



# **Turquoise Hill Resources Ltd.**

Management's Discussion and Analysis of Financial Condition  
and Results of Operations

June 30, 2018

**TURQUOISE HILL**

**Turquoise Hill Resources Ltd.**

Management's Discussion and Analysis of Financial Condition and Results of Operations  
(Stated in U.S. dollars, except where noted)

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**INTRODUCTION**

This management discussion and analysis of the financial condition and results of operations (MD&A) of Turquoise Hill Resources Ltd. should be read in conjunction with the unaudited condensed interim consolidated financial statements of Turquoise Hill Resources Ltd. and the notes thereto for the six months ended June 30, 2018. In this MD&A, unless the context otherwise dictates, a reference to the Company refers to Turquoise Hill Resources Ltd. and a reference to Turquoise Hill refers to Turquoise Hill Resources Ltd. together with its subsidiaries. Additional information about the Company, including its Annual Information Form (AIF), is available under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

References to "C\$" refer to Canadian dollars and "\$" to United States dollars.

The MD&A refers to the All Injury Frequency Rate (AIFR), which is an indicator of workplace health and safety and provides insight into an organization's efforts to protect its workforce from work-related hazards. Oyu Tolgoi's AIFR is based on 200,000 hours of work exposure.

This MD&A contains certain forward-looking statements and certain forward-looking information. Please refer to the cautionary language commencing on page 20.

**All readers of this MD&A are advised to review and consider the risk factors discussed under the heading "Risk and Uncertainties" in this MD&A commencing on page 16.**

The effective date of this MD&A is July 31, 2018.

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## **1. OVERVIEW**

### **Financial results and review of operations for second quarter 2018**

- Oyu Tolgoi achieved a strong All Injury Frequency Rate of 0.19 per 200,000 hours worked for the six months ended June 30, 2018.
- Underground development continued to progress during Q2'18 including the completion of the fully operational expanded Shaft 5 ventilation system.
- Following reduced advancement during the Shaft 5 ventilation system completion, in June 2018 a record-level of equivalent underground development was achieved with 0.9 kilometres completed.
- Since the restart of development, a total of 12.7 equivalent kilometres of lateral development has been completed.
- During Q2'18, earthworks for Shafts 3 and 4 continued.
- Underground expansion capital for 1H'18 was \$561.7 million compared to \$321.1 million in 1H'17, resulting in total project spend since January 1, 2016 of approximately \$1.6 billion.
- Production from first draw bell remains planned for mid-2020 and sustainable first production in 2021.
- During Q2'18, Oyu Tolgoi produced 39,400 tonnes of copper and 50,000 ounces of gold an increase of 1.5% and 19.0% respectively over Q1'18.
- Mill throughput for 2018 is now expected to be approximately 40 million tonnes, compared to the original expectation of 37 million tonnes, due to the positive impact of high intensity blasting.
- Revenue of \$341.7 million in Q2'18 increased 67.7% over Q2'17 reflecting significantly higher copper prices and increased concentrate sales volumes, driven by enhanced border logistics.
- For Q2'18, Oyu Tolgoi's cost of sales was \$2.36 per pound of copper sold, C1 cash costs were \$1.72 per pound of copper produced and all-in sustaining costs were \$2.42 per pound of copper produced<sup>1</sup>.
- Operating cash costs<sup>1</sup> of \$201.7 million in Q2'18 increased 23.3% over Q2'17 mainly due to higher royalty and freight costs as well as increased open-pit costs.

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<sup>1</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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**2. 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*. The following table sets forth selected unaudited quarterly financial information derived from financial information for each of the eight most recent quarters.

(\$ in millions, except per share information)

	Quarter Ended			
	Jun-30 2018	Mar-31 2018	Dec-31 2017	Sep-30 2017
Revenue	\$ 341.7	\$ 245.6	\$ 251.7	\$ 246.9
Income for the period	\$ 204.4	\$ 79.7	\$ 33.9	\$ 47.7
Income attributable to owners of Turquoise Hill	\$ 171.3	\$ 85.7	\$ 51.1	\$ 65.3
Basic and diluted income per share attributable to owners of Turquoise Hill	\$ 0.09	\$ 0.04	\$ 0.03	\$ 0.03

	Quarter Ended			
	Jun-30 2017	Mar-31 2017	Dec-31 2016	Sep-30 2016
Revenue	\$ 203.7	\$ 237.5	\$ 224.6	\$ 226.3
Income (loss) for the period	\$ (0.4)	\$ 29.7	\$ 86.8	\$ (77.8)
Income (loss) attributable to owners of Turquoise Hill	\$ 23.8	\$ 41.0	\$ 93.3	\$ (31.4)
Basic and diluted income (loss) per share attributable to owners of Turquoise Hill	\$ 0.01	\$ 0.02	\$ 0.05	\$ (0.02)

Factors necessary to understand general trends in the select unaudited quarterly financial information are summarized below.

Change in revenue over the periods presented has resulted from variable metal prices combined with changes in sales volume. Prior to the quarter ended June 30, 2018, the quarter to quarter revenues have been relatively consistent. Revenue for the quarter ended June 30, 2018 was significantly higher primarily due to increased concentrate sales volumes that benefitted from improved border logistics that enabled accumulated inventory during the Q1'18 force majeure to work its way through the system.

Income attributable to owners of Turquoise Hill in each of the consecutive quarters ended December 31, 2016 to June 30, 2018, was positively impacted by adjustments relating to the recognition of deferred tax assets of \$131.4 million, \$43.0 million, \$28.5 million, \$77.8 million, \$28.0 million, \$32.4 million and \$145.3 million respectively. Net income (loss) from continuing operations attributable to owners of Turquoise Hill followed a similar trend to revenue as described previously after excluding the effect of deferred tax recognition.

**3. REVIEW OF OPERATIONS**

Turquoise Hill is an international mining company focused on the operation and further development of the Oyu Tolgoi copper-gold mine in southern 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); the remaining 34% interest is held by Erdenes Oyu Tolgoi LLC (Erdenes), a Mongolian state-owned entity.

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Income in Q2'18 was \$204.4 million compared with a loss of \$0.4 million in Q2'17. The increase is primarily due to \$116.8 million of additional deferred tax assets recognized in Q2'18 compared to Q2'17 plus the impact of higher sales revenue.

Cash generated from operating activities in Q2'18 was \$48.4 million compared with \$44.0 million used in operating activities in Q2'17. This increase was primarily driven by higher sales revenue due to higher copper prices and increased sales volumes.

Capital expenditure on property, plant and equipment was \$318.0 million on a cash basis in Q2'18 compared to \$205.2 million in Q2'17, attributed principally to underground (\$291.2 million) with the remainder related to open-pit capital activities.

Turquoise Hill's cash and cash equivalents at June 30, 2018 were approximately \$1.5 billion.

**A. OYU TOLGOI**

The Oyu Tolgoi mine is 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 throughout this trend. They include, from south to north, the Heruga Deposit, the Oyut deposit and the Hugo Dummett deposits (Hugo South, Hugo North and Hugo North Extension).

