Management's Discussion and Analysis

Second quarter ended June 30, 2019

This Management's Discussion and Analysis ("MD&A") should be read in conjunction with the unaudited condensed interim consolidated financial statements of First Quantum Minerals Ltd. ("First Quantum" or "the Company") for the three and six months ended June 30, 2019. The Company's results have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and are presented in United States dollars, with tabular amounts in millions, except where noted.

For further information on First Quantum, reference should be made to its public filings (including its most recently filed AIF) which are available on SEDAR at www.sedar.com. Information is also available on the Company's website at www.first-quantum.com. This MD&A contains forward-looking information that is subject to risk factors, see *"Cautionary statement on forward-looking information"* for further discussion. Information on risks associated with investing in the Company's securities and technical and scientific information under National Instrument 43-101 concerning the Company's material properties, including information about mineral resources and reserves, are contained in its most recently filed AIF. This MD&A has been prepared as of July 29, 2019.

SECOND QUARTER 2019 HIGHLIGHTS

Operational and Financial

- Cobre Panama achieved its first full quarter of production and dispatched the first copper concentrate shipment in June. At the end of July, a total of 42,283 contained tonnes of copper has been shipped from Cobre Panama. Project focus remains on completion of the commissioning of the processing facilities with the first secondary crusher operational in early July. Project capital expenditure is expected to be approximately $6.7 billion reflecting further capital expenditure for extra work at the Tailings Management Facility ("TMF") and to accelerate the commissioning of operations to commercial production, addressing some commissioning bottlenecks as well as additional mining fleet.

- On July 24, 2019, Kalumbila Minerals Ltd ("KML") (a subsidiary of the Company), reached a settlement agreement with the Zambia Revenue Authority ("ZRA") with respect to the assessment claim on duties. The settlement amount agreed was in line with the Company's previously disclosed expectations and no further provision is required.

- The Company achieved record quarterly copper production of 168,399 tonnes, 12% higher than the same period in 2018, including 30,896 tonnes of pre-commercial copper produced at Cobre Panama. Excluding Cobre Panama, copper production was 9% lower than the same period in 2018 due principally to lower production at Las Cruces as a result of the interruption to mining following the land slippage in January 2019.

- On July 11, 2019, Las Cruces recommenced mining activities after receiving the required regulatory approvals following the suspension of mining in January 2019 as a result of a land slippage.

- The Kansanshi smelter continued to perform well, with 351,169 dry metric tonnes ("DMT") of copper concentrate treated in the quarter and 84,505 tonnes of copper anode produced.

- Quarterly gold production of 59,647 ounces was 28% higher than 2018, reflecting Cobre Panama's pre-commercial contribution of 10,550 ounces of gold. Excluding Cobre Panama, gold production was 6% higher due to the impact of operational enhancements at Kansanshi as well as higher throughput and grade at Guelb Moghrein.

in United States dollars, tabular amounts in millions, except where noted

- Gross profit of $196 million and comparative EBITDA of $376 million were 28% and 19% lower respectively, compared to 2018, due to lower realized copper prices and the impact of the mining interruption at Las Cruces following the land slippage. Included within gross profit for the period was a $19 million gain realized by the corporate copper sales hedge program.

- Comparative earnings of $87 million ($0.13 per share), net earnings attributable to shareholders of the Company of $78 million ($0.11 per share), and cash flows from operating activities of $179 million ($0.26 per share) were achieved in the second quarter of 2019. Net earnings attributable to shareholders for the quarter were 42% lower than 2018, inclusive of $33 million in foreign exchange losses excluded from comparative earnings, which were 32% lower than those achieved in 2018.

- Copper all-in sustaining cost ("AISC") was $1.77 per lb and cash cost of copper production ("C1") was $1.32 per lb for the quarter, reflecting a $0.01 per lb and $0.04 per lb increase, respectively, compared to the same period in 2018. The increase in C1 cash cost reflects the impact of lower copper production at Las Cruces, as a result of the interruption to mining following the land slippage in January 2019, and at Kansanshi. Within AISC, this has been partially offset by lower deferred stripping costs and sustaining capital expenditure.

- On July 29, 2019, the Company declared an interim dividend of CDN$0.005 per share, in respect of the financial year ended December 31, 2019 (July 30, 2018: CDN$0.005 per share or $3 million) to be paid on September 19, 2019 to shareholders of record on August 28, 2019.

	Three months ended June 30		Six months ended June 30	
Consolidated Information	2019	2018	2019	2018
Copper production (tonnes)[1,2]	168,399	150,950	305,368	296,308
Copper sales (tonnes)[1,3]	149,333	152,403	279,595	290,424
Cash cost of copper production (C1)(per lb)[4, 5]	$1.32	$1.28	$1.33	$1.28
Total cost of copper production (C3)(per lb)[4, 5]	$2.17	$2.11	$2.19	$2.13
All-in sustaining cost (AISC)(per lb)[4, 5]	$1.77	$1.76	$1.77	$1.74
Realized copper price (per lb)	$2.80	$2.95	$2.80	$2.85
Gold production (ounces)[1]	59,647	46,467	109,004	92,396
Gold sales (ounces)[1]	56,922	48,172	103,712	96,987

[1] Copper production volumes includes production from Cobre Panama of 30,896 tonnes and 30,921 tonnes for the three and six months ended June 30, 2019, respectively (nil production to June 30, 2018). Copper sales volumes include sales from Cobre Panama of 6,542 tonnes for the three and six months ended June 30, 2019, respectively (nil sales to June 30, 2018). Gold production volumes includes production from Cobre Panama of 10,550 ounces for the three and six months ended June 30 ,2019. Gold sales volumes include sales from Cobre Panama of 2,672 ounces for the three and six months ended June 30, 2019. Production and sales volumes at Cobre Panama are pre-commercial production and therefore not included in C1, C3 and AISC calculations.

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Copper production (tonnes) – operations	137,503	150,950	274,447	296,308
Copper production (tonnes) – pre-commercial	30,896	-	30,921	-
Copper production (tonnes)	168,399	150,950	305,368	296,308

	2019	2018	2019	2018
Gold production (ounces) – operations	49,097	46,467	98,454	92,396
Gold production (ounces) – pre-commercial	10,550	-	10,550	-
Gold production (ounces)	59,647	46,467	109,004	92,396

[2] Production is presented on a copper contained basis, and is presented prior to processing through the Kansanshi smelter.

in United States dollars, tabular amounts in millions, except where noted

[3] Copper sales exclude the sale of copper anode produced from third-party concentrate purchased at Kansanshi. Sales of copper anode attributable to third-party concentrate purchases were 1,182 tonnes for the six months ended June 30, 2019 (nil third-party concentrate purchased to June 30, 2018). There were no sales of copper anode attributable to third-party concentrate purchases in the three months to June 30, 2019.
[4] C1 cash cost, C3 total cost, AISC exclude third-party concentrate purchased at Kansanshi.
[5] C1 cash cost, C3 total cost, AISC are not recognized under IFRS. See "*Regulatory Disclosures*" on page 43 for further information.

	Three months ended June 30		Six months ended June 30	
Consolidated Financial Information[6]	2019	2018	2019	2018
Sales revenues	939	1,049	1,796	1,934
Gross profit	196	271	381	452
Net earnings attributable to shareholders of the Company	78	135	131	182
Basic earnings per share	$0.11	$0.20	$0.19	$0.27
Diluted earnings per share	$0.11	$0.20	$0.19	$0.26
Comparative EBITDA[7]	376	466	744	829
Comparative earnings[7]	87	128	182	177
Comparative earnings per share[7]	$0.13	$0.19	$0.26	$0.26

[6] Pre-commercial production operating results attributable to Cobre Panama are capitalized and are excluded from earnings.
[7] Net earnings attributable to shareholders of the Company has been adjusted to exclude items which are not reflective of underlying performance to arrive at comparative earnings. Comparative earnings, comparative earnings per share, comparative EBITDA and cash flows per share are not measures recognized under IFRS and do not have a standardized meaning prescribed by IFRS. The Company has disclosed these measures to assist with the understanding of results and to provide further financial information about the results to investors. See "*Regulatory Disclosures*" on pages 43-49 for a reconciliation of comparative EBITDA and comparative earnings. The use of comparative earnings and comparative EBITDA represents the Company's adjusted earnings metrics.

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Net earnings attributable to shareholders of the Company	78	135	131	182
Adjustments attributable to shareholders of the Company:				
(Gain) or loss on debt instruments	(3)	-	22	-
Total adjustments to comparative EBITDA excluding depreciation[8]	34	(3)	55	(8)
Tax and minority interest relating to foreign exchange revaluation and comparative adjustments	(22)	(4)	(26)	3
Comparative earnings	87	128	182	177

[8] Adjustments to comparative EBITDA relate principally to foreign exchange and write-off of assets and costs associated with the land slippage at Las Cruces, but also include other losses on disposal of assets, and movements in restoration provision estimates at closed sites.

FINANCIAL SUMMARY

Sales revenues decreased due to lower copper sales volumes and realized price

- Sales revenues of $939 million in the quarter decreased by $110 million compared to the same period in 2018. A 6% decrease in copper sales volumes, excluding sales from Cobre Panama, was compounded by a lower realized copper price. The decrease in copper sales volumes was mainly from Las Cruces due to reduced production associated with the interruption to mining as a result of the land slippage in January 2019.

in United States dollars, tabular amounts in millions, except where noted

- The realized price for copper of $2.80 per lb in the second quarter of 2019 was $0.15 per lb lower than the same period in 2018. The average LME price of copper decreased by 11% in the quarter compared to the same period in 2018. The sales hedge program increased sales revenues by $19 million for the quarter, resulting in an increase of $0.06 per lb. In the second quarter of 2018, revenues were reduced by a $45 million loss on the copper sales hedge program, which lowered the net realized copper price by $0.14 per lb.

Comparative EBITDA to $376 million

- Comparative EBITDA was $376 million compared to $466 million in the same period in 2018. Comparative EBITDA for the quarter excludes $33 million of foreign exchange losses and a loss on disposal of assets of $1 million.

Gross profit lower than 2018 from lower realized copper prices and Las Cruces impact

Gross profit in Q2 2018	271
Lower realized metal prices	(107)
Movement in hedge program	65
Change in sales volumes mix[2]	(1)
Lower by-product contribution	(2)
Higher cash costs (excluding Zambian royalties)[2]	(9)
Decrease in depreciation[2]	21
Las Cruces movement	(55)
Increase in Zambian royalty rate	(9)
Positive impact of foreign exchange on operating costs	22
Gross profit in Q2 2019[1]	196

[1] Gross profit is reconciled to comparative EBITDA by including exploration costs of $4 million, general and administrative costs of $18 million, other expense of $30 million, adding back depreciation of $198 million, and excluding a foreign exchange loss of $33 million, and loss on disposal of assets of $1 million *(a reconciliation of comparative EBITDA is included on page 49).*
[2] Excludes the impact of the Las Cruces movement.

Decrease in comparative earnings to $87 million

- Comparative earnings for the quarter ended June 30, 2019, of $87 million compares to $128 million in the second quarter of 2018. A reconciliation of comparative metrics is included on pages 49.
- Net earnings attributable to shareholders of $78 million for the quarter compared to $135 million in the same period in 2018. The 2019 result includes $19 million in sales hedge gains, $33 million in foreign exchange losses, a $3 million modification gain on senior revolving credit facility and a loss on disposal of assets of $1 million and $22 million in tax and minority interest relating to foreign exchange revaluation and comparative adjustments.

FINANCIAL POSITION AND OPERATING CASH FLOW

- The Company ended the quarter with $802 million of net unrestricted cash and cash equivalents in addition to $290 million of committed undrawn facilities and was in compliance with all financial covenants.

- At June 30, 2019, 47,500 tonnes of unmargined zero cost copper collar sales contracts at weighted average prices of $2.79 to $2.99 per lb were outstanding with maturities to February 2020. The Company also has 22,500 tonnes of outstanding unmargined copper forward sales contracts at an average price of $2.94 per lb with maturities to December 2019.

- Taking into account forecast operating cash inflows, capital expenditure outflows and available committed facilities, the Company expects to have sufficient liquidity through the next 12 months to carry out its operating and capital expenditure plans and remain in full compliance with financial covenants. The Company continues to take action to manage operational and price risk and further strengthen the balance sheet.

- On July 18, 2019, Fitch Ratings ("Fitch") reaffirmed a B rating with a stable outlook for both the Long-Term Issuer Default Rating and senior unsecured rating. On June 7, 2019, Moody's Investor Service ("Moody's") downgraded to Caa1 from B3 the corporate family rating and from B3 to Caa1 the senior unsecured rating of the Company. Concurrently, Moody's changed the outlook to stable from negative. The rating by Moody's is unsolicited and non-participating. Solicited participating ratings are provided by Fitch and Standard & Poor's, which are unchanged.

OTHER DEVELOPMENTS

Zambian sales tax

Further to the changes to the mining tax regime that were enacted January 1, 2019, the Minister of Finance of Zambia also announced the abolition of value-added-tax ("VAT") and the proposed introduction of a non-refundable sales tax at rates of 9% and 16% for local goods and services, and imported goods and services, respectively. The Government of the Republic of Zambia ("GRZ") has confirmed that they plan for the sales tax to be effective September 1, 2019, and not July 1, 2019, as previously announced.

The Company's Zambian operations have continued to accrue VAT receivable amounts during the quarter with no cash refunds received or offsets to other tax liabilities approved. The total amount of VAT accrued by the Company's Zambian operations at June 30, 2019, was $528 million, of which $309 million related to Kansanshi. The Minister reaffirmed that the GRZ remains committed to settling outstanding VAT claims. The Company continues to engage in regular discussions with the relevant government authorities and considers that the outstanding VAT claims are fully recoverable. See additional disclosure *Liquidity and Capital Resources* on page 32.

Assessment by Zambia Revenue Authority

On March 19, 2018, KML received a letter of preliminary findings following an audit by the ZRA for ZMW 76.5 billion (approximately $7.6 billion at the date of receipt of the letter, comprising $5.5 billion in interest and $2.0 billion in penalties on the $150 million assessment claim on duties). The preliminary findings letter covers circa 22,700 import transactions relating to the import of capital items, consumables, and spare parts for use at Sentinel from January 2013 to December 2017.

A process for provision of relevant documentation was agreed between KML and the ZRA. KML, together with an external international accounting firm and a shipping agent completed a review of the documentation relating to the audited areas over the relevant period. KML's internal findings and relevant supporting documentation, which were voluminous, were provided to the ZRA. On July 24, 2019, KML reached a settlement agreement with the ZRA with respect to the assessment. The settlement amount agreed was in line with the Company's previously disclosed expectations and no further provision is required.

LEGAL PROCEEDINGS

Panama constitutional proceedings

In February 1996, the Republic of Panama and Minera Panama SA ("MPSA"), a Panamanian subsidiary of the Company, entered into a mining concession contract in respect of the Cobre Panama project.

On February 26, 1997, Contract-Law No. 9 ("Law 9") was passed by the Panamanian National Assembly. Law 9 granted the status of national law to the mining concession contract, establishing a statutory legal and fiscal regime for the development of the Cobre Panama project. On December 30, 2016 the Government of Panama signed and issued Resolution No. 128 by which it extended the mining concession contract held by Minera Panama SA for a second 20-year term commencing March 1, 2017 up to February 28, 2037. The Company remains eligible for consideration of a third 20-year term of the MPSA mining concession contract commencing March 1, 2037.

In September 2018, the Company became aware of a ruling of the Supreme Court of Panama ("Supreme Court") in relation to the constitutionality of Law 9. The Company understands that the ruling of the Supreme Court with respect to the constitutionality of Law 9 relates to the enactment of Law 9 and does not affect the legality of the MPSA mining concession contract itself, which remains in effect, and allows continuation of the development and operation of the Cobre Panama project by MPSA.

In respect of the Supreme Court ruling on Law 9, which remains subject to various procedural processes, the Company notes the following:

- The ruling is not yet in effect.
- The Supreme Court decision was in respect of ongoing legal filings made since 2009 with regard to specific environmental petitions.
- In reviewing the process of approval of Law 9 of 1997, the Supreme Court found that the National Assembly had failed to consider whether Law 9 complied with applicable legislation at the time, namely Cabinet Decree 267 of 1969.
- The applicable Cabinet Decree of 1969, which was repealed in 1997 by Law 9, required the Ministry of Commerce and Industry ("MICI") to issue a request for proposals before awarding the Law 9 mining concession.
- The Attorney General of Panama has provided two formal opinions favourable to the constitutionality of Law 9 as required in this type of proceedings by Panamanian law.
- The Supreme Court ruling did not make a declaration as to the annulment of the MPSA mining concession contract.

Subsequently, MPSA has submitted filings to the Supreme Court for ruling, which it has accepted, prior to the ruling in relation to the constitutionality of Law 9 taking effect. On September 26, 2018, the Government of Panama issued a news release affirming support for the Cobre Panama project. The release confirmed that MICI considers that the MPSA mining concession contract, and its extension, remains in effect in all its parts. Construction, commissioning and operations ramp-up are continuing while the Company seeks to clarify the legal position. (The MICI release is available at www.twitter.com/MICIPMA/status/1044915730209222657).

Based on support from the Government of Panama, the Chamber of Commerce and Industries of Panama, the Panamanian Mining Chamber, other Panamanian business and industry chambers and its legal advice, the Company is confident of resolving the Law 9 matter in the near-medium term.

Zambian power

In June 2018, without any warning, the state-owned power company ("ZESCO"), reduced power supply to the Kansanshi project. The reduction was due to Kansanshi and Sentinel's rejection of ZESCO's demand for payment of higher tariffs, contrary to the existing contractual agreements between the parties.

On June 26, 2018, Kansanshi sought an injunction against ZESCO before the English courts, as the contracts on tariff are governed by English law. On June 28, 2018, ZESCO resisted the application and requested an extension to respond. On July 6, 2018, the Court awarded Kansanshi's request by way of a sanctioned consent order ("Order") which requires ZESCO to restore the full capacity as demanded by Kansanshi. In turn, Kansanshi is required to deposit the difference between the contractual tariff and the disputed higher tariff into a segregated account until an arbitration between Kansanshi and ZESCO on these facts are concluded. The Order continues to apply as ZESCO is restrained from making any reductions without incurring further sanction from the Court.

On August 22, 2018, Kansanshi served on ZESCO a Notice of Arbitration in respect of these facts. A procedural timetable of the arbitration has been agreed, with the merits hearing set to summer 2020. Pursuant to the Procedural Order, Kansanshi has submitted its Statement of Claim and ZESCO has submitted its response, further, the parties have exchanged evidence. Following exchange of documents, the parties each will make one further written submission later this year, and will submit fact and expert evidence in the first part of 2020.

Despite this dispute our operations generally maintain a constructive relationship with ZESCO, particularly with regards to the management of technical and supply issues. Operational and technical dialogue between the parties is expected to continue in the normal course.

Zambian power supply

Low water levels in Kariba resulted in ZESCO implementing load shedding for domestic users but no restrictions are currently in place for mines.

