

FUNDING OF OYU TOLGOI LLC BY TURQUOISE HILL

In accordance with the Amended and Restated Shareholders' Agreement dated June 8, 2011 (ARSHA), Turquoise Hill has funded Oyu Tolgoi LLC's cash requirements beyond internally generated cash flows by a combination of equity investment and shareholder debt.

For amounts funded by debt, Oyu Tolgoi LLC must repay such amounts, including accrued interest, before it can pay common share dividends. As of December 31, 2019, the aggregate outstanding balance of shareholder loans extended by subsidiaries of the Company to Oyu Tolgoi LLC was \$6.2 billion, including accrued interest of \$1.2 billion. These loans bear interest at an effective annual rate of LIBOR plus 6.5%.

In accordance with the ARSHA, a subsidiary of the Company has funded the common share investments in Oyu Tolgoi LLC on behalf of state-owned Erdenes. These funded amounts earn interest at an effective annual rate of LIBOR plus 6.5% and are repayable, by Erdenes to a subsidiary of the Company, via a pledge over Erdenes' share of Oyu Tolgoi LLC common share dividends. Erdenes also has the right to reduce the outstanding balance by making cash payments at any time. As of December 31, 2019, the cumulative amount of such funding was \$1.2 billion, representing 34% of invested common share equity, with unrecognized interest on the funding amounting to \$0.7 billion.

At the end of December 2019, Turquoise Hill has approximately \$2.2 billion of available liquidity, split between remaining project finance proceeds of \$0.5 billion, which are drawn and currently deposited with Rio Tinto, and \$1.7 billion of cash and cash equivalents. In addition, we expect to generate free cash flow at our existing open pit operations, which will also be available to help fund the underground development.

Turquoise Hill currently expects to have enough liquidity to fund its operations and underground development, including progression of the proposed Tavan Tolgoi-based power plant, into Q2 2021. Taking into consideration the estimated impacts of the announced increases to underground development capital, as well as delays to first sustainable production, the Company expects to need significant incremental financing to sustain its underground development as well as construction of the proposed Tavan Tolgoi-based power plant beyond this timeframe. The Company will have greater clarity on this incremental funding requirement as the Definitive Estimate progresses and as discussions progress with the Government of Mongolia to conclude a mutually acceptable basis on which to proceed with securing long-term domestic power supply for Oyu Tolgoi; nevertheless, current estimates indicate an incremental funding requirement, over and above the \$2.2 billion in liquidity currently available, of at least \$4.5 billion.

Turquoise Hill and Oyu Tolgoi LLC have the option to raise additional external financing, subject to required approvals, to assist in funding development going forward, including during underground commissioning and ramp up. This additional external funding, as well as any possible re-profiling of the principal repayments relating to the existing project financing facility, have not been assumed in estimating the incremental funding requirement. Further, important variables impacting the estimated incremental funding requirement include:

⁵ Please refer to Section – NON-GAAP MEASURES – on page 18 of this press release for further information.



- The amount of incremental underground development capital required;
- Whether a Tavan Tolgoi-based power plant is ultimately selected as the long-term domestic power solution for Oyu Tolgoi;
- The timing of sustainable first production and its resulting cash flows. Recent work, including the mid-access drive decision, indicates that the schedule delay range is within the 16 to 30 months previously disclosed but is trending away from the lower end of this range;
- The timing of principal repayments on amounts currently drawn under the project finance facility (for additional information see the CONTRACTUAL OBLIGATIONS section of this MD&A) as well as on-going debt service costs;
- The amount of cash flow that can be generated from open-pit operations; and
- The impact of COVID-19 on Oyu Tolgoi's open-pit operations and underground development.

As the work to complete the Definitive Estimate and to secure a long-term domestic power solution progress, Turquoise Hill continues to evaluate the impact of the estimated increases to underground capital expenditure, as well as delays to sustainable first production and the other important variables discussed above, on its cash flows, liquidity and financing projections and will update the market in due course. While the Company's funding requirements will be clarified by the ongoing work on the Definitive Estimate, which is still expected to be delivered in the second half of 2020, and by the power discussions, Turquoise Hill is well progressed in its discussions with Rio Tinto regarding its proposal for sourcing incremental interim funding to ensure the Company can progress the underground development over and above its \$2.2 billion of available liquidity.