The Oyu Tolgoi mine was initially developed as an open-pit 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 110,000 tonnes per day. This continued through 2017 with softer ores from the Central zone. Concentrator throughput for 2018 is now expected to be approximately 110,000 tonnes per day due to increased processing of harder ore from Phase 4 partially offset by the benefits of high intensity blasting.

In August 2013, development of the underground mine was suspended pending resolution of matters with the Government of Mongolia. Following 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, Oyu Tolgoi received formal notice to proceed approval by the boards of Turquoise Hill, Rio Tinto and Oyu Tolgoi LLC in May 2016, which was the final requirement for the re-start of underground development. Underground construction recommenced in May 2016.

Oyu Tolgoi is expected to be the world's third-largest copper mine at peak metal production in 2025. Copper and gold production is expected to increase by more than 340% and 150% respectively between 2018 and 2025. Average copper and gold production from 2025 to 2030 is expected to be more than 550,000 tonnes of copper and over 450,000 ounces of gold per year.

At the end of Q2'18, Oyu Tolgoi had a total workforce, including underground project construction, of more than 15,000, of which 93% were Mongolian.

**Underground development progress**

The main focus of underground development for 2018 continues to be underground lateral development, the fit out of Shaft 2, support infrastructure and the convey-to-surface decline. The Company continues to expect the first draw bell in mid-2020 and sustainable first production in 2021.

Underground lateral development was reduced during the first two months of Q2'18 partly due to the commissioning of the new Shaft 5 permanent fans and the resulting ventilation flow transition underground. However, June subsequently achieved a record-level of equivalent underground development with 0.9 kilometres developed. Progress overall during Q2'18 was 2.4 equivalent kilometres with a total of 12.7 equivalent kilometres of lateral development completed since the re-start of development. During 2018,

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underground development is expected to advance approximately 10.0 kilometres. The following table provides a breakdown of the various components of completed lateral development since project restart:

Year	Total Equivalent Kilometres	Lateral Development (kilometres)	Mass Excavation ('000 metres <sup>3</sup> )
<b>2016</b>	<b>1.6</b>	<b>1.5</b>	<b>3.0</b>
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
<b>2017</b>	<b>6.1</b>	<b>4.8</b>	<b>31.6</b>
Q1'18	2.6	2.1	11.6
Q2'18	2.4	2.1	8.6
<b>Total</b>	<b>12.7</b>	<b>10.5</b>	<b>54.8</b>

In March 2018, the Company announced the completion of Shaft 5 sinking. During Q2'18, this was followed by the installation of permanent ventilation fans and commissioning of the now fully operational expanded ventilation system.

Shaft 2 sinking was completed in January 2018. During Q2'18, stripping and bracket installation was completed while cable and pipe work commenced. Fit out of Shaft 2 is expected to occur throughout 2018. Shaft 2 is a key part of future increases in lateral development activity.

Additionally, earthworks for Shafts 3 and 4 continued during Q2'18 and the sinking package was awarded in July 2018.

The following table outlines the status of shafts for underground development as of June 30, 2018.

	Shaft 1 (early development and ventilation)	Shaft 2 (production and ventilation)	Shaft 5 (ventilation)	Shaft 3 (ventilation)	Shaft 4 (ventilation)
<b>Total Depth</b>	1,385 metres	1,284 metres	1,178 metres	1,148 metres	1,149 metres
<b>Diameter</b>	6.7 metres	10 metres	6.7 metres	10 metres	11 metres
<b>Completion</b>	2008	Q1'18	Q1'18	Expected 2021	Expected 2021
<b>Remaining</b>	Complete	Complete	Complete	Not started	Not started

During Q2'18, advancement of the convey-to-surface decline continued to progress. The convey-to-surface system is the eventual route of the full 95,000 tonne per day underground ore delivery system to the concentrator; however, it is not a critical path item for first draw bell planned in mid-2020. Expected completion of the convey-to-surface system is 2022, which will facilitate the ramp up to full production by 2027.

Also during Q2'18, the Primary Crusher 1 chamber was excavated. Eventually this chamber will hold the first 4,000 tonne per hour crusher to initially feed the Shaft 2 production system up to 30,000 tonne per day in the first part of underground ramp up.

Oyu Tolgoi spent \$291.2 million on underground expansion during Q2'18. Total underground project spend from January 1, 2016 to June 30, 2018 was approximately \$1.6 billion. In addition, Oyu Tolgoi had further capital commitments<sup>2</sup> of \$1.2 billion as of June 30, 2018. At the end of Q2'18, the underground project had committed 68% of direct project contracts and procurement packages, of which 71% were to Mongolian companies. Since the restart of project development, Oyu Tolgoi has committed almost \$1.7 billion to Mongolian vendors and contractors.

During Q4'17, Rio Tinto undertook a schedule and cost review. Rio Tinto has provided Turquoise Hill with a high-level overview of the review's outcomes, in which Rio Tinto concluded there were no material changes in project scope, cost or schedule. Following analysis of the review's conclusions, Turquoise Hill is in agreement with the findings.

<sup>2</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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**Safety performance**

Safety is a major focus throughout Oyu Tolgoi's operations and the mine's management is committed to reducing risk and injury. Oyu Tolgoi achieved a strong All Injury Frequency Rate of 0.19 per 200,000 hours worked for the six months ended June 30, 2018.

**Q2'18 open-pit operations performance**

Key financial metrics for Q2'18 are as follows:

**Oyu Tolgoi Key Financial Metrics<sup>(1)</sup>**

(\$ in millions, unless otherwise noted)	2Q 2017	3Q 2017	4Q 2017	1Q 2018	2Q 2018	1H 2018	1H 2017	Full Year 2017
Revenue	203.7	246.9	251.7	245.6	<b>341.7</b>	587.3	441.1	939.8
Revenue by metals in concentrates								
Copper	173.7	209.2	216.1	202.1	<b>273.7</b>	475.8	370.3	795.6
Gold	26.6	34.2	32.5	40.3	<b>64.1</b>	104.3	64.1	130.8
Silver	3.3	3.5	3.2	3.2	<b>4.0</b>	7.2	6.7	13.4
Cost of sales	188.9	197.8	182.7	168.9	<b>239.6</b>	408.5	383.2	763.8
Production and delivery costs	117.7	123.4	106.6	114.6	<b>174.2</b>	288.8	238.4	468.4
Depreciation and depletion	75.0	77.4	73.4	55.6	<b>64.1</b>	119.7	153.3	304.1
Capital expenditure on cash basis	205.2	234.0	330.4	285.7	<b>318.0</b>	603.8	353.0	917.5
Underground	184.7	205.6	309.0	270.5	<b>291.2</b>	561.7	321.1	835.7
Open pit <sup>(2)</sup>	20.5	28.4	21.4	15.2	<b>26.8</b>	42.0	32.0	81.8
Royalties	12.5	14.5	15.8	14.9	<b>20.3</b>	35.2	26.9	57.1
Operating cash costs <sup>(3)</sup>	163.6	161.9	217.7	176.6	<b>201.7</b>	378.4	332.0	711.6
Unit costs (\$)								
Cost of sales (per pound of copper sold)	2.30	2.43	2.32	2.23	<b>2.36</b>	2.30	2.26	2.32
C1 (per pound of copper produced) <sup>(3)</sup>	1.92	1.83	2.05	1.76	<b>1.72</b>	1.74	1.89	1.92
All-in sustaining (per pound of copper produced) <sup>(3)</sup>	2.27	2.76	2.40	2.07	<b>2.42</b>	2.25	2.21	2.39

<sup>(1)</sup> 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.