Kansanshi minority partner

In October 2016, FQML, through its subsidiary Kansanshi Holdings Limited, received a Notice of Arbitration from ZCCM International Holdings PLC ("ZCCM") under the Kansanshi Mining PLC ("KMP") Shareholders Agreement. ZCCM is a 20% shareholder in KMP and filed the Notice of Arbitration against Kansanshi Holdings Limited ("KHL"), the 80% shareholder, and against KMP. The Company also received a Statement of Claim filed in the Lusaka High Court naming additional defendants, including the Company, and certain directors and an executive of the named corporate defendants. Aside from the parties, the allegations made in the Notice of Arbitration and the High Court for Zambia were the same. FQML and the Company are firmly of the view that the allegations are in their nature inflammatory, vexatious and untrue.

The dispute was stated as a request for a derivative action, requiring ZCCM to obtain permission to proceed in each forum of the Arbitration and the Lusaka High Court. The dispute arose from facts originating in 2007, and concerned the rate of interest paid on select deposits by KMP with the Company. The deposits were primarily retained for planned investment by KMP in Zambia. In particular, KMP deposits were used to fund a major investment program at Kansanshi, including the successful construction and commissioning of the Kansanshi smelter and expansion of the processing plant and mining operations. The entirety of the deposit sums has been paid down from the Company to KMP, with interest. The interest was based on an assessment of an arm's length fair market rate, which is supported by independent third-party analysis. ZCCM disputed that interest rate paid to KMP on the deposits was sufficient.

The Arbitration required ZCCM to petition the Arbitral Tribunal for permission to maintain the derivative action. A three-day hearing on the Arbitration on whether permission is granted or denied took place in January 2018. On February 22, 2018, the Arbitral Tribunal issued a ruling denying ZCCM permission to continue the proceedings. On March 21, 2018, ZCCM served an application seeking to challenge the Arbitral Tribunal's ruling through the English court. On June 1, 2018, despite being severely out of time, ZCCM sought to amend its application for additional grounds on which to challenge the Arbitral Tribunal's ruling. ZCCM's arbitration challenge was resisted by KHL in a substantive hearing in the English High Court heard in London during March 26 - 28, 2019. KHL argued that ZCCM committed an abuse of process in trying to raise irrelevant circumstances which would not have affected the Tribunal's ruling, because the ruling was made on the weak facts ZCCM submitted in the arbitration. On May 22 2019, the High Court denied all aspects of ZCCM's appeal, which has been communicated back to the Arbitral Tribunal. The parties have reached an agreement on costs, in total exceeding $1 million payable by ZCCM, bringing this particular matter to an end.

In parallel, several preliminary procedural applications to dismiss the High Court Action were lodged on behalf of the Company, and other defendants, in the Lusaka High Court. By a decision dated January 25, 2018, the Lusaka High Court used its discretion to rectify ZCCM's procedural errors. The Court granted leave to the Company, FQM Finance and the individual defendants to appeal against this decision and the litigants have agreed to a stay pending the appeal. The appeal hearing took place on November 21, 2018, with submissions made by all parties. The Court of Appeal delivered judgment on January 11, 2019, dismissing the appeal. An appeal to the Supreme Court of Zambia was heard on April 24 2019, and has been dismissed. The High Court is due to resume hearing the remaining two applications at a hearing in Lusaka on August 19, 2019.

DEVELOPMENT ACTIVITIES

Cobre Panama Project, Panama

Cobre Panama dispatched its first copper concentrate shipment in June, and at the end of July, a total of 42,283 contained tonnes of copper has been shipped from Cobre Panama. Six mills are now operating and ramp-up is progressing according to plan. Both 150MW power station generating sets are operating at or above nameplate capacity and excess site generated power is being sold into the Panamanian national grid. The project focus is on completion of remaining process facilities with the majority expected to be commissioned and in operation early in the third quarter.

Key milestones achieved through the second quarter of 2019 included:

- Fourth mining rope shovel operational and the last ultraclass mining truck delivered to site;
- Three in-pit primary crushers are operational, and the fourth and final in-pit crusher is expected to be operational by end of July;
- All plant conveyors from the three in-pit crushers through to stockpile are operational – both conveying circuits are in use;
- Introduction of ore to the first secondary crusher was achieved, and the crusher was fully operational in early July;
- Six of the eight mills are operational, comprising two semi-autogenous ("SAG") and four ball mills. The third SAG mill is expected to be in operation during the third quarter. The expansion ball mill (the 8th mill) is scheduled to be in operation early in the fourth quarter;
- Additional process facilities that came on line in the period include: Train 2 milling which comprised one SAG mill and two ball mills, regrind mills, column flotation cells, Jameson cells, the first gravity gold circuit, concentrate reclaim and ship loading; and
- The TMF starter walls reached final elevation and are currently being widened with rock pads to accept the first cyclone sand material placement, and tailings deposition into the facility is operational.

The TMF deposition commenced in the northern sector of the facility, and will commence in the eastern sector in the third quarter. Deposition also continues in the southern sector of the TMF.

Construction workforce demobilization accelerated in the period with 2,500 construction personnel demobilized, and it will continue to further accelerate in the third quarter.

Approximately 80% of the permanent operations workforce is in place of which more than 85% are Panamanian. Some supplementary skills and labour are also assisting with the transition from commissioning into operations.

The total project capital expenditure for the six months ended June 30, 2019, was $371 million (First Quantum's share $336 million). Project spending to date amounts to $6.4 billion, including $2.1 billion contributed by third parties. The Company's share of project capital expenditure increased following the acquisition from LS-Nikko of its 50% share in KPMC in November 2017. Forecast total project expenditure has been increased from $6.3 billion to $6.7 billion. The incremental increase to capital expenditure is for extra work at the TMF and is also expected to ensure a successful and timely completion of the project and ramp-up.

Capital commitments relating to Cobre Panama at June 30, 2019, were $15 million compared with $92 million at March 31, 2019.

Further to the above capital expenditure, $403 million was capitalized to the Cobre Panama project with respect to interest costs incurred by the Company during the six months ended June 30, 2019.

EXPLORATION

The Company's exploration strategy includes work at advanced stage exploration projects at Taca Taca in Argentina and Haquira in Peru, near-mine resource expansion around Las Cruces, Pyhäsalmi and Kansanshi as well as an early stage exploration program concentrated on the search of high quality porphyry deposits in the Andean and Tethyan Cordilleras and sediment-hosted copper deposits in the basins of Central Africa and Australia.

At Taca Taca, the Company is continuing with the project pre-development and feasibility activities, focusing on an initial scope involving confirmatory work on the mineral resource, metallurgical sampling and testing, mine geotechnical studies, and other technical work required to increase the definition of project engineering, cost, and operating estimates. The primary Environmental and Social Impact Assessment ("ESIA") for the Taca Taca project, which covers the prinicipal proposed project sites, was submitted to the Secretariat of Mining of Salta Province in February 2019.

At the Haquira project in Peru, the focus continues on the community and environmental aspects. The Environmental Impact Assessment ("EIA") studies continued during the period. Various access agreements with communities to maintain activities have now been successfully renegotiated.

Near mine exploration programs are planned during the year at Las Cruces in Spain as well as on satellite targets around Kansanshi in Zambia. A modest global exploration program continues to be focused on identifying high quality porphyry and sediment hosted copper deposits in prospective belts around the world. In recent times this program has expanded to include systematic exploration of properties throughout the Andean belt in Argentina, Chile, Peru, Ecuador and Colombia but has also included evaluation of high priority targets in several other jurisdictions. Field activities have ramped up in the current quarter with drill programmes active or in preparation on greenfield targets in Argentina, Chile, Peru, Ecuador, Zambia, Ireland and Papua New Guinea.

HEALTH & SAFETY

The health and safety of all of the Company's employees and contractors is our top priority and the Company is focused on the continual strengthening and improvement of the safety culture at all of our operations. The Lost Time Injury Frequency Rates ("LTIFR") is an area of continued focus and a key performance metric for the Company, our rolling 12-month LTIFR is 0.05 per 200,000 hours worked on average over the 12 month period to June 30, 2019.

in United States dollars, tabular amounts in millions, except where noted

MARKET GUIDANCE

Market guidance for production and production costs for the years 2019, 2020 and 2021 are unchanged from previously disclosed. Market guidance for capital expenditure has increased by $400 million for 2019 and is unchanged for 2020 and 2021.

Guidance is based on a number of assumptions and estimates as of June 30, 2019, including among other things, assumptions about metal prices and anticipated costs and expenditures. Market guidance involves known and unknown risks, uncertainties and other factors which may cause the actual results to be materially different.

Cobre Panama milestones and continued ramp-up expectations

The following milestones are expected over the remainder of 2019:

- Start-up of train 3, the gold plant and completion of outstanding infrastructure will occur within the third quarter of 2019;
- Total 2019 copper production will vary according to the impact of known upsides, mitigated by as yet unknown ramp-up factors and final project completion. A range of 140,000 to 175,000 tonnes of copper production is considered achievable. Note that limited copper production was planned in the first half of 2019 while commissioning and start-up of the process plant continues. The second half of 2019 is expected to provide over 80% of the total copper production for the full 2019 year;
- Commercial production will be declared in arrears at a date yet to be determined and according to a number of factors, including performance of key assets, achievement of steady state production at a material proportion of nameplate plant capacity, and factors which indicate the mine is operating as intended by management. At this stage, while difficult to predict exactly, it is assumed that commercial production will be declared by the end of the third quarter of the year.

By the end of 2019 the Cobre Panama mine is expected to be running at an annualized throughput rate of at least 72 million tonnes per annum (“mpta”) and is expected to reach the 85 mtpa throughput rate by 2020. Contained copper production is estimated at between 140,000 tonnes and 175,000 tonnes in 2019, between 270,000 tonnes and 300,000 tonnes in 2020, approximately 300,000 tonnes in 2021 increasing to approximately 350,000 tonnes in 2022. In 2022, the C1 unit cost of production is estimated at $1.20 per lb and $1.50 per lb all-in sustaining. Both estimates are net of an assumed by-product credit, principally gold as well as some molybdenum and silver, of approximately $0.25 per lb, which includes an allocation of the deferred revenue contribution from Franco-Nevada Corporation (“Franco-Nevada”). On a pure periodic cash basis the assumed by-product credit is approximately $0.15 per lb. Gold production in 2020 and 2021 is estimated at approximately 100,000 ounces.

Production guidance

000’s	2019	2020	2021
Total copper (tonnes)[1]	700 - 735	840 - 870	820
Copper (tonnes) - Cobre Panama[1]	140 - 175	270 - 300	300
Copper (tonnes) – excluding Cobre Panama	560	570	520
Gold (ounces) – excluding Cobre Panama	185	180	170
Zinc (tonnes)	12	2	-

[1] Inclusive of pre-commercial production tonnes from Cobre Panama

in United States dollars, tabular amounts in millions, except where noted

Production guidance by operation (excluding Cobre Panama)

Copper

000's tonnes	2019	2020	2021
Kansanshi	235	235	235
Sentinel	230	250	250
Las Cruces	45	45	-
Other sites	50	40	35

Gold

000's ounces	2019	2020	2021
Kansanshi	135	135	135
Other sites	50	45	35

Zinc

000's tonnes	2019	2020	2021
Other sites	12	2	-

Cash cost and all-in sustaining cost

Cash costs and AISC guidance in the tables below does not include any costs in respect of Cobre Panama.

Copper – excluding Zambian sales tax	2019	2020	2021
C1 (per lb) – excluding Zambian sales tax	\$1.20 - \$1.40	\$1.20 - \$1.40	\$1.20 - \$1.40
AISC (per lb) – excluding Zambian sales tax	\$1.70 - \$1.85	\$1.70 - \$1.85	\$1.70 - \$1.85

It was announced on June 28, 2019, that the Sales Tax Bill proposed implementation date was postponed to September 1, 2019, with the supply of goods and services in Zambia to incur a 9% tax rate and the importation of goods and services to incur a 16% tax rate. The Company currently estimates that this will increase Group C1 and AISC by approximately \$0.07 per lb in 2019 and \$0.15 per lb to \$0.18 per lb per year thereafter, excluding Cobre Panama.

in United States dollars, tabular amounts in millions, except where noted

Capital expenditure[1]	2019	2020	2021
Total Cobre Panama project[2]	630	-	-
Third-party contribution[3]	(35)	-	-
First Quantum's share of Cobre Panama project[4]	595	-	-
Capitalized stripping	200	250	250
Sustaining capital and other projects	650	600	600
Total net capital expenditure	1,445	850	850

[1] Excludes capitalization of any net pre-commercial production costs, revenue and interest.
[2] Reflects total capital expenditure estimate of $6.7 billion.
[3] Third-party contributions are from KORES' 10% indirect interest in the project.
[4] Based on the current 90% ownership.

Guidance on total Cobre Panama project capital expenditure is $6.7 billion, with forecast expenditure in 2019 increased from $230 million to $630 million. The increased capital expenditure is principally required for the following areas:

- Higher labour rates and cost associated with the process plant, principally due to significant round-the-clock work in a number of areas during the second quarter to assist with accelerating completion works to the fullest possible extent, along with equipment and process improvements undertaken during commissioning;
- Higher construction costs for the tailings management facility due to impacts attributable to poor weather conditions;
- Additional commissioning specialists to achieve an accelerated commissioning period in 2019 through to ramp-up, plus various commissioning modifications and enhancements including equipment and associated air freight costs;
- Additional labour costs associated with port ramp-up;
- Strategic additions to the mining fleet.

Guidance for the Company's sustaining capital and other projects includes expenditure relating to Cobre Panama which includes expenditure to enable commencement of the expansion to 100 mtpa capacity, which includes the initial development and engineering work allowing mining to proceed to the Colina Pit. Other projects in 2019 include: the fourth in-pit crusher and trolley assist expansion at Sentinel, remediation work at Las Cruces following the January land slippage, and costs to allow restart at Ravensthorpe. Underlying sustaining capital expenditure is expected to average approximately $250 million per annum over the three-year period.

Interest

Due to the current level of project capital expenditure, interest has largely been capitalized in the quarter and in previous years. This is expected to continue until declaration of commercial production at Cobre Panama, which is expected by the end of the third quarter, and, in the absence of any major project capital expenditure, interest would then be expensed. Interest expense of $205 million and $403 million was capitalized to the Cobre Panama project for the three and six months ended June 30, 2019, respectively.

Once interest ceases to be capitalized and is instead expensed in the income statement, this will have a notable impact on reported earnings and EPS. The interest charge is non-deductible for taxation calculations.

Tax

Excluding the impact of the changes to the Zambian mining tax regime, the sales hedge program, loss on partial redemption of senior notes and the impact of interest expense no longer capitalized following declaration of commercial production at Cobre Panama, the effective tax rate for 2019 is expected to be in line with 2018, at approximately 31%.

Including the impact of the changes to the Zambian mining tax regime, which increased mineral royalties by 1.5% and made them non-deductible for tax purposes, and excluding the impact of interest being expensed once Cobre Panama is declared in commercial production, the expected effective rate excluding the sales hedge program and loss on partial redemption of senior notes, is approximately 45%. Given that interest charge is non-deductible for tax, the exact timing of commercial production and the amount of interest expensed will impact the effective tax rate.

Depreciation

Depreciation expense for the six months was $392 million, with the 2019 full year depreciation expense, excluding Cobre Panama, expected to range between $800 million and $825 million.

Cobre Panama depreciation expense will commence following the declaration of commercial production, which is expected by the end of the third quarter. This is initially estimated to be $110 million to $140 million for the fourth quarter.

in United States dollars, tabular amounts in millions, except where noted

OPERATING REVIEW

	Three months ended June 30		Six months ended June 30	
Production Summary	**2019**	**2018**	**2019**	**2018**
Copper production (tonnes) [1]				
Kansanshi	58,634	62,470	112,547	126,055
Sentinel	54,977	56,080	112,693	106,390
Las Cruces	10,366	18,849	21,000	37,087
Guelb Moghrein	7,750	5,781	15,197	11,916
Çayeli	3,872	4,684	8,763	8,909
Pyhäsalmi	1,904	3,086	4,247	5,951
Total copper production (tonnes) - excluding pre-commercial production	137,503	150,950	274,447	296,308
Cobre Panama pre-commercial production	30,896	-	30,921	-
Total copper production (tonnes) - including pre-commercial production	168,399	150,950	305,368	296,308
Total gold production (ounces) - excluding pre-commercial production	49,097	46,467	98,454	92,396
Cobre Panama pre-commercial production	10,550	-	10,550	-
Total gold production (ounces) - including pre-commercial production	59,647	46,467	109,004	92,396
Total zinc production (tonnes)	4,123	6,545	10,441	11,772

[1] Production is presented on a copper contained basis, and is presented prior to processing through the Kansanshi smelter.

Second quarter

Excluding the impact of pre-commercial production at Cobre Panama, copper production was 9% lower than the comparable period of 2018 due to lower production at Las Cruces, Kansanshi and Sentinel. Copper production at Guelb Moghrein increased by over a third due to higher throughput and improved feed grades.

Copper production at Las Cruces was 45% lower than the comparable period of 2018 due to the interruption to mining since January 2019. Ore processed at Las Cruces was limited to a blend of lower and higher grade ore stockpiles. Normal mining activity resumed on July 11, 2019, following receipt of the relevant regulatory approvals.

Despite increased throughput and higher ore grades on the sulphide and mixed circuits, Kansanshi copper production was 6% lower than the comparable period in 2018, due to lower recoveries on the mixed and oxide circuits as well as reduced ore grade on the oxide circuit due to the higher grade areas becoming depleted, as the mine ages. High gangue acid consumption ("GAC") content impacted the leach efficiencies and circuit recovery of the oxide circuit.

The Kansanshi smelter continued to perform well, with 351,169 DMT of copper concentrate treated in the quarter and 323,000 tonnes of acid produced, representing an 11% increase compared to the same period in 2018. Kansanshi produced 84,505 tonnes of copper anode, a 6% increase over the same period in 2018. No copper concentrate purchased from third parties was treated in the second quarter.

Excluding the impact of pre-commercial production at Cobre Panama, gold production of 49,097 ounces was 6% higher than the comparable period in 2018 due to the impact of operational enhancements at Kansanshi and improved feed grade and increased throughput at Guelb Moghrein.

Ravensthorpe remained on care and maintenance throughout the quarter following the suspension of operations at the mine in October 2017. Planning for the resumption of operations at Ravensthorpe is underway and the mine is expected to resume operations in the first quarter of 2020.

Cobre Panama pre-commercial production

Cobre Panama recorded its first full quarter of production, with 30,896 contained tonnes of copper in concentrate produced in the second quarter following production of 25 tonnes in the first quarter of 2019. Gold production at Cobre Panama was 10,550 ounces for the three month period ended June 30, 2019. It is expected that over 80% of the 2019 annual copper production will occur in the second half of the year as ramp-up and commissioning continue.

Six months

Copper production, excluding the pre-commercial production at Cobre Panama was, 7% lower than the comparable period of 2018 due to lower production at Kansanshi and Las Cruces, partially offset by higher copper production at Sentinel and Guelb Moghrein. Copper production at Las Cruces was 43% lower than the comparable period of 2018 due to the interrruption to mining since January 2019.