GOVERNMENT RELATIONS

Turquoise Hill's ownership of the Oyu Tolgoi mine is held through a 66% interest in Oyu Tolgoi LLC. The remaining 34% interest in Oyu Tolgoi LLC is held by Erdenes Oyu Tolgoi LLC (Erdenes), a Mongolian state-owned entity. Turquoise Hill is obliged to fund Erdenes' share of the capital costs under the ARSHA.

Underground construction recommenced in May 2016 when Oyu Tolgoi LLC received the final requirement for the re-start of underground development: formal notice to proceed approval by the boards of Turquoise Hill, Rio Tinto (as project manager) and Oyu Tolgoi LLC. Approval followed the signing of the Oyu Tolgoi Underground Mine Development and Financing Plan (Underground Plan) in May 2015 and the signing of a \$4.4 billion project finance facility in December 2015. Development had been suspended in August 2013 pending resolution of matters with the Government of Mongolia.

Turquoise Hill's investment in the Oyu Tolgoi mine is governed by a 2009 Investment Agreement (Investment Agreement). The Investment Agreement framework was authorized by the Mongolian Parliament and was concluded after 16 months of negotiations. It was reviewed by numerous constituencies within the Government. Turquoise Hill has been operating in good faith under the terms of the Investment Agreement since 2009, and we believe not only that it is a valid and binding agreement, but that it has proven to be beneficial for all parties.

Adherence to the principles of the Investment Agreement, the ARSHA and the Underground Plan has allowed for the development of the Oyu Tolgoi mine in a manner that has given rise to significant long-term benefits to Mongolia. Benefits from the Oyu Tolgoi mine open-pit operations and underground development include, but are not limited to, employment, royalties and taxes, local procurement, economic development and sustainability investments.

Oyu Tolgoi Mine Power Supply

Oyu Tolgoi currently sources power from China's Inner Mongolian Western Grid via overhead power lines, via a back-to-back power purchase agreement with National Power Transmission Grid JSC (NPTG), the power importing entity, and the Inner Mongolian Power Company (IMPC).

Oyu Tolgoi LLC is obliged under the 2009 Oyu Tolgoi Investment Agreement to secure a long-term domestic source of power for the Oyu Tolgoi mine. The Power Source Framework Agreement (PSFA) entered into between Oyu Tolgoi LLC and the Government of Mongolia on December 31, 2018 provides a binding framework and pathway for the construction of a Tavan Tolgoi-based power solution (TTPP) for the Oyu Tolgoi mine by June 30, 2023. The power plant would be majority owned by Oyu Tolgoi LLC and situated close to the Tavan Tolgoi coal mining district located approximately 150 kilometres from the Oyu Tolgoi mine.

On February 14, 2020, Oyu Tolgoi LLC submitted the TTPP Feasibility Study to the Government of Mongolia. The Feasibility Study comprises a 300 MW coal fired power plant and extensive regional infrastructure, including a 55 kilometres water pipeline and a 126 kilometres power line. The project cost estimate for TTPP is up to \$924 million, including consideration of certain amounts yet to be finalized such as government fees, licenses and certain reimbursements per previous agreements in relation to a Tavan Tolgoi based power solution. Oyu Tolgoi LLC has made significant progress to develop a cost competitive and optimal solution for TTPP with a fully negotiated EPC contract. As agreed under the PSFA, the Feasibility Study anticipates back-up power requirements for TTPP will be provided by IMPC until such time as they can be provided within Mongolia. The TTPP project aligns with the Parliament Resolution No.73 (2018) and the government policies to develop a power plant at the Tavan Tolgoi coal fields.

There is a provision under Oyu Tolgoi LLC's existing project finance documentation that permits, subject to certain conditions, an increase of Oyu Tolgoi LLC's senior debt cap in connection with an expansion facility, such as the proposed TTPP.

The PSFA specifies target dates for milestones to be achieved through mutual cooperation between Oyu Tolgoi LLC and the Government of Mongolia; several of those milestones have now passed. In accordance with the Contingency Arrangements clause 7.4 a ii of the PSFA, on February 14, 2020 Oyu Tolgoi LLC gave notice to the Government of Mongolia and it is currently seeking a mutually acceptable pathway to proceed with securing long-term domestic power supply for Oyu Tolgoi. Under this Contingency process, the parties have two months to agree the way forward on TTPP or move forward with an alternative option thereafter. Alternative options may include an Oyu Tolgoi mine site based power plant, a primary renewables solution or grid supply.