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

<sup>(3)</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

Revenue of \$341.7 million in Q2'18 increased 67.7% over Q2'17 reflecting significantly higher copper prices and increased concentrate sales volumes, driven by enhanced border logistics.

Cost of sales for Q2'18 was \$239.6 million compared to \$188.9 million in Q2'17 primarily reflecting higher volumes of concentrates sold and an increased cost of sales per pound of copper sold due to lower average mill head grades for copper in Q2'18 compared to Q2'17.

Capital expenditure on a cash basis for Q2'18 was \$318.0 million compared to \$205.2 million in Q2'17, comprising amounts attributed to the underground project and open-pit activities of \$291.2 million and \$26.8 million respectively.

Total operating cash costs<sup>3</sup> at Oyu Tolgoi was \$201.7 million in Q2'18 compared to \$163.6 million in Q2'17 mainly due to higher royalty and freight costs associated with increased sales volumes and copper prices, increased open-pit costs and lower capitalization of production phase stripping costs. Operating cash costs include the 5% royalty payable to the Government of Mongolia and exclude deferred stripping costs.

Cost of sales was \$2.36 per pound of copper sold in Q2'18 marginally higher than \$2.30 per pound of copper sold in Q2'17, reflecting lower average mill head grades for copper in Q2'18 compared to Q2'17.

<sup>3</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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Oyu Tolgoi's C1 cash costs<sup>4</sup> in Q2'18 were \$1.72 per pound of copper produced, a decrease from \$1.92 per pound of copper produced in Q2'17, due primarily to higher gold sales.

All-in sustaining costs<sup>4</sup> in Q2'18 were \$2.42 per pound of copper produced, compared with \$2.27 per pound of copper produced in Q2'17, mainly due to an increase in sustaining capital and increased royalty expenses in Q2'18 associated with higher sales revenue.

Key operational metrics for Q2'18 are as follows:

**Oyu Tolgoi Production Data**

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

	2Q 2017	3Q 2017	4Q 2017	1Q 2018	2Q 2018	1H 2018	1H 2017	Full Year 2017
Open pit material mined ('000 tonnes)	25,193	27,466	28,929	23,131	<b>22,792</b>	45,923	49,527	105,921
Ore treated ('000 tonnes)	9,637	10,615	10,838	9,561	<b>10,164</b>	19,725	19,724	41,177
Average mill head grades:								
Copper (%)	0.51	0.48	0.53	0.51	<b>0.48</b>	0.50	0.51	0.51
Gold (g/t)	0.16	0.18	0.20	0.25	<b>0.26</b>	0.25	0.15	0.17
Silver (g/t)	1.38	1.34	1.54	1.32	<b>1.17</b>	1.24	1.34	1.39
Concentrates produced ('000 tonnes)	171.0	170.0	205.4	177.3	<b>178.8</b>	356.1	347.0	722.5
Average concentrate grade (% Cu)	21.8	21.7	22.0	21.9	<b>22.0</b>	22.0	21.7	21.8
Production of metals in concentrates:								
Copper ('000 tonnes)	37.2	36.9	45.3	38.8	<b>39.4</b>	78.2	75.3	157.4
Gold ('000 ounces)	24	31	35	42	<b>50</b>	92	49	114
Silver ('000 ounces)	236	239	285	221	<b>225</b>	446	450	974
Concentrates sold ('000 tonnes)	182.0	176.6	175.5	163.1	<b>220.0</b>	383.1	372.2	724.3
Sales of metals in concentrates:								
Copper ('000 tonnes)	37.3	36.9	35.7	34.3	<b>46.1</b>	80.4	76.7	149.3
Gold ('000 ounces)	23	29	27	31	<b>51</b>	82	55	111
Silver ('000 ounces)	222	229	205	206	<b>250</b>	456	427	860
Metal recovery (%)								
Copper	74.6	73.5	78.0	79.5	<b>79.7</b>	79.6	74.7	75.4
Gold	47.7	51.2	50.5	55.0	<b>59.8</b>	57.6	48.3	49.7
Silver	53.9	52.8	53.0	54.6	<b>58.4</b>	56.4	52.9	52.9

During the second quarter, Oyu Tolgoi continued processing Phase 4A ore resulting in improved gold grades, production and recovery over Q1'18. This trend is expected for the remainder of the year. Mill throughput in Q2'18 increased 6.3% over Q1'18 due to higher utilization rates and the positive impact of high intensity blasting. Copper production in Q2'18 increased 1.5% over Q1'18 as a result of higher mill utilization rates offset by slightly lower grades from the depletion of Phase 6 ore. Gold production increased 19.0% over Q1'18 due to stronger mill utilization rates, higher grades from Phase 4A and increased recovery. Sales in Q2'18 benefited from improved logistics as inventory accumulated during the Q1'18 force majeure worked its way through the system.

**Operational outlook**

Oyu Tolgoi is expected to produce 125,000 to 155,000 tonnes of copper and 240,000 to 280,000 ounces of gold in concentrates for 2018. Open-pit operations mined Phase 6 in early 2018 and expects to mine Phase 4 throughout the year. In addition, stockpiled ore will be processed during 2018. The increased gold production relative to the 2016 technical report is due to splitting Phase 4 into two parts (4A and 4B) and bringing production forward from future years. Due to the positive impact of high intensity blasting, mill throughput for 2018 is expected to be approximately 40 million tonnes.

<sup>4</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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**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 from the Mongolian Tax Authority (the 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 \$5.0 million to settle unpaid taxes, fines and penalties for accepted items.

Following engagement with the MTA, Oyu Tolgoi was advised that the MTA could not resolve Oyu Tolgoi's objections to the tax assessment. Accordingly, on March 15, 2018, Oyu Tolgoi issued a notice of dispute to the Government of Mongolia under the 2009 Oyu Tolgoi Investment Agreement (Investment Agreement) and on April 13, 2018, Oyu Tolgoi submitted a claim to the Mongolian Administrative Court. The Administrative Court has currently suspended the processing of the case for an indefinite period based on current procedural uncertainty in relation to the tax assessment disputes. Chapter 14 of the Investment Agreement sets out a dispute resolution process. The issuance of a notice of dispute is the first step in the dispute resolution process and includes a 60-working-day negotiation period. The parties were unable to reach a resolution during the 60-working-day period; however, the parties can continue discussions in an attempt to resolve the dispute in good faith. If unsuccessful, the next step would be dispute resolution through international arbitration.

Turquoise Hill is of the opinion that Oyu Tolgoi has now paid all taxes and charges required under the Investment Agreement, the Amended and Restated Shareholders' Agreement (ARSHA), the Underground Plan and Mongolian law.

**Oyu Tolgoi power supply**

Per the Investment Agreement, Oyu Tolgoi has been exploring two domestic power options – a power plant built and operated by Oyu Tolgoi at the mine site or an independent power producer located at the Tavan Tolgoi coal field.