Kansanshi copper production was 11% lower than the comparable period in 2018, due to lower ore grades processed on the oxide circuit and lower plant recoveries reported in the oxide and mixed ore circuits, as a result of depletion of high grade areas and restricted use of acid. Sentinel production was 6% higher than the comparable period in 2018 due primarily to the processing of higher ore grade in the first quarter of the year. Increased production at Guelb Moghrein, 28% higher than the first half of 2018, was principally attributable to improved ore grade treated and higher throughput.

in United States dollars, tabular amounts in millions, except where noted

Sales Volume Summary	Three months ended June 30 2019	Three months ended June 30 2018	Six months ended June 30 2019	Six months ended June 30 2018
Copper sales volume (tonnes)				
Kansanshi[1]	61,224	57,000	114,257	108,684
Sentinel	55,622	60,543	106,809	118,885
Las Cruces	10,112	19,269	21,555	38,040
Guelb Moghrein	8,143	6,772	16,067	13,159
Çayeli	5,817	5,491	9,631	5,491
Pyhäsalmi	1,873	3,328	4,734	6,165
Total copper sales (tonnes) – excluding pre-commercial sales	142,791	152,403	273,053	290,424
Cobre Panama pre-commercial sales	6,542	-	6,542	-
Total copper sales volume (tonnes) – including pre-commercial sales	149,333	152,403	279,595	290,424
Total gold sales volume (ounces) – excluding pre-commercial sales	54,295	48,172	101,085	96,987
Cobre Panama pre-commercial sales	2,627	-	2,627	-
Total gold sales volume (ounces) – including pre-commercial sales	56,922	48,172	103,712	96,987
Total zinc sales volume (tonnes)	4,450	6,856	11,096	11,666

[1] Copper sales exclude the sale of copper anode produced from third-party concentrate purchased at Kansanshi. Sales of copper anode attributable to third-party concentrate purchases were 1,182 for the six months ended June 30, 2019 (nil sales to June 30, 2018). There were no sales of copper anode attributable to third-party concentrate purchases in the three months to June 30, 2019.

Sales Summary

Second quarter

Excluding Cobre Panama pre-commercial sales, copper sales volumes for the quarter were 6% lower than the comparable quarter of 2018, due principally to decreased production at Las Cruces as a result of the interruption to mining since January 2019, and lower sales volumes at Sentinel. Offsetting the above were higher sales at Kansanshi, Guelb Moghrein and Çayeli in the quarter.

At Kansanshi, increased copper anode and concentrate sales volumes more than offset decreased sales volumes of copper cathode due to lower cathode production.

Six months

Copper sales excluding sales from Cobre Panama were 6% lower compared to the same period in 2018, reflecting lower copper sales volumes at Sentinel and Las Cruces, with Las Cruces impacted by the interruption to mining following the land slippage in January 2019. Offsetting these were higher sales volumes at Kansanshi, Guelb Moghrein and Çayeli for the six month period.

in United States dollars, tabular amounts in millions, except where noted

Cobre Panama sales

Cobre Panama dispatched its first shipment of copper concentrate in June, and following receipt of the sale proceeds, the Company recognized the first delivery obligation to Franco-Nevada under the terms of the precious metal stream arrangement. Revenues recognized under the precious metal stream arrangement have been capitalized. Copper and gold sales volumes were 6,542 tonnes and 2,627 ounces, respectively, for both the three and six months ended June 30, 2019.

Unit Cost

	Three months ended June 30		Six months ended	
Unit Cost Summary	**2019**	**2018**	**2019**	**2018**
Copper C1[3] cash cost ($ per lb)				
Kansanshi[1]	$1.15	$1.02	$1.20	$1.01
Sentinel	$1.55	$1.74	$1.58	$1.78
Las Cruces	$1.51	$0.83	$1.41	$0.84
Other sites[2]	$1.04	$1.21	$0.93	$0.81
Total copper C1 cash cost ($ per lb)[1]	$1.32	$1.28	$1.33	$1.28
Copper AISC[3] ($ per lb)				
Kansanshi[1]	$1.66	$1.55	$1.69	$1.50
Sentinel	$2.06	$2.29	$2.07	$2.32
Las Cruces	$1.65	$1.09	$1.55	$1.06
Other sites[2]	$1.27	$1.50	$1.15	$1.21
Total copper AISC ($ per lb)[1]	$1.77	$1.76	$1.77	$1.74

[1] Copper C1 cash cost and AISC for Kansanshi and total Group exclude purchases of copper concentrate from third parties treated through the Kansanshi smelter.
[2] Other sites include Guelb Moghrein, Çayeli and Pyhäsalmi.
[3] Copper production for the three and six months ended June 30, 2019 includes 30,896 tonnes and 30,921 tonnes, respectively, of pre-commercial production from Cobre Panama, which is not included in C1, C3 and AISC calculations.

Second quarter

Copper C1 cash cost was $0.04 per lb higher in the quarter compared with the same period in 2018, reflecting the impact of lower production at Las Cruces following the interruption to mining since January 2019. This resulted in an increase to Las Cruces C1 cash costs of $0.68 per lb compared with 2018 and increased Group C1 cash cost by $0.08 per lb. C1 cash cost was also impacted by higher C1 cash cost at Kansanshi mainly due to the impact of lower copper production in the period. These increases were partially offset by $0.19 per lb reduction in C1 cash cost at Sentinel reflecting lower maintenance, fuel and contractor costs compared to the same period in 2018.

AISC was marginally higher than the comparable period of 2018 due to increased C1 cash costs, partially offset by lower deferred stripping costs at Guelb Moghrein and Kansanshi, and lower sustaining capital expenditure at Kansanshi, Sentinel, Guelb Moghrein and Çayeli.

AISC incorporates a $0.01 per lb increase with respect to lease payments following the adoption of IFRS 16 *Leases*, which is offset by a corresponding decrease to C1 cash cost.

Six months

Copper C1 cash cost was $0.05 per lb higher in the period compared with the same period in 2018, reflecting the impact of lower production at Las Cruces following the interruption to mining since January 2019, which resulted in an increase to Las Cruces C1 cash costs of $0.57 per lb compared with 2018 and increased Group C1 cash cost by $0.07 per lb. C1 cash cost was also impacted by higher C1 cash cost at Kansanshi mainly due to the impact of lower copper production in the period. These increases were partially offset by $0.20 per lb reduction to Sentinel C1 cash costs.

AISC was $0.03 per lb higher than the comparable period of 2018 due to increased C1 cash costs, partially offset by lower deferred stripping costs at Guelb Moghrein, Las Cruces and Kansanshi, and lower sustaining capital expenditure at Sentinel, Guelb Moghrein and Çayeli.

AISC incorporates a $0.01 per lb increase with respect to lease payments following the adoption of IFRS 16 *Leases*, which is offset by a corresponding decrease to C1 cash cost.

in United States dollars, tabular amounts in millions, except where noted

OPERATIONS

Kansanshi	Three months ended June 30 2019	Three months ended June 30 2018	Six months ended June 30 2019	Six months ended June 30 2018
Sulphide ore tonnes milled (000's)	3,312	3,105	6,396	6,287
Sulphide ore grade processed (%)	0.85	0.81	0.87	0.80
Sulphide copper recovery (%)	91	91	90	90
Mixed ore tonnes milled (000's)	1,990	1,930	3,860	3,939
Mixed ore grade processed (%)	1.06	0.93	1.03	1.05
Mixed copper recovery (%)	74	87	75	83
Oxide ore tonnes milled (000's)	1,856	1,708	3,390	3,499
Oxide ore grade processed (%)	1.24	1.53	1.19	1.56
Oxide copper recovery (%)	76	92	81	86
Copper production (tonnes)[1]	58,634	62,470	112,547	126,055
Copper smelter				
Concentrate processed (DMT)[2]	351,169	326,187	693,476	676,778
Copper anode produced (tonnes)[2]	84,505	80,097	167,639	166,874
Smelter copper recovery (%)	97	97	97	97
Acid tonnes produced (000's)	323	291	645	616
Copper sales (tonnes)[3, 4]	61,224	57,000	114,257	108,684
Gold production (ounces)	35,613	33,536	70,356	65,616
Gold sales (ounces)	37,917	32,902	68,999	66,568
All-in sustaining cost (AISC) (per lb)[5,6]	$1.66	$1.55	$1.69	$1.50
Cash costs (C1) (per lb)[5,6]	$1.15	$1.02	$1.20	$1.01
Total costs (C3) (per lb)[5,6]	$1.87	$1.70	$1.92	$1.76
Sales revenues	408	428	772	821
Gross profit	116	181	232	337
Comparative EBITDA[5]	178	239	347	451

[1] Production presented on a copper concentrate basis, i.e. mine production only. Production does not include output from the smelter.

[2] Concentrate processed in smelter and copper anodes produced are disclosed on a 100% basis, inclusive of Sentinel and third-party concentrate processed. Concentrate processed is measured in dry metric tonnes ("DMT"). 1,881 DMT of third-party purchased copper concentrate was treated for the six months ended June 30, 2019 (nil third-party concentrate purchased to June 30, 2018). There was no third-party purchased concentrate treated for the three months to June 30, 2019.

[3] Sales of copper anode attributable to anode produced from third-party purchased concentrate are excluded. For the six months ended June 30, 2019, sales of copper anode produced from purchased concentrate were 1,182 tonnes (nil third-party concentrate purchased to June 30, 2018). There were no sales of copper anode attributable to third-party concentrate purchases in the three months to June 30, 2019.

[4] Sales include third-party sales of concentrate, cathode and anode attributable to Kansanshi (excluding copper anode sales attributable to Sentinel).

[5] AISC, C1 cash cost, and C3 total cost and comparative EBITDA are not recognized under IFRS. See "Regulatory Disclosures" for further information.

[6] Excluding purchases of copper concentrate from third parties treated through the Kansanshi smelter.

Kansanshi Mining Operations

Second quarter

Copper production was 6% lower than the comparable period in 2018, mainly due to lower ore grade on the oxide circuit and lower plant recoveries on the mixed ore circuit, partially offset by higher throughput on all circuits as well as higher ore grade on the sulphide and mixed ore circuits. The declining oxide and mixed grade was expected due to the higher grade areas becoming depleted, as the mine ages. Lower oxide ore grade combined with high gangue acid consumption ("GAC") content impacted the leach efficiencies and circuit recovery of the oxide circuit. Lower plant recovery on the mixed ore circuit, compared to the comparable period of 2018, was the result of limited capacity to leach mixed tailings, due to the high GAC of oxide ore.

Gold production was 6% higher than the same period of 2018, reflecting the impact of operational enhancements achieved through projects commissioned during the quarter.

AISC of $1.66 per lb was $0.11 per lb higher than the same period in 2018, due to higher C1 cash cost, partially offset by lower deferred stripping costs and sustaining capital expenditure. C1 cash cost was higher than the same period in 2018, mainly reflecting the impact of lower copper production, higher maintenance costs and movements in the value of ore stockpiles processed during the quarter.

Sales revenues of $408 million were 5% lower compared to the same period in 2018, reflecting lower realized copper prices, excluding the impact of the corporate sales hedge program, partially offset by higher copper and gold sales volumes and higher realized gold prices.

Gross profit of $116 million was 36% lower than the same period in 2018, reflecting the decrease in sales revenues, the impact of the higher royalty rates introduced by the Zambian government from January 1, 2019, of $5 million, higher depreciation and movements in the value of ore stockpiles in the quarter.

Six months

Copper production during the first half of the year was 11% lower than the comparable period in 2018, mainly due to lower grade processed through the oxide circuit and lower plant recoveries reported in the oxide and mixed ore circuits, reflecting high GAC ore mined and the restriction of acid consumption to the acid available from the smelter, partially offset by higher throughput and grade on the sulphide circuit.

AISC of $1.69 per lb was $0.19 per lb higher than the same period in 2018, due to higher C1 cash cost and sustaining capital expenditure, partially offset by lower deferred stripping costs. C1 cash cost was higher than the same period in 2018, mainly reflecting the impact of lower production and movements in the value of ore stockpiles processed during the period.

Sales revenues of $772 million were 6% lower compared to the same period in 2018, reflecting lower realized copper prices, excluding the impact of the corporate sales hedge program, partially offset by higher copper and gold sales volumes and higher realized gold prices. Sales of copper anode attributable to anode produced from third-party purchased concentrate contributed revenues of $7 million.

Gross profit of $232 million was 31% lower than the same period in 2018, reflecting the decrease in sales revenues, the impact of the higher royalty rates introduced by the Zambian government from January 1, 2019, of $10 million, and movements in the value of ore stockpiles in the period.

Kansanshi Copper Smelter

Second quarter

In the second quarter of 2019, the smelter treated 351,169 DMT of concentrate, an increase of 8% from the second quarter of 2018, and produced 84,505 tonnes of copper in anode and 323,000 tonnes of sulphuric acid. The quality of concentrate treated was 24% copper in concentrate grade for the current quarter. The smelter achieved an overall copper recovery rate of 97%.

Six months

In the first six months of 2019, the smelter treated 693,476 DMT of concentrate, representing a 2% increase from the first half of 2018, and produced 167,639 tonnes of copper in anode and 645,000 tonnes of sulphuric acid.

in United States dollars, tabular amounts in millions, except where noted

Outlook

Production in 2019 is expected to be approximately 235,000 tonnes of copper, and approximately 135,000 ounces of gold.

A two week smelter shutdown is planned for the third quarter of 2019 to perform work on the acid plant catalyst screening.

	Three months ended June 30		Six months ended June 30	
Sentinel	**2019**	**2018**	**2019**	**2018**
Copper ore processed (000's tonnes)	11,887	11,979	23,468	23,714
Copper ore grade processed (%)	0.50	0.51	0.52	0.49
Copper recovery (%)	92	92	92	91
Copper production (tonnes)	54,977	56,080	112,693	106,390
Copper sales (tonnes)	55,622	60,543	106,809	118,885
All-in sustaining cost (AISC) (per lb)[1]	$2.06	$2.29	$2.07	$2.32
Cash cost (C1) (per lb)[1]	$1.55	$1.74	$1.58	$1.78
Total cost (C3) (per lb)[1]	$2.29	$2.46	$2.31	$2.53
Sales revenues	319	392	615	777
Gross profit	56	68	111	161
Comparative EBITDA[1]	115	137	227	296

[1] AISC, C1 cash cost, C3 total cost and comparative EBITDA are not recognized under IFRS. See "*Regulatory Disclosures*" for further information.

Second quarter

Copper production for the quarter was 2% lower than the comparable period of 2018, due to a marginal reduction in mined grade and lower throughput resulting from maintenance shutdowns. Overall mining production was impacted by increased average haul cycle time and distances, as the pit deepened compared to the same period in 2018. This was partially offset by improved average truck fleet availability and reliability during the quarter as well as increased mining from the shallower stage 2 cutback. Maintenance shutdowns included a 5-day planned shutdown in April 2019 for the completion of the flotation pump and conveying splitter upgrades, primary and secondary crusher maintenance, and relining of the mills, as well as an additional unplanned shutdown period in June for further maintenance of the primary crusher and mill.

AISC of $2.06 per lb was $0.23 per lb lower than the same period of 2018, reflecting lower C1 cash cost and sustaining capital expenditure, partially offset by higher royalties. C1 cash cost was $0.19 per lb lower than the comparable period of 2018, reflecting lower mining and processing costs as a result of lower maintenance, fuel and employee costs as well as reduced use of contractors.

Sales revenues of $319 million were 19% lower than the same period in 2018 due to both lower sales volumes and realized copper prices, excluding the impact of the corporate sales hedge program. Sales revenues comprised sales of both concentrate and anode, with a higher proportion of revenue realized from copper anode. The decrease in sales revenues flowed through to gross profit, which was 18% lower than the same period in 2018 with the impact of the higher royalty rates introduced by the Zambian government from January 1, 2019, of $4 million.

Six months

Copper production for the six months ended June 30, 2019, increased by 6% compared to the same period in 2018, reflecting higher copper grades and recoveries, partially offset by marginally lower throughput.

in United States dollars, tabular amounts in millions, except where noted

AISC of $2.07 per lb was $0.25 per lb lower than the same period of 2018, reflecting lower C1 cash cost and sustaining capital expenditure, partially offset by higher royalties. C1 cash cost was $0.20 per lb lower than the comparable period of 2018, mainly due to lower mining and processing costs as a result of reduced use of contractors, lower fuel, maintenance and employee costs.

Sales revenues of $615 million were 21% lower than the same period in 2018 due to both lower sales volumes and realized copper prices, excluding the impact of the corporate sales hedge program. Sales revenues comprised sales of both concentrate and anode, with a higher proportion of revenue realized from copper anode. The decrease in sales revenues flowed through to gross profit, which was 31% lower than the same period in 2018, with the impact of the higher royalty rates introduced by the Zambian government from January 1, 2019, of $8 million.

Outlook

Production in 2019 is expected to be approximately 230,000 tonnes of copper.

Copper production is expected to benefit from consistent ore supply and ore feed grades. Mining is expected to continue to focus on operational improvement and fleet reliability with the trolley assist program expansion as well as commencement of a major component replacement program on the shovel fleet. Waste stripping in the east cutback is planned to continue throughout 2019, with the first ore expected during the third quarter.

Optimization of the changes on the secondary and pebble crusher conveying system implemented during the April shutdown are ongoing. Ongoing projects include the construction of a fourth in-pit crusher, expected to be commissioned towards the end of 2020.

	Three months ended June 30		Six months ended June 30	
Las Cruces	**2019**	**2018**	**2019**	**2018**
Ore tonnes processed (000's)	360	416	685	806
Copper ore grade processed (%)	3.35	4.87	3.54	4.97
Copper recovery (%)	86	93	87	93
Copper cathode production (tonnes)	10,366	18,849	21,000	37,087
Copper cathode sales (tonnes)	10,112	19,269	21,555	38,040
All-in sustaining cost (AISC) (per lb)[1]	$1.65	$1.09	$1.55	$1.06
Cash cost (C1) (per lb)[1]	$1.51	$0.83	$1.41	$0.84
Total cost (C3) (per lb)[1]	$3.59	$2.11	$3.39	$2.13
Sales revenues	62	133	133	264
Gross profit (loss)	(19)	44	(25)	86
Comparative EBITDA[1]	28	96	67	190

[1] AISC, C1 cash cost, C3 total cost and comparative EBITDA are not recognized under IFRS. See "Regulatory Disclosures" for further information.

Second quarter

Copper production for the three months ended June 30, 2019 decreased by 45% compared to the same period in 2018. Following the interruption to mining since the January land slippage, plant production has continued from processing lower and higher grade ore stockpiles. Reduced plant throughput and recovery have been impacted by challenges resulting from sticky ore feed, as well as the annual shutdown, which took place in June 2019 compared to the third quarter of 2018.

AISC of $1.65 per lb for the three months ended June 30, 2019, was $0.56 per lb higher compared to the same period in 2018, reflecting higher C1 cash cost mainly driven by lower cathode production, partially offset by lower deferred stripping.

Sales revenues decreased by 53% for the three months ended June 30, 2019, compared with the same period in 2018, due to lower realized copper prices, excluding the impact of the corporate sales hedge program, and lower copper sales volumes. The lower revenues resulted in a gross loss of $19 million in the quarter.