Oyu Tolgoi tax assessment

On January 16, 2018, Turquoise Hill announced that Oyu Tolgoi had received and was evaluating a tax assessment for approximately \$155 million (which was converted from Mongolian Tugrik to U.S. dollars at the exchange rate on that date) from the Mongolian Tax Authority (MTA) relating to an audit on taxes imposed and paid by Oyu Tolgoi LLC between 2013 and 2015. In January 2018, Oyu Tolgoi paid an amount of approximately \$4.8 million to settle unpaid taxes, fines and penalties for accepted items.

On February 20, 2020, the Company announced that Oyu Tolgoi will be proceeding with the initiation of a formal international arbitration proceeding in accordance with dispute resolution provisions within Chapter 14 of the Investment Agreement entered into with the Government of Mongolia in 2009 and Chapter 8 of the Oyu Tolgoi Underground Mine Development and Financing Plan entered into with the Government of Mongolia in

2015. The dispute resolution provisions call for arbitration under the United Nations Commission on International Trade Law (UNCITRAL) seated in London before a panel of three arbitrators.

By agreeing to resolve the dispute under UNCITRAL Arbitration Rules, both parties have agreed that the arbitral award shall be final and binding on both parties and the parties shall carry out the award without delay.

The Company remains of the opinion that Oyu Tolgoi has now paid all taxes and charges required under the Investment Agreement, ARSHA, the Underground Plan and Mongolian law.

Mongolian parliamentary working group

In March 2018, the Speaker of the Mongolian Parliament appointed a Parliamentary Working Group (Working Group) that consisted of 13 Members of Parliament to review the implementation of the Investment Agreement. The Working Group established five sub-working groups consisting of representatives from government ministries, agencies, political parties, non-governmental organizations and professors, to help and support the Working Group. The Working Group was initially expected to report to the Parliament before the end of spring session in late June 2018.

On December 13, 2018, Oyu Tolgoi received a letter from the head of the Working Group confirming that the consolidated report, conclusions and recommendations of the Working Group had been finalized and was ready to be presented to the Parliament.

On March 22, 2019, the Parliamentary press office announced that the Working Group report had been submitted to the National Security Council (President, Prime Minister and Speaker of the Parliament). On May 3, 2019, a summary of the Working Group report was received by Oyu Tolgoi. On May 6, 2019, Oyu Tolgoi provided the Economic Standing Committee of the Parliament a written response to the summary of the Working Group report.

As an outcome of the hearing, a new working group of nine Members of Parliament was established to take the Working Group Report and draft resolutions directing the Cabinet on recommendations related to Oyu Tolgoi.

Upon completion of the Working Group review and its report, a resolution was submitted to the Economic Standing Committee, and subsequently passed in a plenary session of the Parliament of Mongolia on November 21, 2019. The resolution was published on December 6, 2019 and includes resolutions to take comprehensive measures to improve the implementation of the Investment Agreement and the ARSHA, to improve the Underground Plan and to explore and resolve options to have a product sharing arrangement or swap Mongolia's equity holding of 34 per cent for a special royalty. Both Turquoise Hill and Rio Tinto announced that it noted the Parliament Resolution no.92.

Anti-Corruption Authority information requests

On March 13, 2018, we announced that Oyu Tolgoi LLC received information requests from the Mongolian Anti-Corruption Authority (ACA) for information relating to Oyu Tolgoi LLC. The ACA has also conducted interviews with representatives of Oyu Tolgoi LLC in connection with its investigation. Turquoise Hill has inquired as to the status of the investigation and Oyu Tolgoi LLC has informed the Company that the investigation appears to relate primarily to possible abuses of power by certain former Government officials in relation to the Investment Agreement, and that Oyu Tolgoi LLC is complying with the ACA's requests in accordance with relevant laws. To date, neither Turquoise Hill nor Oyu Tolgoi LLC have received notice from

the ACA, or indeed from any regulator, that either company or their employees are subjects of any investigation involving the Oyu Tolgoi project.

The Investment Agreement framework was authorized by the Mongolian Parliament, concluded after 16 months of negotiations and reviewed by numerous constituencies within the Government. Turquoise Hill has been operating in good faith under the terms of the Investment Agreement since 2009, and we believe not only that it is a valid and binding agreement, but that it has proven to be beneficial for all parties.