On May 12, 2017, Oyu Tolgoi LLC signed a new power purchase agreement (PPA) with the National Power Transmission Grid (NPTG) of Mongolia. The PPA was executed in connection with the power import arrangement between NPTG and the Inner Mongolia Power International Corporation (IMPIC). The new arrangement took effect on July 4, 2017, subsequent to the expiry of the existing IMPIC agreement, for a term of up to six years, with possibility of early cancellation after the fourth year, if a domestic power plant is commissioned earlier. The extension is essential for Oyu Tolgoi to have secure access to power while it works with the Government of Mongolia on establishing a permanent domestic power source.

On February 15, 2018, Oyu Tolgoi received notification that the Government of Mongolia (Government) had cancelled the Power Sector Cooperation Agreement (PSCA), which was signed in August 2014. The Government's cancellation, under Section 1.3 of the PSCA, indicated the Tavan Tolgoi power project was no longer a viable option. As a result of the Government's cancellation, effective February 15, 2018, long-term power for Oyu Tolgoi must be domestically sourced within four years, in accordance with the Investment Agreement. Oyu Tolgoi, Turquoise Hill and Rio Tinto are committed to fulfilling all requirements under the Investment Agreement and are continuing to evaluate all viable power options.

Subject to further agreement between the Government of Mongolia and Oyu Tolgoi, an Oyu Tolgoi-based power plant is currently the most feasible option that could deliver a domestic source of power within the shortest timeframe and continues to be progressed. A Tavan Tolgoi-based power plant remains as an important option to develop domestic power for Oyu Tolgoi. Work is underway to progress the power strategy during 2018, including further study of the Tavan Tolgoi option, while Oyu Tolgoi continues to actively engage with the Government of Mongolia in relation to this option and Oyu Tolgoi's long-term power requirements. A final decision on the outcome, cost and financing of a domestic power supply has not been concluded.

Oyu Tolgoi LLC has entered into agreements with three Chinese EPC contractors – China Machinery Engineering Corporation, Harbin Electric International Company Limited and Power Construction

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Corporation of China – as part of a competitive tender process. Each contractor has been requested to submit a bid for engineering, design and construction of a power station for Oyu Tolgoi LLC in Mongolia. The agreement entered into with each bidder provides that, where a bidder submits a conforming bid and it is not accepted by Oyu Tolgoi LLC, Oyu Tolgoi will pay \$500,000 to that bidder to offset the costs of preparing that bid and the early engineering and design work packs.

**Funding of Oyu Tolgoi by Turquoise Hill**

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

For amounts funded by debt, Oyu Tolgoi must repay such amounts, including accrued interest, before it can pay common share dividends. As of June 30, 2018, the aggregate outstanding balance of shareholder loans extended by subsidiaries of the Company to Oyu Tolgoi was \$4.3 billion, including accrued interest of \$0.5 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 on behalf of 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 common share dividends. Erdenes also has the right to reduce the outstanding balance by making cash payments at any time. As of June 30, 2018, the cumulative amount of such funding was \$1.0 billion, representing 34% of invested common share equity; unrecognized interest on the funding amounted to \$0.4 billion.

**Anti-Corruption Authority information requests**

Oyu Tolgoi LLC has received information requests from the Mongolian Anti-Corruption Authority (ACA) for information relating to Oyu Tolgoi. The ACA has also conducted interviews in connection with its investigation. Turquoise Hill has inquired as to the status of the investigation and Oyu Tolgoi has informed the Company that the investigation appears to relate primarily to possible abuses of power by certain former Government of Mongolia officials in relation to the Oyu Tolgoi Investment Agreement, and that Oyu Tolgoi is complying with the ACA's requests in accordance with relevant laws. To date, neither Turquoise Hill nor Oyu Tolgoi has 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 was authorized by the Mongolian Parliament, concluded after 16 months of negotiations and reviewed by numerous constituencies within the Mongolian 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 has allowed for the development of Oyu Tolgoi in a manner that has given rise to significant long-term benefits to Mongolia. Benefits from Oyu Tolgoi's open-pit operations and underground development include, but are not limited to, employment, royalties and taxes, local procurement, economic development and sustainability investments.

**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's fieldwork has been completed and they were due to report to Parliament before the end of spring session in late June; however, this has been delayed. Any reporting is now expected to be in the autumn session, which starts on October 1, 2018, or in an extraordinary session before then.

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**B. CORPORATE ACTIVITIES****Letter to shareholders**

On May 3, 2018, the Board of Directors of Turquoise Hill issued a letter to shareholders discussing a review undertaken by the board about matters raised by SailingStone Capital Partners LLC and provided specific actions to be taken.

**Election of directors**

The nominees set forth in the Company's management proxy circular dated March 28, 2018 were elected as directors of Turquoise Hill at the Annual Meeting of Shareholders, which took place on May 8, 2018.

**Management change**

On May 29, 2018, the Company announced the retirement of Turquoise Hill Chief Executive Officer Jeff Tygesen effective July 1, 2018. On June 27, 2018, Turquoise Hill announced that Chief Financial Officer Luke Colton had been appointed to the additional position of interim Chief Executive Officer effective July 1, 2018. On July 30, 2018, the Company announced the appointment of Ulf Quellmann as Chief Executive Officer effective August 1, 2018.

**4. INCOME AND OTHER TAXES**

The Company recorded an income statement credit of \$138.2 million for income and other taxes during the three months ended June 30, 2018, compared with a credit of \$23.8 million during the three months ended June 30, 2017. Income and other taxes include adjustments to deferred tax assets in Mongolia and Canada, in addition to withholding taxes accrued and current tax payable.

Adjustments to deferred tax assets resulted in income statement credits within income and other taxes for Q2'18 of \$145.3 million. Deferred tax assets relate to tax operating losses, accrued but unpaid interest expense and other temporary differences. Recoverability of these losses were assessed against an estimate of future taxable profits. Movements in the deferred tax assets result from period end reassessments of recoverability and include adjustments to record potential deferred tax assets not recognized in previous periods.

During Q2'18, the Company recognized additional Mongolian deferred tax assets of \$146.7 million, of which \$39.0 million was the result of additional operating losses and accrued but unpaid interest expense incurred by Oyu Tolgoi in the period. The remaining movement in the Mongolian deferred tax asset was due to an overall strengthening of taxable income forecasts driven by updated operating assumptions in mine planning during the period and improved long-term commodity price projections.

A negative effective tax rate of approximately 200% during Q2'18 arose as the Company reported income from continuing operations before tax of \$66.3 million, while recording in the same period a net income statement tax credit (inclusive of adjustments to deferred tax assets and accrued withholding taxes) of \$138.2 million.

In Q2'17, the Company recognized additional deferred tax assets of \$28.5 million. An effective tax rate of approximately 100% during Q2'17 arose as the Company reported a loss from continuing operations before tax of \$24.2 million, while recording in the same period a net income statement tax credit (inclusive of adjustments to deferred tax assets and accrued withholding taxes) of \$23.8 million.