Six months

Copper production for the six months ended June 30, 2019, decreased by 43% compared to the same period in 2018, resulting from the interruption to mining since the land slippage in January. A remediation plan has been underway with available lower and higher grade ore stockpiles providing sufficient material for plant production until the resumption of mining operations in July. Plant throughput, grade and recovery have been further impacted by problems caused by sticky ore feed. Remediation activities in the pit are ahead of plan and are expected to be finalized during the third quarter.

AISC of $1.55 per lb was $0.49 per lb higher compared to the same period in 2018, mainly due to higher C1 cash cost driven by lower cathode production as a result of the land slippage, partially offset by lower deferred stripping and royalties.

Sales revenues of $133 million decreased by 50% compared with same period in 2018, due to lower copper cathode sales volumes and realized copper prices, excluding the impact of the corporate sales hedge program. The decrease in revenues resulted in a gross loss of $25 million in the period.

$13 million was recognized in the six months ended June 20, 2019 with regard to the write-off of assets and other costs associated with the mining interruption caused by the land slippage.

Outlook

Copper production guidance for 2019 is expected to be 45,000 tonnes. On July 11, 2019, Las Cruces received the required regulatory approvals to recommence mining activities following the suspension of mining in January 2019 as a result of the land slippage. Mining activities have recommenced, and access to Phase 6, an area unaffected by the land slippage, is expected in August.

Research on the technical and economic feasibility of the polymetallic refinery project is expected to continue.

in United States dollars, tabular amounts in millions, except where noted

Guelb Moghrein	Three months ended June 30 2019	Three months ended June 30 2018	Six months ended June 30 2019	Six months ended June 30 2018
Sulphide ore tonnes milled (000's)	1,018	938	2,012	1,799
Sulphide ore grade processed (%)	0.84	0.73	0.85	0.76
Sulphide copper recovery (%)	90	85	89	87
Copper production (tonnes)	7,750	5,781	15,197	11,916
Copper sales (tonnes)	8,143	6,772	16,067	13,159
Gold production (ounces)	11,961	10,354	24,459	22,094
Gold sales (ounces)	14,156	12,863	27,457	25,871
Magnetite concentrate production (WMT)[1]	163,555	123,100	282,724	216,572
Magnetite concentrate sales (WMT)[1]	222,762	150,167	312,393	229,727
All-in sustaining cost (AISC) (per lb)[2]	$1.19	$2.16	$1.28	$2.00
Cash costs (C1) (per lb)[2]	$0.91	$1.75	$1.00	$1.36
Total costs (C3) (per lb)[2]	$1.65	$2.84	$1.93	$2.33
Sales revenues	77	64	141	124
Gross profit	18	13	24	28
Comparative EBITDA[2]	29	22	52	46

[1] Magnetite concentrate production and sales volumes are measured in wet metric tonnes ("WMT").

[2] AISC, C1 cash cost, C3 total cost and comparative EBITDA are not recognized under IFRS. See "Regulatory Disclosures" for further information.

Three and six months

Copper production for the three and six months ended June 30, 2019, was 34% and 28% higher, respectively, than the same periods in 2018 due to increased throughput, as well as higher feed grade with increased access to ore and resulting higher recovery.

Gold in concentrate production for the three and six months ended June 30, 2019, was 16% and 11% higher, respectively, than the same periods in 2018 due to increased throughput and higher feed grade.

The magnetite plant produced 33% and 31% more magnetite concentrate in the three and six months ended June 30, 2019, respectively, than the same periods in 2018 reflecting higher throughput and feed grade.

AISC for the three and six months ended June 30, 2019, were $0.97 per lb and $0.72 per lb lower, respectively, than the same periods in 2018, reflecting lower C1 cash cost and no capitalized stripping costs. C1 cash costs for the three and six months ended June 30, 2019, were $0.84 per lb and $0.36 per lb lower, respectively, than the same periods in 2018, due to the impact of higher copper production, as well as lower consumables, maintenance and fuel costs. Maintenance costs were lower due to the timing of the scheduled SAG reline and reduction of the active mining fleet.

Sales revenues for the three months ended June 30, 2019, were 20% higher than the comparable period of 2018 due to higher copper, gold and magnetite sales volumes, and higher realized prices for gold and magnetite, partially offset by lower realized copper prices, excluding the impact of the corporate sales hedge program. Sales revenues for the six months ended June 30, 2019, were 14% higher than the comparable period of 2018 due to higher sales volumes, and higher realized prices for magnetite, partially offset by lower realized copper and gold prices, excluding the impact of the corporate sales hedge program.

in United States dollars, tabular amounts in millions, except where noted

Outlook

Production in 2019 is expected to be approximately 28,000 tonnes of copper, 47,000 ounces of gold, and 570,000 WMT of magnetite concentrate. Magnetite concentrate sales of 580,000 WMT are expected in 2019.

A total of 5 days of plant shutdown are planned for the remainder of 2019, related mainly to the monthly planned maintenance schedule.

	Three months ended June 30		Six months ended June 30	
Çayeli	2019	2018	2019	2018
Ore tonnes milled (000's)	232	255	473	512
Copper ore grade processed (%)	1.92	2.13	2.09	2.00
Copper recovery (%)	87	86	89	87
Zinc ore grade processed (%)	1.55	1.37	1.36	1.21
Zinc recovery (%)	40	30	34	28
Copper production (tonnes)	3,872	4,684	8,763	8,909
Copper sales (tonnes)	5,817	5,491	9,631	5,491
Zinc production (tonnes)	1,428	1,051	2,180	1,752
Zinc sales (tonnes)	1,833	2,159	1,833	2,159
All-in sustaining cost (AISC) (per lb)[1]	$1.54	$1.59	$1.56	$1.63
Cash cost (C1) (per lb)[1]	$1.32	$1.29	$1.33	$1.27
Total cost (C3) (per lb)[1]	$2.25	$2.15	$2.23	$2.20
Sales revenues	32	36	50	35
Gross profit	9	10	12	4
Comparative EBITDA[1]	18	20	35	16

[1] AISC, C1 cash cost, C3 total cost and comparative EBITDA are not recognized under IFRS. See "Regulatory Disclosures" for further information.

Three and six months

Copper production for the three and six months ended June 30, 2019, were 17% and 2% lower, respectively, compared to the same periods in 2018 due to lower throughput with production from fewer mining locations and smaller stope dimensions, as well as lower copper grade in the quarter. This was partially offset by higher copper recovery.

Zinc production for the three and six months ended June 30, 2019, was 36% and 24% higher, respectively, than the comparable periods in 2018, due to higher zinc recovery reflecting higher zinc grade ore processed.

AISC for the three and six months ended June 30, 2019, decreased by $0.05 lb and $0.07 per lb, respectively, compared to the same periods in 2018, mainly due to lower sustaining capital expenditure partially offset by higher C1 cash cost. C1 cash cost for the three and six months ended June 30, 2019, increased by $0.03 lb and $0.06 per lb, respectively, compared to the same periods in 2018, mainly due to the impact of lower copper production.

Sales revenues for the three and six months ended June 30, 2019, were $4 million lower and $15 million higher, respectively, compared to the same periods in 2018. In the quarter, the increase in copper sales volumes was more than offset by lower realized copper prices excluding the impact of the corporate sales hedge program, while revenues for the six month period benefited from higher copper sales volumes. Gross profit of $9 million and $12 million for the three and six months ended June 30, 2019, respectively, were impacted by the change in revenues for the same periods.

in United States dollars, tabular amounts in millions, except where noted

Outlook

Production expectation for 2019 is unchanged at 17,000 tonnes of copper and 2,000 tonnes of zinc, reflecting a declining number of work areas as the mine approaches mineral reserve depletion in 2022. However, given zinc production to date, it is expected that full year guidance for zinc production will be exceeded.

Production is expected to be challenging due to poor ground conditions in the areas forecast to be mined, therefore ground stabilization will be critical to achieving the expected production levels.

	Three months ended June 30		Six months ended June 30	
Pyhäsalmi	2019	2018	2019	2018
Ore tonnes milled (000's)	285	315	588	616
Copper ore grade processed (%)	0.74	1.02	0.83	1.00
Copper recovery (%)	90	96	88	96
Zinc ore grade processed (%)	1.05	1.94	1.56	1.80
Zinc recovery (%)	90	90	90	90
Copper production (tonnes)	1,904	3,086	4,247	5,951
Copper sales (tonnes)	1,873	3,328	4,734	6,165
Zinc production (tonnes)	2,695	5,494	8,261	10,020
Zinc sales (tonnes)	2,617	4,697	9,263	9,507
Pyrite production (tonnes)	152,522	159,674	304,997	305,649
Pyrite sales (tonnes)	97,221	99,606	221,888	220,178
All-in sustaining cost (AISC) (per lb)[1]	$0.25	($0.02)	($0.11)	($0.38)
Cash cost (C1) (per lb)[1]	$0.21	($0.02)	($0.13)	($0.38)
Total cost (C3) (per lb)[1]	$1.75	$2.23	$1.69	$1.77
Sales revenues	21	38	57	76
Gross profit	5	10	16	22
Comparative EBITDA[1]	11	25	33	49

[1] AISC, C1 cash cost, C3 total cost and comparative EBITDA are not recognized under IFRS. See "Regulatory Disclosures" for further information.

Three and six months

Copper production was 38% and 29% lower in the three and six months ended June 30, 2019, respectively, due to lower throughput, and lower copper grade. Zinc production for the three and six months ended June 30, 2019, decreased by 51% and 18%, respectively, compared to the same periods in 2018, due to lower throughput and lower zinc grade.

AISC of $0.25 per lb and ($0.11) per lb for the three and six months ended June 30, 2019, were higher than the comparable periods of 2018, due to higher C1 cash cost, which reflected lower by-product credits and the impact of lower copper production.

Sales revenues for the three and six months ended June 30, 2019, were 45% and 25% lower, respectively, than the comparable periods of 2018, reflecting lower sales volumes and lower realized metal prices, excluding the impact of the corporate sales hedge program.

Outlook

The life of the mine has been extended into 2020 with an assumed lower copper cut-off grade. 2019 is expected to be the operation's final full year of production. Production guidance for the year is unchanged at 5,000 tonnes of copper, 3,000 ounces of gold,10,000 tonnes of zinc. However, the Company anticipates that the mine life extension will positively impact the 2019 production profile for the operation. Pyrite production guidance has been increased to 550,000 tonnes.

Planned shutdown periods for the remainder of 2019 include 25 days in the third quarter and 17 days in the fourth quarter.

Ravensthorpe

Ravensthorpe remains in care and maintenance while planning for a restart of operations in the first quarter of 2020 continues. Care and maintenance costs in the second quarter and first half of 2019 were $5 million and $9 million, respectively. Contractor and maintenance costs were $1 million and $3 million higher than budgeted for the quarter and half year, respectively, as activities increased within the process plant.

Resource drilling of the Shoemaker Levy deposit was completed, and critical refurbishment work in the atmospheric leach circuit was 90% complete at the end of the second quarter.

Outlook

The capital works program for permitting, design and subsequent construction of the infrastructure requirements to bring Shoemaker Levy into production continues. Planning for the resumption of operations at Ravensthorpe is underway, and the mine is expected to resume operations in the first quarter of 2020.

in United States dollars, tabular amounts in millions, except where noted

SALES REVENUES

		Three months ended June 30		Six months ended June 30	
		2019	2018	2019	2018
Kansanshi	- copper	355	379	674	728
	- gold	48	41	87	83
	- acid	5	8	11	10
Sentinel	- copper	319	392	615	777
Las Cruces	- copper	62	133	133	264
Guelb Moghrein	- copper	43	40	85	79
	- gold	18	16	34	32
	- magnetite	16	8	22	13
Çayeli	- copper	28	31	46	30
	- zinc, gold and silver	4	5	4	5
Pyhäsalmi	- copper	10	21	26	37
	- zinc	7	12	19	24
	- pyrite, gold and silver	4	5	12	15
Corporate[1]		20	(42)	28	(163)
Sales revenues[2]		939	1,049	1,796	1,934
	Copper	836	951	1,606	1,749
	Gold	67	59	124	120
	Zinc	10	16	22	28
	Other	26	23	44	37
		939	1,049	1,796	1,934

[1] Corporate sales include sales hedges (see "Hedging programs" for further discussion).
[2] Pre-commercial sales revenues attributable to Cobre Panama are capitalized and are excluded from earnings.

Three month review of sales revenues

Sales revenues were 10% below the comparable period of 2018 due to $115 million lower copper revenues, attributable to a 6% lower net realized copper price and 6% lower sales volumes, excluding pre-commercial sales from Cobre Panama.

The lower realized copper price reduced revenues by $54 million compared with the comparable period of 2018. The average LME price of copper decreased by 11% in the quarter compared to the same period in 2018. The copper sales hedge program contributed a $19 million increase to revenues compared with a $46 million reduction attributable to hedge losses in the corresponding period of 2018.

Sales revenues at Las Cruces decreased by $71 million for the three months ended June 30, 2019, compared with the same period in 2018, due to lower copper sales volumes resulting from decreased production following the land slippage in January 2019, and lower realized copper prices. A 7% increase in Kansanshi copper sales volumes was offset by an 8% decrease in Sentinel copper sales volumes.

Gold revenues were $8 million higher than the comparable period of 2018, principally as a result of increased sales volumes from Kansanshi and Guelb Moghrein, which recorded increases to gold sales volumes of 15% and 10%, respectively, and higher realized gold prices. Increased gold revenues were largely offset by decreased zinc revenues, mainly due to lower sales volumes by Pyhäsalmi.

in United States dollars, tabular amounts in millions, except where noted

Six month review of sales revenues

Sales revenues of $1,796 million for the year to date compared with $1,934 million in the first six months of 2018, as a result of a decrease to copper sales revenues.

Copper sales volumes were 6% lower than the comparable period of 2018, excluding pre-commercial sales from Cobre Panama, mainly due to a decrease in sales volumes by Las Cruces attributable to lower production following the interruption to mining since January 2019. Copper sales volumes from Kansanshi, Çayeli and Guelb Moghrein were, in total, 12,621 tonnes higher than the comparable period of 2018, whereas Sentinel copper sales volumes were 12,076 tonnes lower.

Compared with the corresponding period of 2018, the net realized copper price was 3% lower as the average LME price of copper decreased by 11% in the period compared to 2018. The copper sales hedge program contributed a $27 million increase to revenues compared with a $166 million reduction to revenues in 2018.

REALIZED PRICES

	Three months ended June 30		Six months ended June 30	
Copper selling price (per lb)	2019	2018	2019	2018
Average LME cash price	$2.77	$3.12	$2.80	$3.14
Realized copper price	$2.80	$2.95	$2.80	$2.85
Treatment/refining charges (“TC/RC”) and freight charges	($0.14)	($0.12)	($0.14)	($0.12)
Net realized copper price	$2.66	$2.83	$2.66	$2.73

Given the volatility in copper prices, significant variances can arise between average LME cash price and net realized prices due to the timing of sales during the period.

The copper sales hedging program resulted in increased sales revenues of $19 million and $27 million for the quarter and the six months, respectively. The impact on net realized copper price was an increase of $0.06 per lb and $0.04 per lb for the quarter and the six months, respectively.

Details of the Company’s hedging program and the contracts held, are included on page 34.

in United States dollars, tabular amounts in millions, except where noted

SUMMARY FINANCIAL RESULTS[1]

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Gross profit (loss)				
Kansanshi	116	181	232	337
Sentinel	56	68	111	161
Las Cruces	(19)	44	(25)	86
Guelb Moghrein	18	13	24	28
Çayeli	9	10	12	4
Pyhäsalmi	5	10	16	22
Ravensthorpe	(6)	(4)	(12)	(7)
Corporate[2]	17	(51)	23	(179)
Total gross profit	196	271	381	452
Exploration	(4)	(6)	(8)	(13)
General and administrative	(18)	(17)	(36)	(35)
Other income (expense)	(30)	(3)	(40)	4
Net finance expense	(1)	(2)	(2)	(7)
Loss on extinguishment of senior notes	-	-	(25)	-
Income tax expense	(58)	(90)	(120)	(176)
Net earnings	85	153	150	225
Net earnings attributable to:				
Non-controlling interests	7	18	19	43
Shareholders of the Company	78	135	131	182
Comparative earnings	87	128	182	177
Earnings (loss) per share				
Basic	$0.11	$0.20	$0.19	$0.27
Diluted	$0.11	$0.20	$0.19	$0.26
Comparative	$0.13	$0.19	$0.26	$0.26
Basic weighted average number of shares (in 000's)	687,130	686,423	687,117	686,413

[1] Pre-commercial production operating results attributable to Cobre Panama are capitalized and are excluded from earnings.
[2] Corporate gross profit (loss) relates primarily to the sales hedge contracts.

Second quarter

Gross profit was 28% lower than the comparable quarter of 2018. The impact of the Las Cruces mining interruption following the land slippage in January 2019, and the resulting reduction in copper sales volumes, as well as a lower realized copper price were the main drivers of the decrease to gross profit.

Included within other expense in the quarter is a $33 million foreign exchange loss, mainly attributable to the depreciation of the Zambian kwacha against the US dollar and the impact on the VAT balances due to Kansanshi and Sentinel. A $3 million modification gain was recognized in the quarter on the senior revolving credit facility, as a result of adjustments to the timings of drawdowns on the facility.

Net earnings of $85 million included a tax expense of $58 million reflecting applicable statutory tax rates, which range from 20% to 35% for the Company's operations. No tax charge has been recognized with respect to the gain realized on the Company's copper sales hedge program or the modification gain on the senior revolving credit facility. The effective tax rate for the quarter, excluding the sales hedge program and modification gain on the senior revolving credit facility, was 48%. The effective tax rate excluding these items and the impact of Zambian mining tax regime changes effective January 1, 2019, which increased mineral royalties by 1.5% and made them non-deductible for tax, was 32%.

Six month review of financial results

The impact of the interruption to mining at Las Cruces since January 2019, reduced copper sales volumes, as well as a lower realized copper price were the main drivers of a 16% decrease to gross profit compared with 2018. This was partially offset by lower depreciation at Sentinel and Pyhäsalmi due to lower production volumes and extension of mine life, respectively.

Included within other expense in the quarter is a $37 million foreign exchange loss, mainly attributable to the depreciation of the Zambian kwacha against the US dollar and the impact on the VAT balances due to Kansanshi and Sentinel. Also reflected in other expense is a $13 million write-off of assets and other costs that was recognized following the mining interruption at Las Cruces caused by the land slippage in January 2019.

A $3 million modification gain was recognized in the second quarter on the senior revolving credit facility, as a result of adjustments to the timings of drawdowns on the facility. A $25 million loss on partial redemption of the Company's 7.00% Notes due February 2021, was recognized in the first quarter of 2019.