Adherence to the principles of the Investment Agreement, the ARSHA and Underground Plan has allowed for the development of the Oyu Tolgoi mine in a manner that has given rise to significant long-term benefits to Mongolia. Benefits from the Oyu Tolgoi open-pit operations and underground development include, but are not limited to, employment, royalties and taxes, local procurement, economic development and sustainability investments.

CORPORATE ACTIVITIES

Management change

On June 3, 2019, Turquoise Hill announced the appointment of Jo-Anne Dudley as Turquoise Hill's Chief Operating Officer.

Board resignation announcement

On July 10, 2019, Turquoise Hill announced that the Company's Board of Directors had accepted the resignation of director Dr. James Gill.

Board appointment

On January 21, 2020, Turquoise Hill announced the appointment of George R. Burns to the Company's Board of Directors as an independent director.

US Trading Price Non-Compliance

On July 31, 2019, the Company received an automatic notice from the NYSE advising that the average closing price of the Common Shares had fallen below US\$1.00 for 30 consecutive trading days and that, as a result, the Common Shares no longer met the minimum US\$1.00 average closing price requirement. Under the NYSE rules, a company that fails to meet this continued listing requirement must bring its share price and average closing price above US\$1.00 by the end of the six-month period following receipt of the NYSE's notification. However, where a company has notified the NYSE that it intends to cure its minimum price deficiency by a corporate transaction requiring approval of its shareholders, it must obtain shareholder approval by no later than its next annual meeting and implement the transaction promptly thereafter, in which case the minimum price deficiency will be deemed to be cured if the share price promptly exceeds US\$1.00 and the price remains above that level for at least the following 30 consecutive trading days.

On August 28, 2019, the Company received an automatic notice from the NASDAQ advising that the minimum bid price of the Common Shares had fallen below US\$1.00 for 30 consecutive trading days and that, as a result, the Common Shares no longer met the minimum US\$1.00 bid price requirement. Under the Listing Rules of the NASDAQ, the Company had 180 calendar days to regain compliance.

On November 12, 2019, the Company announced that it expected to seek approval from Shareholders at the Meeting for a consolidation of its outstanding Common Shares. The announcement stated that the expected consolidation was intended to cure the share price non-compliance under the continued listing rules of both the NYSE and the NASDAQ.

On February 14, 2020, the Company announced that it had provided written notice to NASDAQ regarding its intention to voluntarily delist from the NASDAQ. Given that trading on the NASDAQ represented only approximately 5% of the worldwide trading volume of the Common Shares in 2019, the Company believes that the NYSE and the TSX listings provide investors with sufficient liquidity. In addition, delisting from the NASDAQ will reduce the Company's administrative costs. The NASDAQ delisting became effective on March 5, 2020.

The Company's common shares will continue to trade on the NYSE and the TSX now that the NASDAQ delisting has become effective. The delisting did not affect the Company's continuing obligation to file required reports with the U.S. Securities and Exchange Commission ("SEC") and Canadian securities regulatory authorities. The Company will comply with, and continue to be subject to, the laws of the Yukon, the jurisdiction in which the Company is incorporated, as well as applicable U.S. and Canadian securities laws and corporate governance rules applicable to Canadian publicly listed companies, including the rules of the NYSE and the TSX.

NON-GAAP MEASURES

The Company presents and refers to the following non-GAAP measures, which are not defined in IFRS. A description and calculation of each measure is given below and may differ from similarly named measures provided by other issuers. These measures are presented in order to provide investors and other stakeholders with additional understanding of performance and operations at the Oyu Tolgoi mine and are not intended to be used in isolation from, or as a replacement for, measures prepared in accordance with IFRS.

Operating cash costs

The measure of operating cash costs excludes: depreciation and depletion; exploration and evaluation; charges for asset write-down (including write-down of materials and supplies inventory) and includes management services payments to Rio Tinto and management services payments to Turquoise Hill which are eliminated in the consolidated financial statements of the Company.

C1 cash costs

C1 cash costs is a metric representing the cash cost per unit of extracting and processing the Company's principal metal product, copper, to a condition in which it may be delivered to customers net of gold and silver credits from concentrates sold. This metric is provided in order to support peer group comparability and to provide investors and other stakeholders with additional information about the underlying cash costs of Oyu Tolgoi LLC and the impact of gold and silver credits on the operations' cost structure. C1 cash costs are relevant to understanding the Company's operating profitability and ability to generate cash flow. When calculating costs associated with producing a pound of copper, the Company deducts gold and silver revenue credits as the production cost is reduced by selling these products.