Turquoise Hill's effective tax rate represents the income statement charge or credit for income and other taxes as a percentage of income or loss from operations before taxes. It is possible for Turquoise Hill's effective tax rate to be in excess of 100%, primarily because of different tax jurisdictions applying different tax to intercompany loan interest, and/or previously unrecognized deferred tax assets being recorded in the current period.

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Additional income statement information, including income and other taxes relating to Oyu Tolgoi and the Company's corporate operations is provided in Note 3 – Operating segment – to the condensed interim consolidated financial statements.

## 5. LIQUIDITY AND CAPITAL RESOURCES

### Cash flow

**Operating activities.** Net cash generated from operating activities was \$48.4 million in Q2'18 compared with \$44.0 million used in operating activities in Q2'17. Cash generated from operating activities before interest and tax was \$149.6 million in Q2'18 compared to \$51.5 million in Q2'17 primarily driven by higher sales revenue due to increased copper prices and sales volumes. Interest paid in Q2'18 totalled \$118.6 million compared to \$107.2 million in Q2'17, reflecting the semi-annual interest payments made on the project finance facility. Interest received in Q2'18 totalled \$20.9 million compared to \$14.3 million in Q2'17 and income and other taxes paid in Q2'18 amounted to \$3.6 million compared to \$2.6 million in Q2'17.

**Investing activities.** Cash used in investing activities totalled \$87.4 million in Q2'18, compared with cash generated from investing activities of \$35.0 million in Q2'17. Cash used in investing activities in Q2'18 of \$87.4 million reflects capital expenditure of \$318.0 million partly offset by \$230.0 million withdrawn from the Company's Cash Management Services Agreement (CMSA), with the remaining capital expenditure funded by operating cash flows and surplus cash at Oyu Tolgoi. Under the CMSA, entered into on December 15, 2015 as part of Project Finance, amounts totalling \$4.2 billion were placed with a subsidiary of Rio Tinto, during 2016. The resulting receivables, which represented substantially all of the net proceeds received on drawdown of the project finance facility in 2016, are returned to Turquoise Hill as required for purposes of Oyu Tolgoi underground mine development and financing. As of June 30, 2018, amounts totalling \$1.6 billion have been withdrawn and provided to Oyu Tolgoi.<sup>5</sup>

**Financing activities.** Cash generated from financing activities was \$4.0 million in Q2'18, compared with \$1.2 million in Q2'17, both resulting from incremental drawdowns on the Company's facility with the Export-Import Bank of the United States.

### Liquidity

As of June 30, 2018, Turquoise Hill held consolidated cash and cash equivalents of approximately \$1.5 billion (March 31, 2018: \$1.5 billion) and consolidated working capital<sup>6</sup> of negative \$142.3 million (March 31, 2018: negative \$72.5 million). The movement in working capital during Q2'18 was primarily a result of a rise in payables associated with underground development and reduced inventory levels arising from improved border logistics after the Q1'18 force majeure.

A \$4.2 billion related-party receivable with a Rio Tinto subsidiary was recorded in 2016, representing net proceeds (after settlement of withholding taxes and transaction costs) from project finance tranches drawn down before June 30, 2016 and placed with Rio Tinto in accordance with the CMSA. Turquoise Hill draws upon this related-party receivable as required in order to fund development and financing of the underground mine. As of June 30, 2018, \$1.6 billion had been re-drawn from this related-party receivable, leaving a balance of \$2.6 billion.

Turquoise Hill believes that, based on its current cash position and the net project finance proceeds available to be re-drawn from the related-party receivable, it will have sufficient funds to meet its minimum obligations, including general corporate activities, for at least the next 12 months. Consolidated working capital is expected to remain negative or below previously reported levels while expenditure on underground development continues and associated payables are recorded.

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<sup>5</sup> Please refer to Section 3.A – OYU TOLGOI – on page 6 and to Section 13 – RELATED-PARTY TRANSACTIONS – on page 17 of this MD&A.

<sup>6</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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**Capital resources**

The Company considers its capital to be share capital and third-party borrowings. To effectively manage capital requirements, the Company has in place a planning and budgeting process to help determine the funds required to ensure the Company has the appropriate liquidity to meet its operating needs.

In December 2015, Oyu Tolgoi signed the \$4.4 billion project finance facility for the purposes of developing the underground mine, of which \$4.3 billion had been drawn down at June 30, 2018. The additional \$0.1 billion is available, subject to certain conditions, under the Company's facility with the Export-Import Bank of the United States. The project finance lenders have agreed a debt cap of \$6.0 billion thus allowing the potential for an additional \$1.6 billion of supplemental debt in the future.

The Company's accumulated deficit at June 30, 2018 was \$3.8 billion compared to \$4.0 billion at March 31, 2018.

**6. SHARE CAPITAL**

As of July 31, 2018, the Company had a total of 2,012,314,469 common shares outstanding.

As of January 29, 2018, there are no longer any outstanding options in the Company's Equity Incentive Plan. As a result, the Turquoise Hill Board of Directors decided to repeal the Equity Incentive Plan on March 14, 2018.

**7. OUTLOOK**

The information below is in addition to disclosures already contained in this report regarding the Company's operations and activities.

Turquoise Hill's financial performance and its ability to advance its future operations and development plans are heavily dependent on the availability of funding, base and precious metal prices and foreign-exchange rates. Volatility in these markets continues to be high.

For further details on the Company's financing plans, please refer to Section 5 – LIQUIDITY AND CAPITAL RESOURCES – on page 13 of this MD&A.

**Copper and gold markets**

Commodity prices are a key driver of Turquoise Hill's earnings. In June 2018, copper prices eased from four-year highs ending the month at \$3.00 per pound due to a risk asset sell off and a strong U.S. dollar. The weakness in Chinese equity markets were particularly negative for copper, given the share of demand accounted for by the country. Market data suggests Chinese demand was weaker than expected in June. China's National Bureau of Statistics manufacturing Purchasing Managers Index dropped 0.4 points in June to 51.5. China's headline monthly data for May 2018 was mixed, with fixed asset investment, industrial production, retail sales and credit issuance data below consensus forecasts and the prior month. By contrast, electricity production and property growth accelerated while auto production rebounded strongly. China's power grid investment in May increased seasonally by 25% month-over-month, but year-over-year growth declined 13%. Preliminary copper and products imports in May reached one and a half year high at 475,000 tonnes, likely a consequence of strong end-user demand and a shortfall of copper units in scrap. Year to date cathode consumption is now +13% year-over-year. Concentrate imports in May were up approximately 1.6 million tonnes, bringing the year to date volume increase to 14% year-over-year. Global visible stocks decreased by approximately 30,000 tonnes month-over-month to approximately 1.3 million tonnes by the end of June seasonally due to COMEX and Chinese bonded warehouse drawdowns. Higher prices on the London Metal Exchange prices compared to COMEX were responsible for constraining cathode flows from South America, resulting in lower COMEX stocks. Gold prices touched a fresh 12-month low at \$1,238 per ounce at the end of June on a rising U.S. dollar index and looming trade tension.