Net earnings of $150 million included a tax expense of $120 million reflecting applicable statutory tax rates, which range from 20% to 35% for the Company's operations. No tax charge has been recognized with respect to the gain realized on the Company's copper sales hedge program, the modification gain on the senior revolving credit facility, or the loss on partial redemption of the senior notes. The effective tax rate for the period, excluding the sales hedge program, loss on partial redemption of senior notes and the modification gain on the senior revolving credit facility, was 45%. The effective tax rate excluding these items and the impact of Zambian mining tax regime changes effective January 1, 2019, which increased mineral royalties by 1.5% and made them non-deductible for tax purposes, was 31%.

in United States dollars, tabular amounts in millions, except where noted

LIQUIDITY AND CAPITAL RESOURCES

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Cash flows from operating activities	179	407	338	1,203
Cash flows from (used by) investing activities				
Payments and deposits for property, plant and equipment	(413)	(575)	(860)	(1,014)
Capitalized borrowing costs paid in cash	(71)	(122)	(287)	(194)
Acquisition of KPMC	-	-	-	(105)
Other investing activities	7	-	12	5
Cash flows from (used by) financing activities				
Net movement in debt and trading facilities	247	157	802	217
Early redemption costs on senior notes	-	-	(14)	-
Other financing activities	(4)	30	23	(118)
Exchange gains (losses) on cash and cash equivalents	7	(25)	-	(14)
Net cash inflow (outflow)	(48)	(128)	14	(20)
Cash balance	802	682	802	682
Total assets	24,873	22,661	24,873	22,661
Total current liabilities	2,069	1,892	2,069	1,892
Total long-term liabilities	11,928	10,317	11,928	10,317
Net debt[1]	7,304	5,865	7,304	5,865
Cash flows from operating activities per share[1]	$0.26	$0.59	$0.49	$1.75

[1] Cash flows per share and Net debt are not recognized under IFRS. See “Regulatory Disclosures” for further information.

Cash flows from operating activities in the quarter excluding $89 million received from Franco-Nevada under the precious metal stream agreement in the comparable period of 2018, were $139 million lower in the current period. There was a $36 million unfavourable movement in working capital, reflecting the continued ramp-up at Cobre Panama and build-up of working capital balances. Cash generated from operations was $121 million lower, partially offset by an $18 million reduction in tax paid in the quarter.

The total VAT receivable accrued by the Company's Zambian operations at June 30, 2019, was $528 million, of which $309 million relates to Kansanshi. In February 2015, the Government of Zambia implemented a change in the Statutory Instrument regarding VAT. Claims totalling Zambian kwacha 1,585 million (currently equivalent to $124 million) made by Kansanshi prior to this date remain outstanding. $25 million has been previously recognized to reflect the impact of discounting the balance over the expected timeframe to repayment. Cash totalling $99 million has been received to date for claims subsequent to February 2015. The accrual for historical VAT receivables stems from the application of discretionary rules established and applied by the Commissioner General relating to exports from Zambia. The Company is in regular discussions with the relevant government authorities and continues to consider that the outstanding claims are fully recoverable.

in United States dollars, tabular amounts in millions, except where noted

Zambian VAT	June 30, 2019	December 31, 2018
Receivable at date of claim	768	645
Impact of depreciation of Zambian kwacha against US$	(215)	(177)
	553	468
Impact of discounting non-current portion	(25)	(25)
Total receivable	528	443
Comprising:		
Current portion, included within trade and other receivables	429	334
Non-current VAT receivable	99	109

Cash flows used by investing activities in the second quarter of 2019 included capital expenditure of $413 million compared to $575 million for the same period in 2018 and is comprised primarily of $319 million of Cobre Panama capital expenditure, inclusive of $238 million project capital expenditure. Interest capitalized to property, plant and equipment paid in the quarter amounted to $71 million compared with $122 million in 2018.

Cash flows from financing activities of $243 million included proceeds from trading and other debt facilities of $247 million, net of dividends paid in the quarter of $3 million.

Liquidity outlook

At June 30, 2019, the Company had $290 million of committed undrawn facilities, $802 million in net unrestricted cash, and working capital of $1,198 million. These, together with expected future cash flows, support the Company's belief in its ability to meet current obligations as they become due. The Company was in full compliance with all its financial covenants at June 30, 2019, and expects to remain in compliance throughout the next 12 months.

The syndication of the new $2.7 billion Term Loan and Revolving Credit Facility, signed by the Company on February 6, 2019, and underwritten by three core relationship banks, was closed in June 2019. This facility replaces the existing $1.5 billion Revolving Credit Facility. The new Facility comprises a $1.5 billion Term Loan Facility and a $1.2 billion Revolving Credit Facility (the "Facility"), maturing on December 31, 2022.

On March 27, 2019, $821 million of the senior notes due February 2021 were redeemed at a price of 101.75 plus accrued interest.

On July 18, 2019, Fitch Ratings ("Fitch") reaffirmed a B rating with a stable outlook for both the Long-Term Issuer Default Rating and senior unsecured rating. On June 7, 2019, Moody's Investor Service ("Moody's") downgraded to Caa1 from B3 the corporate family rating and from B3 to Caa1 the senior unsecured rating of the Company. Concurrently, Moody's changed the outlook to stable from negative. The rating by Moody's is unsolicited and non-participating. Solicited participating ratings are provided by Fitch and Standard & Poor's, which are unchanged.

At June 30, 2019, the Company had total commitments of $94 million, of which approximately $82 million related to the 12 months following the period end.

in United States dollars, tabular amounts in millions, except where noted

Contractual and other obligations as at June 30, 2019 are as follows:

	Carrying value	Contractual cashflows	< 1 year	1 – 3 years	3 – 5 years	Thereafter
Debt – principal repayments	7,947	8,028	351	2,342	3,235	2,100
Debt – finance charges	-	2,289	554	977	538	220
Trading facilities	159	159	159	-	-	-
Trade and other payables	653	653	653	-	-	-
Derivative instruments	9	9	9	-	-	-
Liability to joint venture[1]	1,198	1,791	-	-	1,791	-
Joint venture consideration	273	300	100	200	-	-
Current taxes payable	127	127	127	-	-	-
Deferred payments	41	41	4	8	8	21
Lease Liability	29	17	2	5	6	4
Commitments	-	94	82	8	4	-
Restoration provisions	592	1,048	6	75	76	891

[1] Refers to distributions to KPMC, a joint venture that holds a 20% non-controlling interest in MPSA of which the Company has joint control, and not scheduled repayments.

Hedging programs

The Company has hedging programs in respect of future copper sales and provisionally priced sales contracts. Below is a summary of the fair values of unsettled derivative financial instruments for commodity contracts recorded on the consolidated balance sheet.

Commodity contracts	June 30, 2019	December 31, 2018
Asset position	33	43
Liability position	(9)	(3)

The Company has entered into derivative contracts to ensure that the exposure to the price of copper on future sales is managed to ensure stability of cash flows as the development of the Cobre Panama project ramps up to commercial production, while maintaining compliance with financial covenants.

At July 29, 2019, the Company has zero cost collar unmargined copper sales contracts for 47,500 tonnes with maturities to February 2020 at weighted average prices of $2.79 per lb to $2.99 per lb. The Company also has 22,500 tonnes of unmargined copper forward sales contracts at an average price of $2.94 per lb outstanding with periods of maturity to December 2019. The Company also has unmargined nickel forward sales contracts for 7,008 tonnes at an average price of $6.53 per lb outstanding with maturities to February 2021.

Approximately 20% of remaining expected copper sales in 2019, excluding Cobre Panama, are hedged to unmargined forward and zero cost collar sales contracts, at an average floor price of $2.84 per lb.

A gain of $19 million for settled hedges was realized through sales revenues in the quarter. Fair value gains on outstanding contracts of $22 million have been recognized as a derivative asset at June 30, 2019.

Provisional pricing and derivative contracts

A portion of the Company's metal sales is sold on a provisional pricing basis whereby sales are recognized at prevailing metal prices when title transfers to the customer and final pricing is not determined until a subsequent date, typically two months later. The difference between final price and provisional invoice price is recognized in net earnings. In order to mitigate the impact of these adjustments on net earnings, the Company enters into derivative contracts to directly offset the pricing exposure on the provisionally priced contracts. The provisional pricing gains or losses and offsetting derivative gains or losses are both recognized as a component of cost of sales. Derivative assets are presented in other assets and derivative liabilities are presented in other liabilities with the exception of copper and gold embedded derivatives which are included within accounts receivable.

in United States dollars, tabular amounts in millions, except where noted

As at June 30, 2019, the following derivative positions in provisionally priced sales and commodity contracts not designated as hedged instruments were outstanding:

	Open Positions (tonnes/ozs)	Average Contract price	Closing Market price	Maturities Through
Embedded derivatives in provisionally priced sales contracts:				
Copper	85,010	$2.73/lb	$2.71/lb	October 2019
Gold	20,903	$1,328/oz	$1,409/oz	October 2019
Zinc	14,916	$1.18/lb	$1.17/lb	October 2019
Commodity contracts:				
Copper	85,000	$2.73/lb	$2.71/lb	October 2019
Gold	21,068	$1,328/oz	$1,409/oz	October 2019
Zinc	14,916	$1.18/lb	$1.17/lb	October 2019

As at June 30, 2019, substantially all of the Company's metal sales contracts subject to pricing adjustments were hedged by offsetting derivative contracts.

EQUITY

At the date of this report, the Company had 689,394,467 shares outstanding.

JOINT VENTURE

On November 8, 2017, the Company completed the purchase of a 50% interest in KPMC from LS-Nikko Copper Inc. KPMC is jointly owned and controlled with Korea Resources Corporation and holds a 20% interest in Cobre Panama. The purchase consideration was $664 million, of which the remaining $300 million has been discounted and is repayable in three instalments to November 2021.

The Company has recognized a $600 million investment in the joint venture, representing the discounted consideration value, against which the Company's proportionate share of the profit or loss in KPMC is recognized. The assets and liabilities of KPMC are an investment in MPSA, a subsidiary of the Company, a loan receivable from MPSA, and loans due to shareholders. Interest income and expense earned on these loans is on the same terms.

FRANCO-NEVADA STREAM

The Company, through its subsidiary, MPSA, has a precious metal streaming arrangement with Franco-Nevada. The arrangement comprises two tranches, the first of which ("Tranche 1") was finalized on October 5, 2015. Under the terms of Tranche 1 Franco-Nevada, through a wholly owned subsidiary, agreed to provide a $1 billion deposit to be funded on a pro-rata basis of 1:3 with the Company's 80% share of the capital costs of Cobre Panama in excess of $1 billion. The full Tranche 1 deposit amount has been fully funded to MPSA. The second ("Tranche 2") was finalized on March 16, 2018, and $356 million was received on completion. Proceeds received from Franco-Nevada under the terms of the precious metals streaming agreement are accounted for as deferred revenue.

The amount of precious metals deliverable under both tranches is indexed to total copper-in-concentrate sold by Cobre Panama. Under the terms of Tranche 1 the ongoing payment of the Fixed Payment Stream is fixed per ounce payments of $418.27 /oz gold and $6.27/oz silver subject to an annual inflation adjustment for the first 1,341,000 ounces of gold and 21,510,000 ounces of silver (approximately the first 20 years of expected deliveries). Thereafter the greater of $418.27/oz for gold and $6.27/oz for silver, subject to an adjustment for inflation, and one half of the then prevailing market price. Under Tranche 2 the ongoing price per ounce for deliveries is 20% of the spot price for the first 604,000 ounces of gold and 9,618,000 ounces of silver (approximately the first 25 years of production), and thereafter the price per ounce rises to 50% of the spot price of gold and silver.

Although the market price feature represents an embedded derivative, the value of this derivative is not material. In all cases the amount paid is not to exceed the prevailing market price per ounce of gold and silver.

Deferred revenue will be recognized as revenue over the life of the mine, which is expected to be 36 years. The Company recognized the first delivery obligation to Franco-Nevada under the terms of the arrangement in June 2019 following the first sale of copper concentrate.

in United States dollars, tabular amounts in millions, except where noted

SUMMARY OF RESULTS

The following unaudited tables set out a summary of quarterly and annual results for the Company:

Consolidated operations	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Sales revenues											
Copper	$719	$785	**$2,802**	$798	$951	$904	$963	**$3,616**	$770	$836	**$1,606**
Nickel	58	8	**148**	-	-	-	-	**-**	-	-	**-**
Gold	63	53	**236**	61	59	47	61	**228**	57	67	**124**
Zinc and other elements	37	39	**124**	26	39	27	30	**122**	30	36	**66**
Total sales revenues	877	885	**3,310**	885	1,049	978	1,054	**3,966**	857	939	**1,796**
Gross profit	83	117	**335**	181	271	246	280	**978**	185	196	**381**
Comparative EBITDA	304	318	**1,154**	363	466	427	481	**1,737**	368	376	**744**
Net earnings (loss) attributable to shareholders of the Company	(52)	(115)	**(316)**	47	135	61	198	**441**	53	78	**131**
Comparative earnings (loss)	(28)	(36)	**(111)**	49	128	128	182	**487**	95	87	**182**
Basic earnings (loss) per share	($0.08)	($0.17)	**($0.46)**	$0.07	$0.20	$0.09	$0.29	**$0.64**	$0.08	$0.11	**$0.19**
Comparative earnings (loss) per share	($0.04)	($0.05)	**($0.16)**	$0.07	$0.19	$0.19	$0.26	**$0.71**	$0.14	$0.13	**$0.26**
Diluted earnings (loss) per share	($0.08)	($0.17)	**($0.46)**	$0.07	$0.20	$0.09	$0.29	**$0.64**	$0.08	$0.11	**$0.19**
Dividends declared per common share (CDN$ per share)	$0.005	-	**$0.010**	$0.005	-	$0.005	-	**$0.010**	$0.005	-	**$0.005**
Basic weighted average shares (000's)[1]	686,323	686,402	**685,936**	686,387	686,423	687,108	687,074	**686,747**	687,100	687,130	**687,117**
Cash flows per share from operating activities	$0.39	$0.30	**$1.33**	$1.16	$0.59	$0.64	$0.49	**$2.88**	$0.23	$0.26	**$0.49**
Copper statistics											
Total copper production (tonnes)[3]	145,376	154,319	**573,963**	145,358	150,950	151,241	158,304	**605,853**	136,969	168,399	**305,368**
Total copper sales (tonnes)	148,894	151,905	**580,130**	138,021	152,403	149,877[2]	156,212[2]	**596,513[2]**	130,262[2]	149,333[2]	**279,595[2]**
Realized copper price (per lb)	$2.37	$2.50	**$2.33**	$2.74	$2.95	$2.84	$2.83	**$2.84**	$2.79	$2.80	**$2.80**
TC/RC (per lb)	(0.12)	(0.08)	**(0.09)**	(0.07)	(0.08)	(0.09)	(0.09)	**(0.08)**	(0.09)	(0.10)	**(0.10)**
Freight charges (per lb)	(0.06)	(0.08)	**(0.05)**	(0.05)	(0.04)	(0.04)	(0.05)	**(0.05)**	(0.04)	(0.04)	**(0.04)**
Net realized copper price (per lb)	$2.19	$2.34	**$2.19**	$2.62	$2.83	$2.71	$2.69	**$2.71**	$2.66	$2.66	**$2.66**
Cash cost – copper (C1) (per lb)[3]	$1.21	$1.30	**$1.23**	$1.27	$1.28	$1.31	$1.23	**$1.28**	$1.34	$1.32	**$1.33**
All-in sustaining cost (AISC) (per lb)[3]	$1.75	$1.76	**$1.65**	$1.72	$1.76	$1.80	$1.68	**$1.74**	$1.77	$1.77	**$1.77**
Total cost – copper (C3) (per lb)[3]	$2.03	$2.19	**$2.06**	$2.16	$2.11	$2.11	$2.04	**$2.11**	$2.21	$2.17	**$2.19**
Nickel statistics											
Nickel produced (contained tonnes)	6,325	-	**17,837**	-	-	-	-	**-**	-	-	**-**
Nickel sales (contained tonnes)	7,099	865	**18,683**	-	-	-	-	**-**	-	-	**-**
Nickel produced (payable tonnes)	4,866	-	**13,694**	-	-	-	-	**-**	-	-	**-**
Nickel sales (payable tonnes)	5,455	674	**14,338**	-	-	-	-	**-**	-	-	**-**
Realized nickel price (per payable lb)	$4.77	$5.37	**$4.67**	-	-	-	-	**-**	-	-	**-**
TC/RC (per payable lb)	-	-	**-**	-	-	-	-	**-**	-	-	**-**
Net realized price (per payable lb)	$4.77	$5.37	**$4.67**	-	-	-	-	**-**	-	-	**-**
Cash cost – (C1) (per lb)	$4.16	$(0.61)	**$4.45**	-	-	-	-	**-**	-	-	**-**
All-in sustaining cost (AISC) (per lb)	$4.67	$(0.51)	**$5.29**	-	-	-	-	**-**	-	-	**-**
Total cost – nickel (C3) (per lb)	$5.77	$(0.51)	**$6.17**	-	-	-	-	**-**	-	-	**-**
Gold statistics											
Total gold production (ounces)	47,213	51,904	**199,736**	45,929	46,467	44,979	48,039	**185,414**	49,357	59,647	**109,004**
Total gold sales (ounces)	51,729	50,723	**201,376**	48,815	48,172	42,864	53,221	**193,072**	46,790	56,922	**103,712**
Net realized gold price (per ounce)	$1,209	$1,055	**$1,174**	$1,249	$1,227	$1,086	$1,151	**$1,181**	$1,226	$1,235	**$1,231**
Zinc statistics											
Zinc production (tonnes)	4,376	3,556	**20,723**	5,227	6,545	7,348	7,687	**26,807**	6,318	4,123	**10,441**
Zinc sales (tonnes)	5,379	3,282	**21,851**	4,810	6,856	6,178	8,268	**26,112**	6,646	4,450	**11,096**

[1] Fluctuations in average weighted shares between quarters reflects shares issued and changes in levels of treasury shares held for performance share units

[2] Sales of copper anode attributable to anode produced from third-party purchased concentrate are excluded.