All-in sustaining costs

All-in sustaining costs (AISC) is an extended cash-based cost metric providing further information on the aggregate cash, capital and overhead outlay per unit and is intended to reflect the costs of producing the Company's principal metal product, copper, in both the short term and over the life-cycle of its operations. As

a result, sustaining capital expenditure on a cash basis is included rather than depreciation. As the measure seeks to present a full cost of copper production associated with sustaining current operations, development project capital is not included. AISC allows Turquoise Hill to assess the ability of Oyu Tolgoi LLC to support sustaining capital expenditures for future production from the generation of operating cash flows.

A reconciliation of total operating cash costs, C1 cash costs and all-in sustaining costs are provided below.

	(Three Months Ended)		(Twelve Months Ended)	
	December 30, 2019	December 30, 2018	December 30, 2019	December 30, 2018
<i>C1 costs (Stated in \$'000's of dollars)</i>				
Cost of sales	175,007	187,730	742,985	777,248
Cost of sales: \$/lb of copper sold	2.46	2.12	2.25	2.25
Depreciation and depletion	(49,800)	(44,625)	(183,919)	(209,496)
Provision against carrying value of copper-gold concentrate	(40)	255	-	255
Change in inventory	11,618	17,910	(31,093)	983
Other operating expenses	52,415	85,118	221,493	234,072
Less:				
- Inventory (write-down) reversal	396	(11,886)	2,161	(14,286)
- Depreciation	(2,129)	(216)	(8,133)	(1,705)
Management services payment to Turquoise Hill	7,177	8,035	31,041	30,055
Operating cash costs	194,644	242,321	774,535	817,126
Operating cash costs: \$/lb of copper produced	2.68	2.65	2.40	2.33
Adjustments to operating cash costs	8,728	6,738	44,337	52,904
Less: Gold and silver revenues	(43,298)	(135,629)	(378,204)	(313,338)
C1 costs (\$'000)	160,074	113,430	440,668	556,692
C1 costs: \$/lb of copper produced	2.21	1.24	1.37	1.59
<i>All-in sustaining costs (Stated in \$'000's of dollars)</i>				
Corporate administration	9,500	6,287	23,443	24,370
Asset retirement expense	(99)	1,741	6,064	6,797
Royalty expenses	12,453	20,104	64,048	70,782
Ore stockpile and stores write-down (reversal)	(396)	11,886	(2,161)	14,286
Other expenses	4,921	5,809	5,984	6,771
Sustaining capex (cash basis)				
Deferred stripping (cash basis)				
Sustaining cash capital including deferred stripping	28,969	24,554	133,342	90,796
All-in sustaining costs (\$'000)	215,422	183,811	671,388	770,494
All-in sustaining costs: \$/lb of copper produced	2.97	2.01	2.08	2.20

(1) Adjustments to operating cash costs include: treatment, refining and freight differential charges less the 5% Government of Mongolia royalty and other expenses not applicable to the definition of C1 cost.

Mining costs and milling costs

Mining costs and milling costs are included within operating cash costs. Mining costs per tonne of material mined for the year ended December 31, 2019 are calculated by reference to total mining costs of \$190.2 million (2018: \$194.1 million) and total material mined of 101.3 million tonnes (2018: 91.3 million tonnes). Mining costs per tonne of material mined for the three months ended December 31, 2019 are calculated by reference to total mining costs of \$43.7 million (Q4'18: \$52.1 million) and total material mined of 28.1 million tonnes (Q4'18: 22.9 million tonnes).

Milling costs per tonne of ore treated for the year ended December 31, 2019 are calculated by reference to total milling costs of \$264.3 million (2018: \$275.2 million) and total ore treated of 40.8 million tonnes (2018: 38.7 million tonnes). Milling costs per tonne of ore treated for the three months ended December 31, 2019 are calculated by reference to total milling costs of \$55.5 million (Q4'18: \$64.1 million) and total ore treated of 11.1 million tonnes (Q4'18: 9.4 million tonnes).

Working capital

Consolidated working capital comprises those components of current assets and liabilities which support and result from the Company's ongoing running of its current operations. It is provided in order to give a quantifiable indication of the Company's short-term cash generation ability and business efficiency. As a measure linked to current operations and the sustainability of the business, the Company's definition of working capital excludes: non-trade receivables and payables; financing items; cash and cash equivalents; deferred revenue and non-current inventory.