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### Foreign exchange rates

Oyu Tolgoi's sales are settled in U.S. dollars and a portion of its expenses are incurred in local currencies. Short-term foreign exchange fluctuations could have an effect on Turquoise Hill's operating margins; however, in view of the proportion of locally incurred expenditures, such fluctuations are not expected to have a significant impact on Turquoise Hill's long-term financial performance.

### 8. OFF-BALANCE SHEET ARRANGEMENTS

With the exception of the Company's operating lease commitments disclosed within Section 9 – CONTRACTUAL OBLIGATIONS, during the quarter ended June 30, 2018, Turquoise Hill was not a party to any off-balance-sheet arrangements that have, or are reasonably likely to have, a significant current or future effect on the results of operations, financial condition, revenues or expenses, liquidity, capital expenditures or capital resources of the Company.

### 9. CONTRACTUAL OBLIGATIONS

The following table summarizes Turquoise Hill's contractual obligations as at June 30, 2018.<sup>7</sup>

(Stated in \$000's of dollars)	Payments Due by Period				Total
	Less than 1 year	1 - 3 years	4 - 5 years	After 5 years	
Purchase obligations <sup>(1)</sup>	\$ 973,942	\$ 167,932	\$ 22,775	\$ -	\$ 1,164,649
Power commitments	116,888	233,776	232,989	640	584,293
Operating leases	22,379	21,645	1,948	2,638	48,610
Finance leases	-	-	12,291	-	12,291
Decommissioning obligations	-	-	-	268,226	268,226
<b>Total</b>	<b>\$ 1,113,209</b>	<b>\$ 423,353</b>	<b>\$ 270,003</b>	<b>\$ 271,504</b>	<b>\$ 2,078,069</b>

<sup>(1)</sup> These amounts mainly represent various long-term contracts that include commitments for future development and operating payments for supply of engineering, equipment rentals and other arrangements.

### 10. CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in conformity with IFRS requires Turquoise Hill to establish accounting policies and to make estimates that affect both the amount and timing of the recording of assets, liabilities, revenues and expenses. Some of these estimates require judgments about matters that are inherently uncertain.

The Company's estimates identified as being critical are substantially unchanged from those disclosed in the MD&A for the year ended December 31, 2017.

### 11. RECENT ACCOUNTING PRONOUNCEMENTS

The accounting policies applied in the preparation of the condensed interim consolidated financial statements are consistent with those applied and disclosed in the Company's audited consolidated financial statements for the year ended December 31, 2017, and in conjunction with the Company's condensed interim consolidated financial statements for the three months ended March 31, 2018 which include the impact of adoption and the accounting policies applied, with regards to IFRS 9, *Financial Instruments*, and IFRS 15, *Revenue from Contracts with Customers*, both of which were effective and have been applied from January 1, 2018.

<sup>7</sup> Please refer to Section 14 – NON-GAAP MEASURES – on page 18 of this MD&A for further information.

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A number of new standards, and amendments to standards and interpretations, are not yet effective for the year ending December 31, 2018, and have not been applied in preparing the condensed interim consolidated financial statements.

The following standard may have an effect on future consolidated financial statements of the Company:

- (i) IFRS 16, *Leases*, which will replace IAS 17, *Leases*, is effective for the Company's fiscal year ending December 31, 2019 and is available for early adoption. The objective of the new standard is to report all leases on the consolidated balance sheet with the exception of short term (under 12 months) and low value leases, and to define how right to use assets and related liabilities are measured. Under the new standard, a lessee is in essence required to:
  - a. Recognize all lease assets and liabilities (including those currently classed as operating leases) on the balance sheet, initially measured at the present value of the lease payments not paid at that date;
  - b. Recognize amortization of lease assets and interest on lease liabilities in the statement of income over the lease term; and
  - c. Separate the total amount of cash paid into a principal portion (presented within financing activities) and interest (which companies can choose to present within operating or financing activities consistent with presentation of any other interest paid) in the statement of cash flows.

The Company is currently evaluating the impact of IFRS 16. Generally, it is expected that under IFRS 16, the present value of most lease commitments will be shown as a liability on the balance sheet together with an asset representing the right of use. This will include those classified as operating leases under the existing standard; information on the undiscounted amount of the Company's operating lease commitments at June 30, 2018 under IAS 17, the current lease standard, is disclosed within Note 20 of the Company's condensed interim financial statements for the three months ended June 30, 2018. In addition to the increase in assets and liabilities, the Company expects an increase in depreciation and accretion expenses and also an increase in cash generated from operating activities due to the removal of operating lease payments. Cash outflows from financing activities are expected to increase as finance lease principal payments will be treated as financing cash flows.

To date, work has focussed on the identification of the provisions of the standard that will mostly impact the Company, together with a detailed review of contracts and financial reporting impacts. This work will continue during 2018 together with embedding the new lease management software system. The Company intends to apply the modified retrospective approach and will not restate comparative amounts for the year prior to first adoption.

None of the remaining standards and amendments to standards and interpretations are expected to have a significant effect on the consolidated financial statements of the Company.

## 12. RISKS AND UNCERTAINTIES

Turquoise Hill is subject to a number of risks due to the nature of the industry in which it operates and the present state of development of its business and the foreign jurisdictions in which it carries on business. The material risks and uncertainties affecting Turquoise Hill, their potential impact, and the Company's principal risk-management strategies are substantially unchanged from those disclosed in its MD&A for the year ended December 31, 2017 and in its Annual Information Form (AIF) dated March 15, 2018 in respect of such period.

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**13. RELATED-PARTY TRANSACTIONS**

As at June 30, 2018, Rio Tinto's equity ownership in the Company was 50.8% which was unchanged from March 31, 2018. The following tables present the consolidated financial statement line items within which transactions with Rio Tinto are reported.

<b>Statements of Income</b> (Stated in \$000's of dollars)	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<b>2018</b>	2017	<b>2018</b>	2017
Operating and corporate administration expenses:				
Cost recoveries - Turquoise Hill	\$ 104	\$ 782	\$ 145	\$ 872
Management services payment (i)	(6,937)	(6,615)	(13,986)	(12,698)
Cost recoveries - Rio Tinto (ii)	(11,075)	(7,792)	(19,628)	(15,686)
Finance income:				
Cash and cash equivalents (iii)	5,121	3,290	9,024	6,074
Receivable from Rio Tinto (iv)	32,658	34,847	64,931	68,715
Finance costs:				
Completion support fee (v)	(27,087)	(27,028)	(54,162)	(54,048)
<b>Total</b>	<b>\$ (7,216)</b>	<b>\$ (2,516)</b>	<b>\$ (13,676)</b>	<b>\$ (6,771)</b>

<b>Statement of Cash Flows</b> (Stated in \$000's of dollars)	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<b>2018</b>	2017	<b>2018</b>	2017
<i>Cash generated from operating activities</i>				
Interest received (iii, iv)	\$ 16,654	\$ 12,389	\$ 32,631	\$ 23,372
Interest paid (v)	-	-	(11,918)	(12,646)
<i>Cash flows from investing activities</i>				
Receivable from related party: amounts withdrawn (iv)	230,000	240,000	550,000	270,000
Expenditures on property, plant and equipment:				
Management services payment and cost recoveries - Rio Tinto (i), (ii)	(16,060)	(12,253)	(35,872)	(19,470)