[3] Copper production includes production from Cobre Panama of 30,896 tonnes and 30,921 tonnes for the three and six months ended June 30, 2019, respectively (nil production to June 30, 2018). Copper sales include sales from Cobre Panama of 6,542 tonnes for the three and six months ended June 30, 2019, respectively (nil sales to June 30, 2018). Production and sales volumes and operating results at Cobre Panama are pre-commercial production and therefore not included in earnings or C1, C3 and AISC calculations.

in United States dollars, tabular amounts in millions, except where noted

Kansanshi statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Waste mined (000's tonnes)	15,864	8,707	**55,255**	10,941	14,692	13,175	9,911	**48,719**	10,249	12,210	**22,459**
Ore mined (000's tonnes)	9,039	10,478	**36,603**	9,846	10,082	9,631	8,922	**38,481**	7,363	11,252	**18,615**
Processing											
Sulphide ore processed (000's tonnes)	3,179	3,298	**12,970**	3,182	3,105	3,390	3,301	**12,978**	3,084	3,312	**6,396**
Sulphide ore grade processed (%)	0.74	0.76	**0.75**	0.79	0.81	0.72	0.81	**0.78**	0.90	0.85	**0.87**
Sulphide ore recovery (%)	88	94	**91**	88	91	95	88	**91**	89	91	**90**
Sulphide concentrate grade (%)	21.7	21.8	**22.2**	22.5	23.2	23.3	22.1	**22.8**	21.5	21.7	**21.6**
Mixed ore processed (000's tonnes)	1,983	2,012	**7,997**	2,009	1,930	2,082	2,165	**8,186**	1,870	1,990	**3,860**
Mixed ore grade processed (%)	1.09	0.99	**1.05**	1.16	0.93	1.04	1.08	**1.06**	1.00	1.06	**1.03**
Mixed ore recovery (%)	81	88	**85**	81	87	86	76	**82**	75	74	**75**
Mixed concentrate grade (%)	29.9	27.7	**30.4**	30.3	25.7	31.2	29.9	**29.3**	25.7	26.5	**26.1**
Oxide ore processed (000's tonnes)	1,705	1,811	**6,916**	1,791	1,708	1,749	1,668	**6,916**	1,534	1,856	**3,390**
Oxide ore grade processed (%)	1.49	1.51	**1.51**	1.59	1.53	1.31	1.33	**1.44**	1.14	1.24	**1.19**
Oxide ore recovery (%)	80	89	**87**	80	92	95	92	**89**	87	76	**81**
Oxide concentrate grade (%)	30.0	29.8	**31.3**	32.2	28.9	27.8	28.5	**29.4**	25.0	26.3	**25.7**
Copper cathode produced (tonnes)	17,128	23,874	**78,742**	22,514	18,528	16,303	15,049	**72,394**	10,705	11,325	**22,030**
Copper in concentrate produced (tonnes)	41,578	40,926	**172,059**	41,071	43,942	47,384	46,731	**179,128**	43,208	47,309	**90,517**
Total copper production (tonnes)	58,706	64,800	**250,801**	63,585	62,470	63,687	61,780	**251,522**	53,913	58,634	**112,547**
Gold produced (ounces)	33,297	36,363	**140,595**	32,080	33,536	30,938	33,465	**130,019**	34,743	35,613	**70,356**
Smelting[1]											
Concentrate processed (DMT) [1]	202,093	348,283	**1,211,74**	350,591	326,187	355,435	349,424	**1,381,637**	342,307	351,169	**693,476**
Copper anodes produced (tonnes) [1]	48,819	83,281	**297,553**	86,777	80,097	90,269	89,894	**347,037**	83,134	84,505	**167,639**
Smelter copper recovery (%)	94	97	**96**	97	97	97	97	**97**	97	97	**97**
Acid tonnes produced (000's)	189	325	**1,128**	325	291	319	320	**1,255**	322	323	**645**
Cash Costs (per lb)											
Mining	$0.55	$0.54	**$0.54**	$0.56	$0.58	$0.52	$0.53	**$0.55**	$0.64	$0.64	**$0.64**
Processing	0.51	0.46	**0.49**	0.49	0.49	0.47	0.49	**0.49**	0.58	0.49	**0.55**
Site administration	(0.06)[2]	0.07	**-**	0.08	0.09	0.10	0.11	**0.09**	0.11	0.10	**0.10**
TC/RC and freight charges	0.23	0.18	**0.18**	0.14	0.14	0.14	0.14	**0.14**	0.16	0.18	**0.17**
By-product credits	(0.32)	(0.21)	**(0.27)**	(0.36)	(0.38)	(0.27)	(0.33)	**(0.34)**	(0.38)	(0.38)	**(0.38)**
Total smelter costs	0.08	0.12	**0.11**	0.09	0.10	0.10	0.10	**0.10**	0.13	0.12	**0.12**
Cash cost (C1) (per lb)	$0.99	$1.16	**$1.05**	$1.00	$1.02	$1.06	$1.04	**$1.03**	$1.24	$1.15	**$1.20**
All-in sustaining cost (AISC) (per lb)	$1.79	$1.55	**$1.54**	$1.46	$1.55	$1.59	$1.61	**$1.55**	$1.73	$1.66	**$1.69**
Total cost (C3) (per lb)	$1.64	$1.86	**$1.71**	$1.82	$1.70	$1.73	$1.71	**$1.74**	$1.98	$1.87	**$1.92**
Revenues ($ millions)											
Copper cathodes	$101	$164	**$481**	$145	$128	$97	$82	**$452**	$57	$71	**$128**
Copper anode	201	303	**972**	194	251	295	289	**1,029**	245	252	**497**
Copper in concentrates	77	21	**121**	10	-	-	-	**10**	17	32	**49**
Gold	46	37	**166**	42	41	36	41	**160**	39	48	**87**
Acid	-	-	**-**	2	8	6	5	**21**	6	5	**11**
Total sales revenues	$425	$525	**$1,740**	$393	$428	$434	$417	**$1,672**	$364	$408	**$772**
Copper cathode sales (tonnes)	16,511	24,660	**79,735**	21,334	19,172	16,461	13,698	**70,665**	9,452	12,160	**21,612**
Copper anode sales (tonnes)	32,531	46,480	**163,560**	28,846	37,828	48,357[3]	42,632[3]	**157,663**[3]	40,220[3]	42,610	**82,830**[3]
Copper in concentrate sales (tonnes)	15,269	3,834	**24,405**	1,504	-	-	-	**1,504**	3,361	6,454	**9,815**
Gold sales (ounces)	37,054	35,910	**139,735**	33,666	32,902	32,706	35,616	**134,890**	31,082	37,917	**68,999**

[1] Concentrate processed in smelter and copper anodes produced are disclosed on a 100% basis, inclusive of Sentinel and third-party concentrate processed.

[2] Includes movements in previously recognized operational provisions in the second and third quarters that are not expected to continue in future periods.

[3] Sales of copper anode attributable to anode produced from third-party purchased concentrate are excluded.

in United States dollars, tabular amounts in millions, except where noted

Sentinel statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Waste mined (000's tonnes)	26,254	21,853	**88,495**	21,611	23,744	25,931	24,321	**95,607**	19,335	23,609	**42,944**
Ore mined (000's tonnes)	12,692	12,039	**44,644**	10,172	11,996	11,334	12,016	**45,518**	11,507	12,017	**23,524**
Processing											
Copper ore processed (000's tonnes)	11,434	11,834	**42,087**	11,735	11,979	12,602	12,434	**48,750**	11,581	11,887	**23,468**
Copper ore grade processed (%)	0.53	0.54	**0.52**	0.47	0.51	0.49	0.53	**0.50**	0.54	0.50	**0.52**
Recovery (%)	89	90	**87**	91	92	91	92	**91**	92	92	**92**
Copper in concentrate produced (tonnes)	53,533	57,190	**190,683**	50,310	56,080	56,426	60,840	**223,656**	57,716	54,977	**112,693**
Concentrate grade (%)	23.5	24.2	**24.4**	24.9	25.6	25.3	24.5	**25.0**	26.9	26.5	**26.7**
Cash Costs (per lb)											
Mining	$0.59	$0.66	**$0.67**	$0.71	$0.62	$0.61	$0.42	**$0.58**	$0.55	$0.51	**$0.53**
Processing	0.60	0.57	**0.62**	0.68	0.66	0.65	0.68	**0.67**	0.61	0.61	**0.61**
Site administration	0.09	0.03	**0.05**	0.10	0.10	0.10	0.10	**0.10**	0.09	0.09	**0.09**
TC/RC and freight charges	0.22	0.27	**0.22**	0.21	0.23	0.25	0.24	**0.23**	0.23	0.23	**0.23**
Total smelter costs	0.12	0.14	**0.14**	0.13	0.13	0.11	0.11	**0.12**	0.12	0.11	**0.12**
Cash cost (C1) (per lb)	$1.62	$1.67	**$1.70**	$1.83	$1.74	$1.72	$1.55	**$1.70**	$1.60	$1.55	**$1.58**
All-in sustaining cost (AISC) (per lb)	$2.05	$2.36	**$2.19**	$2.36	$2.29	$2.25	$2.02	**$2.22**	$2.07	$2.06	**$2.07**
Total cost (C3) (per lb)	$2.30	$2.49	**$2.45**	$2.60	$2.46	$2.39	$2.26	**$2.42**	$2.34	$2.29	**$2.31**
Revenues ($ millions)											
Copper anode	$229	$213	**$851**	$328	$321	$254	$266	**$1,169**	$237	$251	**$488**
Copper in concentrates	$71	$68	**$175**	$57	$71	$79	$78	**$285**	$59	$68	**$127**
Total sales revenues	$300	$281	**$1,026**	$385	$392	$333	$344	**$1,454**	$296	$319	**$615**
Copper anode sales (tonnes)	36,734	32,026	**142,394**	48,227	47,947	42,557	44,641	**183,372**	38,815	42,410	**81,225**
Copper concentrate sales (tonnes)	14,121	12,741	**34,966**	10,115	12,596	16,512	15,616	**54,839**	12,372	13,212	**25,584**

Las Cruces statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Waste mined (000's tonnes)	5,067	3,269	**14,589**	1,631	4,835	6,268	2,202	**14,936**	460	-	**460**
Ore mined (000's tonnes)	802	868	**2,422**	648	368	410	256	**1,682**	96	-	**96**
Processing											
Copper ore processed (000's tonnes)	392	420	**1,619**	390	416	338	400	**1,544**	325	360	**685**
Copper ore grade processed (%)	5.04	4.99	**5.07**	5.07	4.87	4.84	5.00	**4.95**	3.75	3.35	**3.54**
Recovery (%)	88	89	**90**	92	93	93	93	**93**	87	86	**87**
Copper cathode produced (tonnes)	17,488	18,700	**73,664**	18,238	18,849	15,181	18,470	**70,738**	10,634	10,366	**21,000**
Cash Costs (per lb)											
Cash cost (C1) (per lb)	$0.93	$0.93	**$0.86**	$0.86	$0.83	$1.02	$0.94	**$0.90**	$1.31	$1.51	**$1.41**
All-in sustaining cost (AISC) (per lb)	$1.20	$1.12	**$1.06**	$1.03	$1.09	$1.41	$1.16	**$1.16**	$1.46	$1.65	**$1.55**
Total cost (C3) (per lb)	$2.25	$2.40	**$2.15**	$2.15	$2.11	$2.50	$2.28	**$2.25**	$3.19	$3.59	**$3.39**
Revenues ($ millions)											
Copper cathode	$109	$122	**$461**	$131	$133	$93	$113	**$470**	$71	$62	**$133**
Copper cathode sales (tonnes)	17,049	17,903	**74,664**	18,771	19,269	15,138	18,345	**71,523**	11,443	10,112	**21,555**

in United States dollars, tabular amounts in millions, except where noted

Guelb Moghrein statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Waste mined (000's tonnes)	3,055	3,607	**14,052**	3,961	2,737	4,277	4,087	**15,062**	3,581	3,107	**6,688**
Ore mined (000's tonnes)	792	519	**3,104**	97	296	445	752	**1,590**	953	1,345	**2,298**
Processing											
Sulphide ore processed (000's tonnes)	832	874	**3,389**	861	938	902	983	**3,684**	994	1,018	**2,012**
Sulphide ore grade processed (%)	0.88	0.90	**0.93**	0.79	0.73	0.94	0.93	**0.85**	0.85	0.84	**0.85**
Recovery (%)	92	91	**92**	90	85	94	91	**90**	88	90	**89**
Copper produced (tonnes)	6,756	7,155	**28,791**	6,135	5,781	7,902	8,319	**28,137**	7,447	7,750	**15,197**
Gold produced (ounces)	11,435	13,270	**49,213**	11,740	10,354	11,644	12,236	**45,974**	12,498	11,961	**24,459**
Magnetite concentrate produced (WMT)	-	-	**-**	93,472	123,100	111,765	97,052	**425,389**	119,169	163,555	**282,724**
Cash Costs (per lb)											
Mining	$0.70	$0.79	**$0.66**	$0.51	$1.11	$0.66	$1.02	**$0.82**	$0.78	$0.57	**$0.66**
Processing	0.93	0.97	**0.93**	1.07	1.23	1.10	0.98	**1.09**	0.87	1.00	**0.94**
Site administration	0.20	0.19	**0.18**	0.19	0.24	0.17	0.17	**0.19**	0.18	0.18	**0.18**
TC/RC and freight charges	0.51	0.51	**0.51**	0.61	0.41	0.66	0.52	**0.54**	0.49	0.35	**0.42**
Gold and magnetite credit	(0.91)	(1.12)	**(1.00)**	(1.39)	(1.24)	(1.02)	(0.96)	**(1.14)**	(1.21)	(1.19)	**(1.20)**
Cash cost (C1) (per lb)	$1.43	$1.34	**$1.28**	$0.99	$1.75	$1.57	$1.73	**$1.50**	$1.11	$0.91	**$1.00**
All-in sustaining cost (AISC) (per lb)	$1.86	$1.60	**$1.65**	$1.84	$2.16	$1.93	$1.95	**$1.93**	$1.37	$1.19	**$1.28**
Total cost (C3) (per lb)	$2.30	$2.25	**$2.13**	$1.86	$2.84	$2.42	$2.79	**$2.46**	$2.22	$1.65	**$1.93**
Revenues ($ millions)											
Copper in concentrates	$37	$39	**$150**	$39	$40	$27	$48	**$154**	$42	$43	**$85**
Gold	13	13	**60**	16	16	9	17	**58**	16	18	**34**
Magnetite concentrate	-	7	**7**	5	8	5	5	**23**	6	16	**22**
Total sales revenues	$50	$59	**$217**	$60	$64	$41	$70	**$235**	$64	$77	**$141**
Copper sales (tonnes)	6,765	6,811	**28,999**	6,387	6,772	5,108	9,099	**27,366**	7,924	8,143	**16,067**
Gold sales (ounces)	11,616	12,384	**50,453**	13,008	12,863	8,100	14,224	**48,195**	13,301	14,156	**27,457**
Magnetite concentrate sold (WMT)	-	-	**-**	79,560	150,167	61,315	85,914	**376,956**	89,631	222,762	**312,393**

in United States dollars, tabular amounts in millions, except where noted

Çayeli statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Ore mined (000's tonnes)	279	202	**941**	259	250	242	249	**1,000**	242	236	**478**
Processing											
Ore milled (000's tonnes)	274	212	**943**	257	255	243	252	**1,007**	241	232	**473**
Copper ore grade processed (%)	2.24	1.72	**1.96**	1.88	2.13	2.39	2.64	**2.26**	2.25	1.92	**2.09**
Copper ore recovery (%)	90	90	**89**	88	86	87	89	**88**	90	87	**89**
Zinc ore grade processed (%)	0.90	0.78	**1.05**	1.05	1.37	1.69	1.50	**1.40**	1.19	1.55	**1.36**
Zinc ore recovery (%)	27	23	**34**	26	30	32	27	**29**	26	40	**34**
Copper produced (tonnes)	5,492	3,284	**16,523**	4,225	4,684	5,056	5,931	**19,896**	4,891	3,872	**8,763**
Zinc produced (tonnes)	653	379	**3,326**	701	1,051	1,305	1,034	**4,091**	752	1,428	**2,180**
Cash Costs (per lb)											
Cash cost – Copper (C1) (per lb)	$1.21	$2.05	**$1.50**	$1.31	$1.29	$1.18	$1.09	**$1.21**	$1.42	$1.32	**$1.33**
All-in sustaining cost (AISC) (per lb)	$1.41	$2.48	**$1.75**	$1.56	$1.59	$1.45	$1.28	**$1.48**	$1.68	$1.54	**$1.56**
Total cost – Copper (C3) (per lb)	$2.50	$2.06	**$2.37**	$2.14	$2.15	$2.05	$1.75	**$2.03**	$2.32	$2.25	**$2.23**
Revenues ($ millions)											
Copper	$33	$23	**$87**	($1)	$31	$13	$44	**$87**	$18	$28	**$46**
Zinc	5	-	**9**	-	4	-	4	**8**	-	3	**3**
Other	1	-	**2**	-	1	-	4	**5**	-	1	**1**
Total sales revenues	$39	$23	**$98**	($1)	$36	$13	$52	**$100**	$18	$32	**$50**
Copper sales (tonnes)	6,462	4,266	**17,716**	-	5,491	2,753	9,153	**17,397**	3,814	5,817	**9,631**
Zinc sales (tonnes)	1,944	-	**4,435**	-	2,159	-	2,154	**4,313**	-	1,833	**1,833**

Pyhäsalmi statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Ore mined (000's tonnes)	319	316	**1,315**	323	299	318	297	**1,237**	292	267	**559**
Processing											
Ore milled (000's tonnes)	315	306	**1,260**	301	315	320	312	**1,248**	303	285	**588**
Copper ore grade processed (%)	1.13	1.07	**1.11**	0.98	1.02	0.98	0.98	**0.99**	0.91	0.74	**0.83**
Copper ore recovery (%)	96	97	**97**	97	96	95	97	**96**	85	90	**88**
Zinc ore grade processed (%)	1.34	1.17	**1.55**	1.66	1.94	2.07	2.35	**2.01**	2.04	1.05	**1.56**
Zinc ore recovery (%)	88	89	**89**	91	90	91	91	**91**	90	90	**90**
Copper produced (tonnes)	3,401	3,190	**13,501**	2,865	3,086	2,989	2,964	**11,904**	2,343	1,904	**4,247**
Zinc produced (tonnes)	3,723	3,177	**17,397**	4,526	5,494	6,043	6,653	**22,716**	5,566	2,695	**8,261**
Pyrite produced (tonnes)	184,486	154,855	**692,124**	145,975	159,674	171,355	168,881	**645,885**	152,475	152,522	**304,997**
Cash Costs (per lb)											
Cash cost – Copper (C1) (per lb)	$0.03	($0.10)	**($0.26)**	($0.81)	($0.02)	($0.48)	($0.59)	**($0.46)**	($0.39)	$0.21	**($0.13)**
All-in sustaining cost (AISC) (per lb)	$0.03	($0.09)	**($0.26)**	($0.81)	($0.02)	($0.48)	($0.59)	**($0.46)**	($0.39)	$0.25	**($0.11)**
Total cost – Copper (C3) (per lb)	$2.43	$2.35	**$2.06**	$1.24	$2.23	$1.67	$1.57	**$1.70**	$1.67	$1.75	**$1.69**
Revenues ($ millions)											
Copper	$18	$20	**$74**	$16	$21	$16	$17	**$70**	$16	$10	**$26**
Zinc	7	8	**37**	12	12	10	11	**45**	12	7	**19**
Pyrite	3	6	**16**	6	3	4	4	**17**	4	3	**7**
Other	6	4	**16**	4	2	4	2	**12**	4	1	**5**
Total sales revenues	$34	$38	**$143**	$38	$38	$34	$34	**$144**	$36	$21	**$57**
Copper sales (tonnes)	3,452	3,184	**13,691**	2,837	3,328	2,991	3,028	**12,184**	2,861	1,873	**4,734**
Zinc sales (tonnes)	3,435	3,282	**17,416**	4,810	4,697	6,178	6,114	**21,799**	6,646	2,617	**9,263**
Pyrite sales (tonnes)	91,569	114,712	**418,743**	120,572	99,606	100,894	124,109	**445,181**	124,667	97,221	**221,888**

in United States dollars, tabular amounts in millions, except where noted

Production and sales of copper and gold during Cobre Panama's pre-commercial production phase is shown below for information purposes. Production and sales volumes and operating results at Cobre Panama are pre-commercial production and therefore not included in earnings or C1, C3 and AISC calculations.