A reconciliation of consolidated working capital to the financial statements and notes is provided below.

Working capital (Stated in \$000's of dollars)	December 31, 2019	December 31, 2018
Inventories (current)	\$ 175,719	\$ 242,970
Trade and other receivables	\$ 27,047	30,264
Trade and other payables:		
- trade payables and accrued liabilities	(389,476)	(395,883)
- payable to related parties	(65,903)	(51,490)
Consolidated working capital	\$ (252,613)	\$ (174,139)

Contractual obligations

The following section of this MD&A discloses contractual obligations in relation to the Company's lease, purchase, power and asset retirement obligations. Amounts relating to these obligations are calculated on the basis of the Company carrying out its future business activities and operations as planned at the period end. As such, contractual obligations presented in this MD&A will differ from amounts presented in the financial statements, which are prepared on the basis of minimum uncancellable commitments to pay in the event of contract termination. The MD&A presentation of contractual obligations is provided in order to give an indication of future expenditure, for the disclosed categories, arising from the Company's continuing operations and development projects.

A reconciliation of contractual obligations at December 31, 2019 to the financial statements and notes is provided below.

(Stated in \$000's of dollars)	Project Finance Facility	Purchase obligations	Power commitments	Lease liabilities	Decommissioning obligations
Commitments (MD&A)	\$ 4,348,918	\$ 769,172	\$ 404,283	\$ 21,755	\$ 212,633
Cancellable obligations (net of exit costs)		(601,627)	(172,797)	-	-
Accrued capital expenditure		(123,089)	-	-	-
Discounting and other adjustments	(156,683)	-	-	(173)	(108,395)
Financial statement amount	\$ 4,192,235	\$ 44,456	\$ 231,486	\$ 21,582	\$ 104,238

QUALIFIED PERSON

Disclosure of information of a scientific or technical nature in this MD&A in respect of the Oyu Tolgoi mine was approved by Jo-Anne Dudley (FAusIMM(CP)), Chief Operating Officer of the Company. Jo-Anne Dudley is a “qualified person” as that term is defined in National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* (“NI 43-101”).

SELECTED QUARTERLY DATA

The Company’s interim financial statements are reported under IFRS applicable to interim financial statements, including International Accounting Standard (IAS) 34 *Interim Financial Reporting*.

(\$ in millions, except per share information)

	Quarter Ended			
	Dec-31 2019	Sep-30 2019	Jun-30 2019	Mar-31 2019
Revenue	\$ 221.4	\$ 209.2	\$ 382.7	\$ 352.7
Income (loss) for the period	\$ 109.5	\$ 45.1	\$ (736.7)	\$ 105.2
Income (loss) attributable to owners of Turquoise Hill	\$ 113.1	\$ 71.7	\$ (446.5)	\$ 111.2
Basic and diluted income (loss) per share attributable to owners of Turquoise Hill	\$ 0.06	\$ 0.04	\$ (0.22)	\$ 0.06

	Quarter Ended			
	Dec-31 2018	Sep-30 2018	Jun-30 2018	Mar-31 2018
Revenue	\$ 346.2	\$ 246.5	\$ 341.7	\$ 245.6
Income for the period	\$ 95.0	\$ 15.2	\$ 204.4	\$ 79.7
Income attributable to owners of Turquoise Hill	\$ 101.0	\$ 53.2	\$ 171.3	\$ 85.7
Basic and diluted income per share attributable to owners of Turquoise Hill	\$ 0.05	\$ 0.03	\$ 0.09	\$ 0.04

Consolidated Statements of Income (Loss)

(Stated in thousands of U.S. dollars)

	Note	Year Ended December 31,	
		2019	2018
Revenue	4	\$ 1,166,014	\$ 1,180,022
Cost of sales	5	(742,985)	(777,248)
Gross margin		423,029	402,774
Operating expenses	6	(221,493)	(234,072)
Corporate administration expenses		(23,443)	(24,370)
Other income		2,714	7,119
Impairment charges	13	(596,906)	-
Income (loss) before finance items and taxes		(416,099)	151,451
Finance items			
Finance income	7	106,335	154,668
Finance costs	7	(10,021)	(52,489)
		96,314	102,179
Income (loss) from operations before taxes		\$ (319,785)	\$ 253,630
Income and other taxes	16	(157,133)	140,644
Income (loss) for the year		\$ (476,918)	\$ 394,274
Attributable to owners of Turquoise Hill Resources Ltd.		(150,457)	411,198
Attributable to owner of non-controlling interest		(326,461)	(16,924)
Income (loss) for the year		\$ (476,918)	\$ 394,274
Basic and diluted earnings (loss) per share attributable to Turquoise Hill Resources Ltd.	21	\$ (0.07)	\$ 0.20
Basic weighted average number of shares outstanding (000's)		2,012,314	2,012,314