<b>Balance sheets</b> (Stated in \$000's of dollars)	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Cash and cash equivalents (iii)	\$ 741,711	\$ 741,711
Trade and other receivables	18,476	12,819
Prepaid expenses and other assets	29,242	35,736
Receivable from related party and other non-current financial assets (iv)	2,606,284	3,156,284
Trade and other payables:		
Management services payment - Rio Tinto (i)	(14,208)	(14,128)
Cost recoveries - Rio Tinto (ii)	(29,961)	(38,180)
<b>Total</b>	<b>\$ 3,351,544</b>	<b>\$ 3,894,242</b>

(i) In accordance with the ARSHA, which was signed on June 8, 2011, and other related agreements, Turquoise Hill is required to make a management services payment to Rio Tinto equal to a percentage of all capital costs and operating costs incurred by Oyu Tolgoi from March 31, 2010 onwards. After signing of the Underground Plan on May 18, 2015, the management services payment to Rio Tinto is calculated as 1.5% applied to underground development capital costs, and 3% applied to operating costs and capital related to current operations.

(ii) Rio Tinto recovers the costs of providing general corporate support services and mine management services to Turquoise Hill. Mine management services are provided by Rio Tinto in its capacity as the manager of Oyu Tolgoi.

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- (iii) In addition to placing cash and cash equivalents on deposit with banks or investing funds with other financial institutions, Turquoise Hill may deposit cash and cash equivalents with Rio Tinto in accordance with an agreed upon policy and strategy for the management of liquid resources. At June 30, 2018, cash equivalents deposited with wholly-owned subsidiaries of Rio Tinto totalled \$741.7 million, earning interest at rates equivalent to those offered by financial institutions or short-term corporate debt.
- (iv) As part of project finance, Turquoise Hill appointed 9539549 Canada Inc., a wholly owned subsidiary of Rio Tinto, as service provider to provide post-drawdown cash management services in connection with net proceeds from the project finance facility, which were placed with 9539549 Canada Inc. and shall be returned to Turquoise Hill as required for purposes of Oyu Tolgoi underground mine development and funding. Rio Tinto International Holdings Limited, a wholly-owned subsidiary of Rio Tinto, has guaranteed the obligations of the service provider under this agreement. At June 30, 2018, amounts due from 9539549 Canada Inc. totalled \$2,606.3 million, earning interest at an effective annual rate of LIBOR plus 2.45%. The interest rate reflects: interest receivable at LIBOR minus 0.05%; plus a benefit of 2.5% arising on amounts receivable from 9539549 Canada Inc. under the CMSA, which are net settled with the 2.5% completion support fee described in (v) below.
- (v) As part of the project finance agreements, Rio Tinto agreed to provide a guarantee, known as the completion support undertaking (CSU) in favour of the commercial banks and the export credit agencies. In consideration for providing the CSU, Turquoise Hill is required to pay Rio Tinto a fee equal to 2.5% of the amounts drawn under the facility. The annual completion support fee of 2.5% on amounts drawn under the facility is accounted for as a borrowing cost and included within interest expense and similar charges. The fee is settled net of a benefit arising on amounts receivable from 9539549 Canada Inc. under the CMSA described in (iv) above. The fee payment obligation will terminate on the date Rio Tinto's CSU obligations to the project lenders terminate.

## 14. 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 Oyu Tolgoi 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. It 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 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 as a result of 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 to support sustaining capital expenditures for future production from the generation of operating cash flows.

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

	Operating and unit costs			
	(Three Months Ended)		(Six Months Ended)	
	June 30, 2018	March 31, 2018	June 30, 2018	June 30, 2017
<b>C1 costs (Stated in \$000's of dollars)</b>				
Cost of sales	239,622	168,869	408,491	383,236
<b>Cost of sales: \$/lb of copper sold</b>	<b>2.36</b>	<b>2.23</b>	<b>2.30</b>	<b>2.26</b>
Depreciation and depletion	(64,086)	(55,610)	(119,696)	(153,298)
Provision against carrying value of copper-gold concentrate	(1,366)	1,366	-	8,462
Change in inventory	(30,207)	15,386	(14,821)	(13,565)
Other operating expenses	56,079	30,285	86,364	76,295
Less:				
- Inventory (write-down) reversal	(4,693)	9,994	5,301	20,062
- Depreciation	(539)	(719)	(1,258)	(1,859)
Management services payment to Turquoise Hill	6,937	7,049	13,986	12,698
<b>Operating cash costs</b>	<b>201,747</b>	<b>176,620</b>	<b>378,367</b>	<b>332,031</b>
<b>Operating cash costs: \$/lb of copper produced</b>	<b>2.32</b>	<b>2.06</b>	<b>2.19</b>	<b>2.00</b>
Adjustments to operating cash costs <sup>(1)</sup>	15,828	17,246	33,076	52,104
Less: Gold and silver revenues	(67,996)	(43,671)	(111,667)	(70,861)
<b>C1 costs (\$'000)</b>	<b>149,579</b>	<b>150,195</b>	<b>299,776</b>	<b>313,274</b>
<b>C1 costs: \$/lb of copper produced</b>	<b>1.72</b>	<b>1.76</b>	<b>1.74</b>	<b>1.89</b>
<b>All-in sustaining costs (Stated in \$000's of dollars)</b>				
Corporate administration	7,372	4,893	12,265	10,154
Asset retirement expense	1,707	1,695	3,402	3,143
Royalty expenses	20,261	14,913	35,174	26,896
Ore stockpile and stores write-down (reversal)	4,693	(9,994)	(5,301)	(20,062)
Other expenses	211	(38)	173	1,228
Sustaining cash capital including deferred stripping	26,734	15,417	42,159	32,012
<b>All-in sustaining costs (\$'000)</b>	<b>210,557</b>	<b>177,081</b>	<b>387,648</b>	<b>366,645</b>
<b>All-in sustaining costs: \$/lb of copper produced</b>	<b>2.42</b>	<b>2.07</b>	<b>2.25</b>	<b>2.21</b>

<sup>(1)</sup> 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.

**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, 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.

<b>Working capital</b> (Stated in \$000's of dollars)	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Inventories (current)	\$ 265,722	\$ 274,142
Trade and other receivables	52,539	29,089
Trade and other payables:		
- trade payables and accrued liabilities	(416,363)	(360,697)
- payable to related parties	(44,169)	(52,308)
<b>Consolidated working capital</b>	<b>\$ (142,271)</b>	<b>\$ (109,774)</b>

**Contractual obligations**

Section 9 of this MD&A discloses contractual obligations in relation to the Company's lease, purchase 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

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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 June 30, 2018 to the financial statements and notes is provided below.