Cobre Panama statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Mining											
Waste mined (000's tonnes)	-	-	-	-	-	-	-	-	18,815	18,590	**37,405**
Ore mined (000's tonnes)	-	-	-	-	-	-	-	-	8,841	11,580	**20,421**
Processing											
Copper ore processed (000's tonnes)	-	-	-	-	-	-	-	-	1,055	8,223	**9,278**
Copper ore grade processed (%)	-	-	-	-	-	-	-	-	-	0.43	**0.43**
Recovery (%)	-	-	-	-	-	-	-	-	-	82	**82**
Concentrate grade (%)	-	-	-	-	-	-	-	-	-	21.5	**21.5**
Copper in concentrate produced (tonnes)	-	-	-	-	-	-	-	-	25	30,896	**30,921**
Gold produced (ounces)	-	-	-	-	-	-	-	-	-	10,550	**10,550**
Copper sold (tonnes)	-	-	-	-	-	-	-	-	-	6,542	**6,542**
Gold sold (ounces)	-	-	-	-	-	-	-	-	-	2,627	**2,627**

Ravensthorpe statistics	Q3 17	Q4 17	2017	Q1 18	Q2 18	Q3 18	Q4 18	2018	Q1 19	Q2 19	2019
Processing											
Beneficiated ore (000's tonnes)	792	-	**2,211**	-	-	-	-	-	-	-	-
Beneficiated ore grade (%)	1.10	-	**1.11**	-	-	-	-	-	-	-	-
Nickel recovery – leach feed to Nickel produced (%)	76	-	**79**	-	-	-	-	-	-	-	-
Nickel produced (contained tonnes)	6,325	-	**17,837**	-	-	-	-	-	-	-	-
Nickel produced (payable tonnes)	4,866	-	**13,694**	-	-	-	-	-	-	-	-
Cash Costs (per lb)											
Mining	$1.01	-	**$1.12**	-	-	-	-	-	-	-	-
Processing	3.17	-	**3.25**	-	-	-	-	-	-	-	-
Site administration	0.34	-	**0.37**	-	-	-	-	-	-	-	-
TC/RC and freight charges	0.26	0.10	**0.27**	-	-	-	-	-	-	-	-
Cobalt credit	(0.62)	(0.71)	**(0.56)**	-	-	-	-	-	-	-	-
Cash cost (C1) (per lb)	$4.16	$(0.61)	**$4.45**	-	-	-	-	-	-	-	-
All-in sustaining cost (AISC) (per lb)	$4.67	$(0.51)	**$5.29**	-	-	-	-	-	-	-	-
Total cost (C3) (per lb)	$5.77	$(0.51)	**$6.17**	-	-	-	-	-	-	-	-
Revenues ($ millions)											
Nickel	$58	$8	**$146**	-	-	-	-	-	-	-	-
Cobalt	7	1	**17**	-	-	-	-	-	-	-	-
Total sales revenues	$65	$9	**$163**	-	-	-	-	-	-	-	-
Nickel sales (contained tonnes)	7,099	865	**18,683**	-	-	-	-	-	-	-	-
Nickel sales (payable tonnes)	5,455	674	**14,338**	-	-	-	-	-	-	-	-

REGULATORY DISCLOSURES

Seasonality

The Company's results as discussed in this MD&A are subject to seasonal aspects, in particular the wet season in Zambia. The wet season in Zambia generally starts in November and continues through April, with the heaviest rainfall normally experienced in the months of December, January, February and March. As a result of the wet season, pit access and the ability to mine ore is lower in the first quarter of the year than other quarters and the cost of mining is higher.

Off-balance sheet arrangements

The Company had no off-balance sheet arrangements as of the date of this report.

Non-GAAP financial measures

This document refers to cash cost (C1), all-in sustaining cost (AISC) and total cost (C3) per unit of payable production, operating cash flow per share, comparative EBITDA, Net debt and comparative earnings, which are not measures recognized under IFRS, do not have a standardized meaning prescribed by IFRS and are not necessarily comparable to similar measures presented by other issuers. These measures are used internally by management and serve to provide additional information and should not be considered in isolation to measures prepared under IFRS.

The calculation of these measures is described below, and may differ from those used by other issuers. The Company discloses these measures in order to provide assistance in understanding the results of the operations and to provide additional information to investors.

Calculation of cash cost, all-in sustaining cost, total cost, sustaining capital expenditure and deferred stripping costs capitalized

The consolidated cash cost (C1), all-in sustaining cost (AISC) and total cost (C3) presented by the Company are measures that are prepared on a basis consistent with the industry standard definitions but are not measures recognized under IFRS. In calculating the C1 cash cost, AISC and C3 total cost for each segment, the costs are measured on the same basis as the segmented financial information that is contained in the financial statements.

C1 cash cost includes all mining and processing costs less any profits from by-products such as gold, silver, zinc, pyrite, cobalt, sulphuric acid, or iron magnetite and is used by management to evaluate operating performance. TC/RC and freight deductions on metal sales, which are typically recognized as a component of sales revenues, are added to C1 cash cost to arrive at an approximate cost of finished metal.

AISC is defined as cash cost (C1) plus general and administrative expenses, sustaining capital expenditure, deferred stripping, royalties and lease payments and is used by management to evaluate performance inclusive of sustaining expenditure required to maintain current production levels.

C3 total cost is defined as AISC less sustaining capital expenditure, deferred stripping and general and administrative expenses net of insurance, plus depreciation and exploration. This metric is used by management to evaluate the operating performance inclusive of costs not classified as sustaining in nature such as exploration and depreciation.

in United States dollars, tabular amounts in millions, except where noted

Sustaining capital expenditure is defined as capital expenditure during the production phase, incurred to sustain and maintain the existing assets to achieve constant planned levels of production, from which future economic benefits will be derived. This includes expenditure for assets to retain their existing productive capacity, and to enhance assets to minimum reliability, environmental and safety standards.

Deferred stripping costs capitalized are defined as waste material stripping costs in excess of the strip ratio, for the production phase, and from which future economic benefits will be derived from future access to ore. Deferred stripping costs are capitalized to the mineral property, and will be depreciated on a units-of-production basis.

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Purchase and deposits on property, plant and equipment	413	575	860	1,014
Sustaining capital expenditure and deferred stripping excluding Cobre Panama	61	87	110	149
Sustaining capital expenditure and deferred stripping – Cobre Panama	37	-	86	-
Project capital expenditure – Cobre Panama development	238	443	371	781
Project capital expenditure – other[1]	65	45	247	84
Pre-commercial costs	12	-	46	-
Total capital expenditure	413	575	860	1,014

[1] Represents other project capital expenditure at all sites including expenditure at Cobre Panama to enable commencement of the expansion to 100mtpa capacity, including the initial development and engineering work allowing mining to proceed to the Colina pit.

in United States dollars, tabular amounts in millions, except where noted

The following tables provide a reconciliation of C1, C3 and AISC to the consolidated financial statements:

For the three months ended June 30, 2019	Kansanshi	Sentinel	Las Cruces	Guelb Moghrein	Çayeli	Pyhäsalmi	Copper	Corporate & other	Ravensthorpe	Total
Cost of sales	(292)	(263)	(81)	(59)	(23)	(16)	**(734)**	(3)	(6)	**(743)**
Adjustments:										
Depreciation	64	60	46	11	8	6	**195**	1	2	**198**
By-product credits	53	-	-	32	5	13	**103**	-	-	**103**
Royalties	28	25	1	2	-	-	**56**	-	-	**56**
Treatment and refining charges	(11)	(13)	-	(4)	(4)	(1)	**(33)**	-	-	**(33)**
Freight costs	(3)	(6)	-	-	(2)	(1)	**(12)**	-	-	**(12)**
Finished goods	19	13	(1)	3	4	(1)	**37**	-	-	**37**
Other[1]	(2)	1	1	1	1	(1)	**1**	2	5	**8**
Cash cost (C1)	(144)	(183)	(34)	(14)	(11)	(1)	**(387)**	-	1	**(386)**
Adjustments:										
Depreciation (excluding depreciation in finished goods)	(62)	(61)	(47)	(10)	(8)	(6)	**(194)**	-	(3)	**(197)**
Royalties	(28)	(25)	(1)	(2)	-	-	**(56)**	-	-	**(56)**
Other	(1)	-	-	-	(1)	-	**(2)**	-	-	**(2)**
Total cost (C3)	(235)	(269)	(82)	(26)	(20)	(7)	**(639)**	-	(2)	**(641)**
Cash cost (C1)	(144)	(183)	(34)	(14)	(11)	(1)	**(387)**	-	1	**(386)**
Adjustments:										
General and administrative expenses	(8)	(8)	(2)	-	-	-	**(18)**	-	-	**(18)**
Sustaining capital expenditure and deferred stripping	(29)	(27)	(1)	(3)	(1)	-	**(61)**	-	-	**(61)**
Royalties	(28)	(25)	(1)	(2)	-	-	**(56)**	-	-	**(56)**
Lease payments	(2)	-	-	(1)	-	-	**(3)**	-		**(3)**
AISC	(211)	(243)	(38)	(20)	(12)	(1)	**(525)**	-	1	**(524)**
AISC (per lb)	$1.66	$2.06	$1.65	$1.19	$1.54	$0.25	**$1.77**	-	-	
Cash cost – (C1) (per lb)	$1.15	$1.55	$1.51	$0.91	$1.32	$0.21	**$1.32**	-	-	
Total cost – (C3) (per lb)	$1.87	$2.29	$3.59	$1.65	$2.25	$1.75	**$2.17**	-	-	

in United States dollars, tabular amounts in millions, except where noted

For the six months ended June 30, 2019[1]	Kansanshi	Sentinel	Las Cruces	Guelb Moghrein	Çayeli	Pyhäsalmi	Copper	Corporate & other	Ravensthorpe	Total
Cost of sales	(540)	(504)	(158)	(117)	(38)	(41)	**(1,398)**	(5)	(12)	**(1,415)**
Adjustments:										
Depreciation	119	118	90	29	15	16	**387**	2	3	**392**
By-product credits	98	-	-	56	5	31	**190**	-	-	**190**
Royalties	54	49	2	4	1	-	**110**	-	-	**110**
Treatment and refining charges	(20)	(25)	-	(9)	(6)	(3)	**(63)**	-	-	**(63)**
Freight costs	(4)	(12)	-	-	(3)	(1)	**(20)**	-	-	**(20)**
Finished goods	3	(2)	-	4	1	-	**6**	-	-	**6**
Other[1]	3	1	1	2	-	2	**9**	3	9	**21**
Cash cost (C1)	(287)	(375)	(65)	(31)	(25)	4	**(779)**	-	-	**(779)**
Adjustments:										
Depreciation (excluding depreciation in finished goods)	(119)	(123)	(90)	(25)	(16)	(16)	**(389)**	-	(4)	**(393)**
Royalties	(54)	(49)	(2)	(4)	(1)	-	**(110)**	-	-	**(110)**
Other	(3)	(2)	-	(1)	(1)	-	**(7)**	-	-	**(7)**
Total cost (C3)	(463)	(549)	(157)	(61)	(43)	(12)	**(1,285)**	-	(4)	**(1,289)**
Cash cost (C1)	(287)	(375)	(65)	(31)	(25)	4	**(779)**	-	-	**(779)**
Adjustments:										
General and administrative expenses	(14)	(17)	(3)	(1)	(1)	-	**(36)**	-	-	**(36)**
Sustaining capital expenditure and deferred stripping	(53)	(49)	(2)	(4)	(2)	-	**(110)**	-	-	**(110)**
Royalties	(54)	(49)	(2)	(4)	(1)	-	**(110)**	-	-	**(110)**
Lease payments	(3)	(1)	-	(1)	-	-	**(5)**	-	-	**(5)**
AISC	(411)	(491)	(72)	(41)	(29)	4	**(1,040)**	-	-	**(1,040)**
AISC (per lb)	$1.69	$2.07	$1.55	$1.28	$1.56	($0.11)	**$1.77**	-	-	
Cash cost – (C1) (per lb)	$1.20	$1.58	$1.41	$1.00	$1.33	($0.13)	**$1.33**	-	-	
Total cost – (C3) (per lb)	$1.92	$2.31	$3.39	$1.93	$2.23	$1.69	**$2.19**	-	-	

[1] C1 cash cost, C3 total cost and AISC exclude third-party concentrate purchased at Kansanshi.

in United States dollars, tabular amounts in millions, except where noted

For the three months ended June 30, 2018	Kansanshi	Sentinel	Las Cruces	Guelb Moghrein	Çayeli	Pyhäsalmi	Copper	Corporate & other	Ravensthorpe	Total
Cost of sales	(247)	(324)	(89)	(51)	(26)	(28)	**(765)**	(9)	(4)	**(778)**
Adjustments:										
Depreciation	61	74	51	11	10	15	**222**	-	2	**224**
By-product credits	49	-	-	24	5	18	**96**	-	-	**96**
Royalties	26	22	2	2	-	-	**52**	-	-	**52**
Treatment and refining charges	(5)	(14)	-	(5)	(4)	(3)	**(31)**	-	-	**(31)**
Freight costs	(6)	(5)	-	-	(1)	-	**(12)**	-	-	**(12)**
Finished goods	(21)	36	1	-	4	(1)	**19**	-	-	**19**
Other	5	-	1	(1)	(1)	-	**4**	9	2	**15**
Cash cost (C1)	(138)	(211)	(34)	(20)	(13)	1	**(415)**	-	-	**(415)**
Adjustments:										
Depreciation (excluding depreciation in finished goods)	(62)	(64)	(51)	(11)	(8)	(15)	**(211)**	-	(2)	**(213)**
Royalties	(26)	(22)	(2)	(2)	-	-	**(52)**	-	-	**(52)**
Other	(2)	(2)	-	-	-	-	**(4)**	-	(1)	**(5)**
Total cost (C3)	(228)	(299)	(87)	(33)	(21)	(14)	**(682)**	-	(3)	**(685)**
Cash cost (C1)	(138)	(211)	(34)	(20)	(13)	1	**(415)**	-	-	**(415)**
Adjustments:										
General and administrative expenses	(6)	(9)	(2)	-	-	-	**(17)**	-	-	**(17)**
Sustaining capital expenditure and deferred stripping	(37)	(37)	(8)	(3)	(2)	-	**(87)**	-	-	**(87)**
Royalties	(26)	(22)	(2)	(2)	-	-	**(52)**	-	-	**(52)**
AISC	(207)	(279)	(46)	(25)	(15)	1	**(571)**	-	-	**(571)**
AISC (per lb)	$1.55	$2.29	$1.09	$2.16	$1.59	($0.02)	**$1.76**	-	-	
Cash cost – (C1) (per lb)	$1.02	$1.74	$0.83	$1.75	$1.29	($0.02)	**$1.28**	-	-	
Total cost – (C3) (per lb)	$1.70	$2.46	$2.11	$2.84	$2.15	$2.23	**$2.11**	-	-	

in United States dollars, tabular amounts in millions, except where noted

For the six months ended June 30, 2018	Kansanshi	Sentinel	Las Cruces	Guelb Moghrein	Çayeli	Pyhäsalmi	Copper	Corporate & other	Ravensthorpe	Total
Cost of sales	(484)	(616)	(178)	(96)	(31)	(54)	**(1,459)**	(16)	(7)	**(1,482)**
Adjustments:										
Depreciation	121	142	102	21	13	27	**426**	-	3	**429**
By-product credits	93	-	-	45	5	39	**182**	-	-	**182**
Royalties	55	46	4	4	1	-	**110**	-	-	**110**
Treatment and refining charges	(10)	(28)	-	(8)	(4)	(5)	**(55)**	-	-	**(55)**
Freight costs	(13)	(10)	-	-	(1)	-	**(24)**	-	-	**(24)**
Finished goods	(41)	52	2	2	(6)	-	**9**	-	-	**9**
Other	2	-	1	(1)	(1)	(1)	**-**	16	4	**20**
Cash cost (C1)	(277)	(414)	(69)	(33)	(24)	6	**(811)**	-	-	**(811)**
Adjustments:										
Depreciation (excluding depreciation in finished goods)	(137)	(124)	(101)	(20)	(15)	(27)	**(424)**	-	(3)	**(427)**
Royalties	(55)	(46)	(4)	(4)	(1)	-	**(110)**	-	-	**(110)**
Other	(4)	(3)	-	-	-	-	**(7)**	-	-	**(7)**
Total cost (C3)	(473)	(587)	(174)	(57)	(40)	(21)	**(1,352)**	-	(3)	**(1,355)**
Cash cost (C1)	(277)	(414)	(69)	(33)	(24)	6	**(811)**	-	-	**(811)**
Adjustments:										
General and administrative expenses	(12)	(18)	(4)	(1)	-	-	**(35)**	-	-	**(35)**
Sustaining capital expenditure and deferred stripping	(59)	(64)	(11)	(11)	(4)	-	**(149)**	-	-	**(149)**
Royalties	(55)	(46)	(4)	(4)	(1)	-	**(110)**	-	-	**(110)**
AISC	(403)	(542)	(88)	(49)	(29)	6	**(1,105)**	-	-	**(1,105)**
AISC (per lb)	$1.50	$2.32	$1.06	$2.00	$1.63	($0.38)	**$1.74**	-	-	
Cash cost – (C1) (per lb)	$1.01	$1.78	$0.84	$1.36	$1.27	($0.38)	**$1.28**	-	-	
Total cost – (C3) (per lb)	$1.76	$2.53	$2.13	$2.33	$2.20	$1.77	**$2.13**	-	-	

Comparative EBITDA and comparative earnings

Comparative EBITDA and comparative earnings are the Company's adjusted earnings metrics, and are used to evaluate operating performance by management. The Company believes that the comparative metrics presented are useful as the adjusted items do not reflect the underlying operating performance of its current business and are not necessarily indicative of future operating results.

Calculation of operating cash flow per share, Net debt, comparative EBITDA and comparative earnings

In calculating the operating cash flow per share, the operating cash flow calculated for IFRS purposes is divided by the basic weighted average common shares outstanding for the respective period.

Net debt comprises unrestricted cash and cash equivalents, bank overdrafts and total debt.

Comparative EBITDA, comparative earnings and comparative earnings per share are non-GAAP measures which measure the performance of the Company. Comparative EBITDA, comparative earnings and comparative earnings per share exclude certain impacts which the Company believes are not reflective of the Company's underlying performance for the reporting period. These include impairment and related charges, foreign exchange gains and losses, gains and losses on disposal of assets and liabilities, one-time costs related to acquisitions, dispositions, restructuring and other transactions, revisions in estimates of restoration provisions at closed sites, debt extinguishment and modification gains and losses, and discounting of non-current VAT.

in United States dollars, tabular amounts in millions, except where noted

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Operating profit	144	245	297	408
Depreciation	198	224	392	429
Other adjustments				
Write-off of assets and other costs associated with land slippage	-	-	13	-
Foreign exchange loss	33	7	37	3
(Gain) loss on disposal of assets	1	(9)	3	(8)
Revisions in estimates of restoration provisions at closed sites	-	(1)	2	(3)
Total adjustments excluding depreciation	34	(3)	55	(8)
Comparative EBITDA	376	466	744	829

	Three months ended June 30		Six months ended June 30	
	2019	2018	2019	2018
Net earnings attributable to shareholders of the Company	78	135	131	182
Adjustments attributable to shareholders of the Company:				
Gain (loss) on debt instruments	(3)	-	22	-
Total adjustments to comparative EBITDA excluding depreciation	34	(3)	55	(8)
Tax and minority interest relating to foreign exchange revaluation and comparative adjustments	(22)	(4)	(26)	3
Comparative earnings	87	128	182	177
Earnings per share as reported	$0.11	$0.20	$0.19	$0.27
Comparative earnings per share	$0.13	$0.19	$0.26	$0.26

Adoption of new standards

IFRS 16 Leases

IFRS 16 has replaced IAS 17 Leases. On adoption of IFRS 16, the Company has recognized lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17. The Company has elected to apply the modified transition approach whereby no restatement of comparative periods is required. Right-of-use assets have been recognized at the amount of the liability on transition. These liabilities were valued at the present value of the remaining lease payments, discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The adoption of IFRS 16 resulted in increases to property, plant and equipment and other liabilities on January 1, 2019 of $20 million.