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Comprehensive Income (Loss)

(Stated in thousands of U.S. dollars)

	Year Ended December 31,	
	2019	2018
Income (loss) for the year	\$ (476,918)	\$ 394,274
Other comprehensive loss:		
Items that will not be reclassified to income:		
Changes in the fair value of marketable securities at FVOCI	(1,657)	(2,875)
Other comprehensive loss for the year (a)	\$ (1,657)	\$ (2,875)
Total comprehensive income (loss) for the year	\$ (478,575)	\$ 391,399
Attributable to owners of Turquoise Hill	(152,114)	408,323
Attributable to owner of non-controlling interest	(326,461)	(16,924)
Total comprehensive income (loss) for the year	\$ (478,575)	\$ 391,399

(a) No tax charges and credits arose on items recognized as other comprehensive income or loss in 2019 (2018: nil).

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows

(Stated in thousands of U.S. dollars)

	Note	Year Ended December 31,	
		2019	2018
Cash generated from operating activities before interest and tax	20	\$ 341,730	\$ 363,006
Interest received		84,080	88,267
Interest paid		(427,464)	(261,431)
Income and other taxes paid		(9,998)	(9,874)
Net cash generated from (used in) operating activities		\$ (11,652)	\$ 179,968
Cash flows from investing activities			
Receivable from related party: amounts withdrawn	22	1,375,000	1,270,000
Expenditures on property, plant and equipment		(1,308,073)	(1,304,347)
Other investing cash flows		-	616
Cash generated from (used in) investing activities		\$ 66,927	\$ (33,731)
Cash flows from financing activities			
Net proceeds of project finance facility	15	1,511	13,261
Payment of project finance fees		(107)	(363)
Payment of lease liability		(7,892)	-
Cash generated from (used in) financing activities		\$ (6,488)	\$ 12,898
Effects of exchange rates on cash and cash equivalents		131	(851)
Net increase in cash and cash equivalents		\$ 48,918	\$ 158,284
Cash and cash equivalents - beginning of year		\$ 1,603,067	\$ 1,444,783
Cash and cash equivalents - end of year		1,651,985	1,603,067
Cash and cash equivalents as presented on the balance sheets		\$ 1,651,985	\$ 1,603,067

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Balance Sheets

(Stated in thousands of U.S. dollars)

	Note	December 31, 2019	December 31, 2018
Current assets			
Cash and cash equivalents	8	\$ 1,651,985	\$ 1,603,067
Inventories	9	175,719	242,970
Trade and other receivables	10	27,047	30,264
Prepaid expenses and other assets	11	99,671	30,213
Receivable from related party	12	511,284	1,620,073
		2,465,706	3,526,587
Non-current assets			
Property, plant and equipment	13	9,782,647	8,838,305
Inventories	9	28,985	18,655
Deferred income tax assets	16	534,078	649,421
Receivable from related party and other financial assets	12	10,978	279,019
		10,356,688	9,785,400
Total assets		\$ 12,822,394	\$ 13,311,987
Current liabilities			
Borrowings and other financial liabilities	15	\$ 26,547	\$ -
Trade and other payables	14	466,206	459,244
Deferred revenue		27,896	75,162
		520,649	534,406
Non-current liabilities			
Borrowings and other financial liabilities	15	4,187,270	4,187,297
Deferred income tax liabilities	16	79,180	47,934
Decommissioning obligations	17	104,238	131,565
		4,370,688	4,366,796
Total liabilities		\$ 4,891,337	\$ 4,901,202
Equity			
Share capital	18	\$ 11,432,122	\$ 11,432,122
Contributed surplus		1,558,811	1,558,264
Accumulated other comprehensive income		(813)	844
Deficit		(3,821,889)	(3,670,310)
Equity attributable to owners of Turquoise Hill		9,168,231	9,320,920
Attributable to non-controlling interest	19	(1,237,174)	(910,135)
Total equity		\$ 7,931,057	\$ 8,410,785
Total liabilities and equity		\$ 12,822,394	\$ 13,311,987