(Stated in \$000's of dollars)	Purchase obligations	Power commitments	Operating leases	Finance leases	Decommissioning obligations
<b>Commitments (MD&amp;A)</b>	<b>\$ 1,164,649</b>	<b>\$ 584,293</b>	<b>\$ 48,610</b>	<b>\$ 12,291</b>	<b>\$ 268,226</b>
Cancellable obligations (net of exit costs)	(897,709)	(174,210)	-	-	-
Accrued capital expenditure	(223,995)	-	-	-	-
Discounting and other adjustments	-	-	-	-	(140,584)
<b>Financial statement amount</b>	<b>\$ 42,945</b>	<b>\$ 410,083</b>	<b>\$ 48,610</b>	<b>\$ 12,291</b>	<b>\$ 127,642</b>

## 15. INTERNAL CONTROL OVER FINANCIAL REPORTING

There were no changes in the Company's internal control over financial reporting (as such term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three months ended June 30, 2018 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

## 16. QUALIFIED PERSON

Disclosure of a scientific or technical nature in this MD&A in respect of the Oyu Tolgoi mine was prepared under the supervision of Bernard Peters, Technical Director – Mining, OreWin Pty Ltd., B. Eng. (Mining), FAusIMM (201743), and Sharron Sylvester, Technical Director – Geology, OreWin Pty Ltd., BSc (Geol.), RPGeo AIG (10125). Each of these individuals is a “qualified person” as that term is defined in NI 43-101.

## 17. CAUTIONARY STATEMENTS

### Language regarding reserves and resources

Readers are advised that NI 43-101 requires that each category of mineral reserves and mineral resources be reported separately. For detailed information related to Company Mineral Resources and Mineral Reserves, readers should refer to the AIF of the Company for the year ended December 31, 2017, and other continuous disclosure documents filed by the Company since January 1, 2018 under Turquoise Hill's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

### Note to United States investors concerning estimates of measured, indicated and inferred resources

This document has been prepared in accordance with the requirements of Canadian securities laws, which differ from the requirements of United States (U.S.) securities laws. Unless otherwise indicated, all reserve and resource estimates included in this document have been prepared in accordance with NI 43-101, and the Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for mineral resources and mineral reserves. NI 43-101 is a rule developed by the Canadian Securities Authorities that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects.

Canadian standards, including NI 43-101, differ significantly from the requirements of the SEC, and reserve and resource information contained in this document may not be comparable to similar information disclosed by U.S. companies. In particular, and without limiting the generality of the foregoing, the term “resource” does not equate to the term “reserve”. Under U.S. standards, mineralization may not be classified as a “reserve” unless the determination has been made that the mineralization could be

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economically and legally produced or extracted at the time the reserve determination is made. Among other things, all necessary permits would be required to be in hand or issuance imminent in order to classify mineralized material as reserves under the SEC standards. The SEC's disclosure standards normally do not permit the inclusion of information concerning "Measured mineral resources", "Indicated mineral resources" or "Inferred mineral resources" or other descriptions of the amount of mineralization in mineral deposits that do not constitute "reserves" by U.S. standards in documents filed with the SEC. U.S. investors should also understand that "Inferred mineral resources" have an even greater amount of uncertainty as to their existence and an even greater uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an "Inferred mineral resource" will ever be upgraded to a higher category. Under NI 43-101, estimated "Inferred mineral resources" generally may not form the basis of feasibility or pre-feasibility studies except in rare cases. Investors are cautioned not to assume that all or any part of an "Inferred mineral resource" exists or is economically or legally mineable. Disclosure of "contained pounds" or "contained ounces" of metal in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in-place tonnage and grade without reference to unit measures. The requirements of NI 43-101 for identification of "reserves" are also not the same as those of the SEC, and reserves reported by the Company in compliance with NI 43-101 may not qualify as "reserves" under SEC standards. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

**18. FORWARD-LOOKING STATEMENTS AND FORWARD-LOOKING INFORMATION**

Certain statements made herein, including statements relating to matters that are not historical facts and statements of the Company's beliefs, intentions and expectations about developments, results and events which will or may occur in the future, constitute "forward-looking information" within the meaning of applicable Canadian securities legislation and "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States *Private Securities Litigation Reform Act of 1995*. Forward-looking statements and information relate to future events or future performance, reflect current expectations or beliefs regarding future events and are typically identified by words such as "anticipate", "could", "should", "expect", "seek", "may", "intend", "likely", "plan", "estimate", "will", "believe" and similar expressions suggesting future outcomes or statements regarding an outlook. These include, but are not limited to, statements about 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, anticipated capital and operating costs, anticipated future production and cash flows, 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; matters relating to proposed exploration or expansion; mining operational and development risks; 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

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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 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.

This MD&A also contains references to estimates of mineral reserves and mineral resources. The estimation of reserves and resources is inherently uncertain and involves subjective judgments about many relevant factors. The mineral resource estimates contained in this MD&A are inclusive of mineral reserves. Further, mineral resources that are not mineral reserves do not have demonstrated economic viability. The accuracy of any such estimates is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation (including future production from Oyu Tolgoi, the anticipated tonnages and grades that will be achieved or the indicated level of recovery that will be realized), which may prove to be unreliable. There can be no assurance that these estimates will be accurate or that such mineral reserves and mineral resources can be mined or processed profitably. See the discussion under the headings "Language Regarding Reserves and Resources" and "Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Resources" in Section 17 – CAUTIONARY STATEMENTS – of this MD&A. Such estimates are, in large part, based on the following:

- Interpretations of geological data obtained from drill holes and other sampling techniques. Large scale mineral continuity and character of the deposits can be improved with additional drilling and sampling; actual mineralization or formations may be different from those predicted. It may also take many years from the initial phase of drilling before production is possible, and during that time the economic feasibility of exploiting a deposit may change. Reserve and resource estimates are materially dependent on prevailing metal prices and the cost of recovering and processing minerals at the individual mine sites. Market fluctuations in the price of metals or increases in the costs to recover metals or the actual recovery percentage of the metal(s) from the Company's mining

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projects may render mining of ore reserves uneconomic and affect the Company's operations in a materially adverse manner. Moreover, various short-term operating factors may cause a mining operation to be unprofitable in any particular accounting period;

- Assumptions relating to commodity prices and exchange rates during the expected life of production, mineralization of the area to be mined, the projected cost of mining, and the results of additional planned development work. Actual future production rates and amounts, revenues, taxes, operating expenses, environmental and regulatory compliance expenditures, development expenditures, and recovery rates may vary substantially from those assumed in the estimates. Any significant change in these assumptions, including changes that result from variances between projected and actual results, could result in material downward revision to current estimates;
- Assumptions relating to projected future metal prices. The Company uses prices reflecting market pricing projections in the financial modeling for Oyu Tolgoi which are subjective in nature. It should be expected that actual prices will be different than the prices used for such modeling (either higher or lower), and the differences could be significant; and
- Assumptions relating to the costs and availability of treatment and refining services for the metals mined from Oyu Tolgoi, which require arrangements with third parties and involve the potential for fluctuating costs to transport the metals and fluctuating costs and availability of refining services. These costs can be significantly impacted by a variety of industry-specific as well as regional and global economic factors (including, among others, those which affect commodity prices). Many of these factors are beyond the Company's control.

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 "Risks and Uncertainties" section in this MD&A.

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

[turquoisehill.com](http://turquoisehill.com)

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TRQ : TSX, NYSE & NASDAQ

Turquoise Hill is an international mining company focused on the operation and development of the Oyu Tolgoi copper-gold mine in southern Mongolia