Each lease payment is allocated between the liability and the finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Leases with terms that end within 12 months of the mandatory transition date are accounted for by the Company as short-term leases. Payments associated with short-term leases and leases of low-value assets are recognized as expenses.

Significant judgments, estimates and assumptions

Many of the amounts disclosed in the financial statements involve the use of judgments, estimates and assumptions. These judgments and estimates are based on management's knowledge of the relevant facts and circumstances at the time, having regard to prior experience, and are continually evaluated.

(i) Significant judgments

- Determination of ore reserves and resources

  Judgments about the amount of product that can be economically and legally extracted from the Company's properties are made by management using a range of geological, technical and economic factors, history of conversion of mineral deposits to proven and probable reserves as well as data regarding quantities, grades, production techniques, recovery rates, production costs, transport costs, commodity demand, commodity prices and exchange rates. This process may require complex and difficult geological judgments to interpret the data. The Company uses qualified persons (as defined by the Canadian Securities Administrators' National Instrument 43-101) to compile this data.

  Changes in the judgments surrounding proven and probable reserves may impact the carrying value of property, plant and equipment, restoration provisions, recognition of deferred income tax amounts and depreciation.

- Achievement of commercial production

  Once a mine or smelter reaches the operating levels intended by management, depreciation of capitalized costs begins. Significant judgment is required to determine when certain of the Company's assets reach this level.

  Management considers several factors, including, but not limited to the following:

  - completion of a reasonable period of commissioning;
  - consistent operating results achieved at a pre-determined level of design capacity and indications exist that this level will continue;
  - mineral recoveries at or near expected levels;
  - and the transfer of operations from development personnel to operational personnel has been completed.

- Taxes

  Judgment is required in determining the recognition and measurement of deferred income tax assets and liabilities on the balance sheet. In the normal course of business, the Company is subject to assessment by taxation authorities in various jurisdictions. These authorities may have different interpretations of tax legislation or tax agreements than those applied by the Company in computing current and deferred income taxes. These different judgments may alter the timing or amounts of taxable income or deductions. The final amount of taxes to be paid or recovered depends on a number of factors including the outcome of audits, appeals and negotiation. Amounts to be recovered with respect to indirect taxes, such as VAT, are subject to judgment which, in the instance of a change of circumstances, could result in material adjustments.

The Company operates in a specialized industry and in a number of tax jurisdictions. As a result, its income is subject to various rates of taxation. The breadth of its operations and the global complexity and interpretation of tax regulations require assessment and judgement of uncertainties and of the taxes that the Company will ultimately pay. These are dependent on many factors, including negotiations with tax authorities in various jurisdictions, outcomes of tax litigation and resolution of disputes. The resolution of these uncertainties may result in adjustments to the Company's tax assets and liabilities.

Management assesses the likelihood and timing of taxable earnings in future periods in recognizing deferred income tax assets on unutilized tax losses. Future taxable income is based on forecast cash flows from operations and the application of existing tax laws in each jurisdiction. Forecast cash flows are based on life of mine projections.

To the extent that future cash flows and taxable income differ significantly from forecasts, the ability of the Company to realize the net deferred income tax assets recorded at the balance sheet date could be impacted. In addition, future changes in tax laws could limit the ability of the Company to obtain tax deductions in future periods from deferred income tax assets.

- Precious metal stream arrangement

On October 5, 2015, the Company finalized an agreement with Franco-Nevada for the delivery of precious metals from the Cobre Panama project. Franco-Nevada have provided $1 billion deposit to the Cobre Panama project against future deliveries of gold and silver produced by the mine. A further stream was completed on March 26, 2018, with an additional $356 million received from Franco-Nevada.

Management has determined that the under the terms of the agreement the Company meets the 'own-use' exemption criteria under *IFRS 9: Financial Instruments*. The Company also retains significant business risk relating to the completion of the project and delivery of produced gold and silver and as such has accounted for the proceeds received as deferred revenue.

Management has exercised judgement in determining the appropriate accounting treatment for the Franco-Nevada streaming agreement. Management has determined, with reference to the agreed contractual terms in conjunction with the Cobre Panama reserves and mine plan, that the Franco-Nevada contribution to capital expenditure constitutes a prepayment of revenues deliverable from future Cobre Panama production.

- Assessment of impairment indicators

Management applies significant judgement in assessing each cash-generating units and assets for the existence of indicators of impairment at the reporting date. Internal and external factors are considered in assessing whether indicators of impairment are present that would necessitate impairment testing. Significant assumptions regarding commodity prices, operating costs, capital expenditures and discount rates are used in determining whether there are any indicators of impairment. These assumptions are reviewed regularly by senior management and compared, where applicable, to relevant market consensus views.

The Company's most significant CGUs are longer-term assets and therefore their value is assessed on the basis of longer-term pricing assumptions. Shorter-term assets are more sensitive to short term commodity prices assumptions that are used in the review of impairment indicators.

The carrying value of property, plant and equipment and goodwill at the balance sheet date are disclosed in the notes to the financial statements.

- Derecognition of financial liabilities

Judgement is required in determining if an exchange of issued listed tradeable bonds results in, amongst other factors, a change to the 'existing lender' and, if so, whether that constitutes an extinguishment of an existing financial liability and recognition of a new financial liability.

(ii) Significant accounting estimates

Estimates are inherently uncertain and therefore actual results may differ from the amounts included in the financial statements, potentially having a material future effect on the Company's consolidated financial statements. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below:

- Determination of ore reserves and life of mine plan

  Reserves are estimates of the amount of product that can be economically and legally extracted from the Company's properties. Estimating the quantity and/or grade of reserves requires the size, shape and depth of ore bodies or fields to be determined by analyzing geological data such as drilling samples. Following this, the quantity of ore that can be extracted in an economical manner is calculated using data regarding the life of mine plans and forecast sales prices (based on current and long-term historical average price trends).

  The majority of the Company's property, plant and equipment are depreciated over the estimated lives of the assets on a units-of-production basis. The calculation of the units-of-production rate, and therefore the annual depreciation expense could be materially affected by changes in the underlying estimates which are driven by the life of mine plans. Changes in estimates can be the result of actual future production differing from current forecasts of future production, expansion of mineral reserves through exploration activities, differences between estimated and actual costs of mining and differences in the commodity prices used in the estimation of mineral reserves.

  Management made significant estimates of the strip ratio for each production phase. Waste material stripping costs in excess of this ratio, and from which future economic benefit will be derived from future access to ore, will be capitalized to mineral property and depreciated on a units-of-production basis.

  Changes in the proven and probable reserves estimates may impact the carrying value of property, plant and equipment, restoration provisions, recognition of deferred income tax amounts and depreciation.

- Review of asset carrying values and impairment charges

  The Company reviews the carrying value of assets each reporting period to determine whether there is any indication of impairment using both internal and external sources of information. The Company has determined that each mining operation and smelter is a cash-generating unit.

  External sources of information regarding indications of impairment include considering the changes in market, economic and legal environment in which the Company operates that are not within its control and affect the recoverable amount of, or the timing of economic benefits from mining assets. Internal sources of information include changes to the life of mine plans and economic performance of the assets.

  Management's determination of recoverable amounts includes estimates of mineral prices, recoverable reserves, and operating, capital and restoration costs are subject to certain risks and uncertainties that may affect the recoverability of mineral property costs. The calculation of the recoverable amount can also include assumptions regarding the appropriate discount rate and inflation and exchange rates. Although management has made its best estimate of these factors, it is possible that changes could occur in the near term that could adversely affect management's estimate of the net cash flow to be generated from its projects.

  The Ravensthorpe mine was placed in care and maintenance in October 2017 and an impairment test was performed as at September 30, 2017. As disclosed in the notes to the financial statements, its value is sensitive to longer term nickel price assumptions.

- Estimation of the amount and timing of restoration and remediation costs

  Accounting for restoration provisions requires management to make estimates of the future costs the Company will incur to complete the restoration and remediation work required to comply with existing laws, regulations and agreements in place at each mining operation and any environmental and social principles the Company is in compliance with. The calculation of the present value of these costs also includes assumptions regarding the timing of restoration and remediation work, applicable risk-free interest rate for discounting those future cash outflows, inflation and foreign exchange rates and assumptions relating to probabilities of alternative estimates of future cash outflows. Actual costs incurred may differ from those amounts estimated. Also, future changes to environmental laws and regulations could increase the extent of restoration work required to be performed by the Company. Increases in future costs could materially impact the amounts charged to operations for restoration. A 10% increase in costs would result in an increase to restoration provisions of $63 million at December 31, 2018.

The provision represents management's best estimate of the present value of the future restoration and remediation costs. The actual future expenditures may differ from the amounts currently provided; any increase in future costs could materially impact the amounts included in the liability disclosed in the consolidated balance sheet. The carrying amount of the Company's restoration provision is disclosed in the notes to the financial statements.

Financial instruments risk exposure

The Company's activities expose it to a variety of risks arising from financial instruments. These risks, and management's objectives, policies and procedures for managing these risks are disclosed as follows:

Credit risk

The Company's credit risk is primarily attributable to cash and bank balances, short-term deposits, derivative instruments, trade and other receivables and promissory note receivable. The Company's exposure to credit risk is represented by the carrying amount of each class of financial assets, including commodity contracts, recorded in the consolidated balance sheet.

The Company limits its credit exposure on cash held in bank accounts by holding its key transactional bank accounts with highly rated financial institutions. The Company manages its credit risk on short-term deposits by only investing with counterparties that carry investment grade ratings as assessed by external rating agencies and spreading the investments across these counterparties. Under the Company's risk management policy, allowable counterparty exposure limits are determined by the level of the rating unless exceptional circumstances apply. A rating of investment grade or equivalent is the minimum allowable rating required as assessed by international credit rating agencies. Likewise, it is the Company's policy to deal with banking counterparties for derivatives who are rated investment grade or above by international credit rating agencies and graduated counterparty limits are applied depending upon the rating.

Exceptions to the policy for dealing with relationship banks with ratings below investment grade are reported to, and approved by, the Audit Committee. As at June 30, 2019, substantially all cash and short-term deposits are with counterparties of investment grade.

The Company's credit risk associated with trade accounts receivable is managed through establishing long-term contractual relationships with international trading companies using industry-standard contract terms. Other accounts receivable consist of amounts owing from government authorities in relation to the refund of value-added taxes applying to inputs for the production process and property, plant and equipment expenditures and prepaid taxes.

Liquidity risk

The Company manages liquidity risk by maintaining cash and cash equivalent balances and available credit facilities to ensure that it is able to meet its short-term and long-term obligations as and when they fall due. Company-wide cash projections are managed centrally and regularly updated to reflect the dynamic nature of the business and fluctuations caused by commodity price and exchange rate movements.

In addition, the Company was obligated under its corporate revolving credit and term loan facility to maintain liquidity and satisfy various covenant ratio tests on an historical and prospective cash flow basis. These ratios were in compliance during the three and six-months ended June 30, 2019, and the years ended December 31, 2018, and December 31, 2017. If the Company breaches a covenant in its Financing Agreements, this would be an event of default which, if un-addressed, would entitle the lenders to make the related borrowings immediately due and payable and if made immediately due and payable all other borrowings would also be due and payable.

Market risks

Commodity price risk

The Company is subject to commodity price risk from fluctuations in the market prices of copper, gold, nickel, zinc and other elements.

As part of the hedging program, the Company has elected to apply hedge accounting for a portion of copper sales. As at June 30, 2019, a fair value gain of $22 million has been recognized on derivative instruments in designated hedge relationships through accumulated other comprehensive income and a fair value gain of $19 million has been recognized through sales revenues for the quarter ended June 30, 2019. At June 30, 2019 the Company had zero cost collar unmargined sales contracts for 47,500 tonnes at prices ranging from low side (or put) prices of $2.70 per lb to high side (or call) prices of $3.08 per lb with maturities to February 2020 and 22,500 tonnes of outstanding unmargined forward copper swap contracts at an average price of $2.94 per lb, with maturities to December 2019.

The Company is also exposed to commodity price risk on diesel fuel required for mining operations and sulphur required for acid production. The Company's risk management policy allows for the management of these exposures through the use of derivative financial instruments. As at June 30, 2019, and December 31, 2018, the Company had not entered into any diesel or sulphur derivatives.

The Company's commodity price risk related to changes in fair value of embedded derivatives in accounts receivable reflecting copper, nickel, gold and zinc sales provisionally priced based on the forward price curve at the end of each quarter.

Interest rate risk

The majority of the Company's interest expense is fixed however it is also exposed to an interest rate risk arising from interest paid on floating rate debt and the interest received on cash and short-term deposits. The Company currently capitalizes the majority of interest charges, and therefore the risk exposure is primarily on cash, and net earnings in relation to the depreciation of capitalized interest charges.

Deposits are invested on a short-term basis to ensure adequate liquidity for payment of operational and capital expenditures. To date, no interest rate management products, such as swaps, are used in relation to deposits.

The Company manages its interest rate risk on borrowings on a net basis. The Company has a policy allowing floating-to-fixed interest rate swaps targeting 50% of exposure over a five-year period. As at June 30, 2019, and December 31 2018, the Company held no floating-to-fixed interest rate swaps.

Foreign exchange risk

The Company's functional and reporting currency is USD. As virtually all of the Company's revenues are derived in USD and the majority of its business is conducted in USD, foreign exchange risk arises from transactions denominated in currencies other than USD. Commodity sales are denominated in USD, the majority of borrowings are denominated in USD and the majority of operating expenses are denominated in USD. The Company's primary foreign exchange exposures are to the local currencies in the countries where the Company's operations are located, principally the Zambian kwacha ("ZMW"), Australian dollar ("A$") Mauritanian ouguiya ("MRU"), the euro ("EUR") and the Turkish lira ("TRY"); and to the local currencies suppliers who provide capital equipment for project development, principally the A$, EUR and the South African rand ("ZAR").

The Company's risk management policy allows for the management of exposure to local currencies through the use of financial instruments at a targeted amount of up to 100% for exposures within one year down to 50% for exposures in five years.

Disclosure Controls and Procedures

The Company's disclosure controls and procedures are designed to provide reasonable assurance that all relevant information is communicated to senior management, to allow timely decisions regarding required disclosure.

An evaluation of the effectiveness of the Company's disclosure controls and procedures, as defined under the rules of the Canadian Securities Administration, was conducted as of December 31, 2018, under the supervision of the Company's Audit Committee and with the participation of management. Based on the results of the evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of the end of the period covered by this report in providing reasonable assurance that the information required to be disclosed in the Company's annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported in accordance with the securities legislation.

Since the December 31, 2018 evaluation, there have been no adverse changes to the Company's controls and procedures and they continue to remain effective.

Internal Control over Financial Reporting

Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of the Company's financial reporting and the preparation of financial statements in compliance with IFRS. The Company's internal control over financial reporting includes policies and procedures that:

- pertain to the maintenance of records that accurately and fairly reflect the transactions of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS;
- ensure the Company's receipts and expenditures are made only in accordance with authorization of management and the Company's directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized transactions that could have a material effect on the annual or interim financial statements.

An evaluation of the effectiveness of the Company's internal control over financial reporting was conducted as of December 31, 2018 by the Company's management, including the Chief Executive Officer and Chief Financial Officer, based on the Control - Integrated Framework (2013) established by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission. Based on this evaluation, management has concluded that the Company's internal controls over financial reporting were effective.

There were no changes in the Company's business activities during the period ended June 30, 2019, that have materially affected, or are reasonably likely to materially affect, its internal controls over financial reporting.

Limitations of Controls and Procedures

The Company's management, including the Chief Executive Officer and Chief Financial Officer, believe that any disclosure controls and procedures or internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable and not absolute assurance that the objectives of the control system are met. Further, the design of a control system reflects the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, they cannot provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been prevented or detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by unauthorized override of the control. The design of any systems of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Accordingly, because of the inherent limitations in a cost effective control system, misstatements due to error or fraud may occur and not be detected.

Cautionary statement on forward-looking information

Certain statements and information herein, including all statements that are not historical facts, contain forward-looking statements and forward-looking information within the meaning of applicable securities laws. The forward-looking statements include estimates, forecasts and statements as to the Company's expectations of production and sales volumes, and expected timing of completion of project development at Cobre Panama and Enterprise and are subject to the impact of ore grades on future production, the potential of production disruptions (including at Cobre Las Cruces as a result of the land slippage in January 2019), capital expenditure and mine production costs, the outcome of mine permitting, other required permitting, the outcome of legal proceedings which involve the Company, information with respect to the future price of copper, gold, silver, nickel, zinc, pyrite, cobalt, iron and sulphuric acid, estimated mineral reserves and mineral resources, First Quantum's exploration and development program, estimated future expenses, exploration and development capital requirements, the Company's hedging policy, and goals and strategies. Often, but not always, forward-looking statements or information can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate" or "believes" or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved.

With respect to forward-looking statements and information contained herein, the Company has made numerous assumptions including among other things, assumptions about continuing production at all operating facilities, the price of copper, gold, silver, nickel, zinc, pyrite, cobalt, iron and sulphuric acid, anticipated costs and expenditures and the ability to achieve the Company's goals. Forward-looking statements and information by their nature are based on assumptions and involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. These factors include, but are not limited to, future production volumes and costs, the temporary or permanent closure of uneconomic operations, costs for inputs such as oil, power and sulphur, political stability in Zambia, Peru, Mauritania, Finland, Spain, Turkey, Panama, Argentina and Australia, adverse weather conditions in Zambia, Finland, Spain, Turkey, Mauritania and Panama, labour disruptions, potential social and environmental challenges, power supply, mechanical failures, water supply, procurement and delivery of parts and supplies to the operations, and the production of off-spec material.

See the Company's Annual Information Form for additional information on risks, uncertainties and other factors relating to the forward-looking statements and information. Although the Company has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in the forward-looking statements or information, there may be other factors that cause actual results, performances, achievements or events not to be anticipated, estimated or intended. Also, many of these factors are beyond First Quantum's control. Accordingly, readers should not place undue reliance on forward-looking statements or information. The Company undertakes no obligation to reissue or update forward-looking statements or information as a result of new information or events after the date hereof except as may be required by law. All forward-looking statements and information made herein are qualified by this cautionary statement.