Commitments and contingencies and subsequent events (Note 23)

Subsequent events (Notes 23 and 26)

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Equity

(Stated in thousands of U.S. dollars)

Year Ended December 31, 2019	Attributable to owners of Turquoise Hill					Non-controlling Interest (Note 19)	Total equity
	Share capital	Contributed surplus	Accumulated other comprehensive income (loss)	Deficit	Total		
Opening balance	\$ 11,432,122	\$ 1,558,264	\$ 844	\$ (3,670,310)	\$ 9,320,920	\$ (910,135)	\$ 8,410,785
Impact of change in accounting policy (Note 2)	-	-	-	(1,122)	(1,122)	(578)	(1,700)
Restated opening balance	\$ 11,432,122	\$ 1,558,264	\$ 844	\$ (3,671,432)	\$ 9,319,798	\$ (910,713)	\$ 8,409,085
Loss for the year	-	-	-	(150,457)	(150,457)	(326,461)	(476,918)
Other comprehensive loss for the year	-	-	(1,657)	-	(1,657)	-	(1,657)
Employee share plans	-	547	-	-	547	-	547
Closing balance	\$ 11,432,122	\$ 1,558,811	\$ (813)	\$ (3,821,889)	\$ 9,168,231	\$ (1,237,174)	\$ 7,931,057

Year Ended December 31, 2018	Attributable to owners of Turquoise Hill					Non-controlling Interest (Note 19)	Total equity
	Share capital	Contributed surplus	Accumulated other comprehensive income (loss)	Deficit	Total		
Opening balance	\$ 11,432,122	\$ 1,558,102	\$ 3,719	\$ (4,081,508)	\$ 8,912,435	\$ (893,211)	\$ 8,019,224
Income (loss) for the year	-	-	-	411,198	411,198	(16,924)	394,274
Other comprehensive loss for the year	-	-	(2,875)	-	(2,875)	-	(2,875)
Employee share plans	-	162	-	-	162	-	162
Closing balance	\$ 11,432,122	\$ 1,558,264	\$ 844	\$ (3,670,310)	\$ 9,320,920	\$ (910,135)	\$ 8,410,785

The accompanying notes are an integral part of these consolidated financial statements.

Turquoise Hill has filed its Annual Information Form (AIF), Audited Consolidated Financial Statements and accompanying notes, as well as Management's Discussion and Analysis for the year ended December 31, 2018. These documents are available on the Turquoise Hill investor website at www.turquoisehill.com/s/investors.asp or the Canadian Securities Administrators website at www.sedar.com. Turquoise Hill has also filed its Annual Report on Form 40-F with the U.S. Securities and Exchange Commission (SEC), which is available through the SEC website at www.sec.gov/edgar.shtml. Turquoise Hill shareholders may request a printed copy of any of these documents, free of charge, from the investor contact noted below.

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About Turquoise Hill Resources

Turquoise Hill is an international mining company focused on the operation and continued development of the Oyu Tolgoi copper-gold mine in Mongolia, which is the Company's principal and only material mineral resource property. Turquoise Hill's ownership of the Oyu Tolgoi mine is held through a 66% interest in Oyu Tolgoi LLC (Oyu Tolgoi); Erdenes Oyu Tolgoi LLC (Erdenes), a Mongolian state-owned entity, holds the remaining 34% interest.

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, statements regarding timing and status of underground development, the development options under consideration for the design of Panel 0 and the related cost and schedule implications, timing and status of the Tavan Tolgoi-based power project, the expectations set out in the Tavan Tolgoi Power Plant Feasibility Study, the potential impact of COVID-19 on the Company's business, operations and financial condition, capital and operating cost estimates, timing of completion of the definitive estimate review, mill and concentrator throughput, the initiation 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 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 0, the availability and timing of required governmental and other approvals for the construction of the Tavan Tolgoi Power Plant, 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; 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; 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.

With respect to specific 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 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; 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 the 2016 Oyu Tolgoi Feasibility Study and the 2016 Oyu Tolgoi Technical



Report); 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 the Company's Annual Information Form dated as of March 18, 2020 in respect of the year ended December 31, 2019 (the "AIF") as supplemented by our Management's Discussion and Analysis of Financial Condition and Results of Operations for the year ended December 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.