PAN AMERICAN SILVER

ANNUAL REPORT 2018

PAN AMERICAN SILVER

Pan American Silver is the world's premier silver mining company, with large silver reserves and a diversified portfolio of producing mines.

Our asset portfolio offers unparalleled upside for investors seeking exposure to silver through the potential restart of the Escobal mine and development of the Navidad project, as well as our major exploration discovery at La Colorada. In 2019, we celebrate our silver anniversary: 25 years of operating in Latin America, earning an industry-leading reputation for operational excellence and corporate social responsibility.

PAAS: NASDAQ AND TSX
PANAMERICANSILVER.COM

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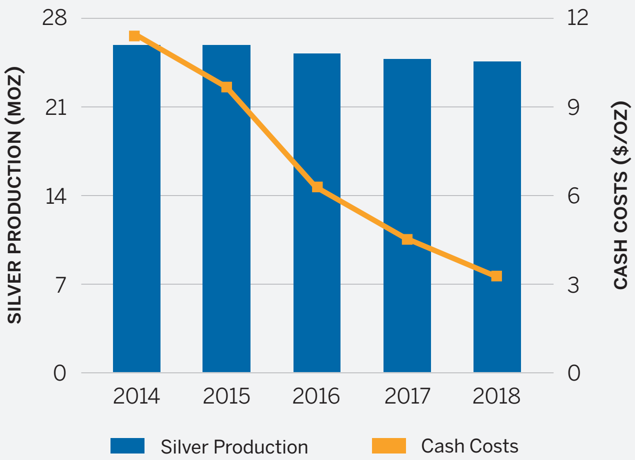
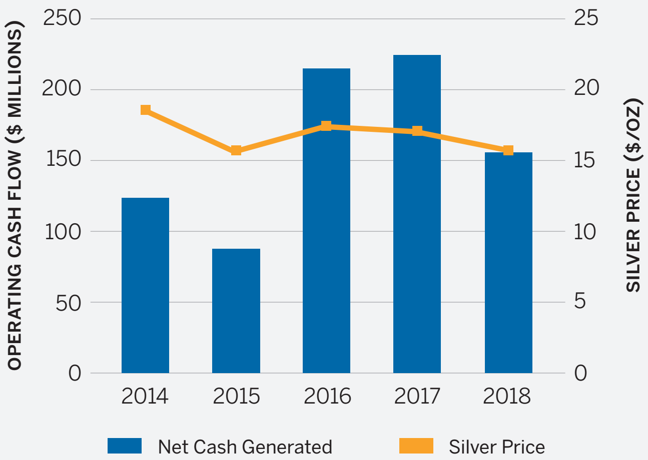
SILVER PRODUCTION AND CASH COSTS(1)



NET CASH GENERATED FROM OPERATING ACTIVITIES AND SILVER PRICE



Certain of the statements and information in this annual report constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian provincial securities laws. Please refer to page six of this annual report for an important note to readers regarding forward-looking statements and information.

All financial data in this report is stated in US dollars ("USD") unless otherwise noted.

FINANCIAL HIGHLIGHTS

FOR THE YEAR ENDED DECEMBER 31

(In millions USD, except per share amounts)	2018	2017
Revenue	784.5	816.8
Net Cash Generated from Operating Activities	155.0	224.6
Net Earnings (Loss)	12.0	123.5
Per share (Basic)	0.07	0.79
Adjusted Earnings (Loss)(2)	59.4	77.7
Per share (Basic)(2)	0.39	0.51
Cash and Short-Term Investments	212.5	227.5
Total Debt(3)	6.7	10.6
Working Capital(4)	397.8	410.8
Dividends	21.3	15.3
Per share	0.14	0.10

OPERATIONAL HIGHLIGHTS & 2019 GUIDANCE

Performance Measure	2018 Guidance(6)	2018 Actual	2019 Guidance(7)
Silver production (million ounces)	25.0 – 26.5	24.8	26.5 – 27.5
Gold production (thousand ounces)	175 – 185	178.9	162.5 – 172.5
Base metal production (thousand tonnes)			
Zinc	60.0 – 62.0	64.8	65.0 – 67.0
Lead	21.0 – 22.0	22.4	24.0 – 25.0
Copper	12.0 – 12.5	9.8	9.8 – 10.3
Cash costs per ounce(1)	$3.60 – $4.60	$3.35	$6.50 – $7.50
All-in sustaining costs per silver ounce sold (AISCSOS)(5)	$9.30 – $10.80	$10.73	$10.80 – $12.30

CAPITAL EXPENDITURES

$ millions	2018 Guidance	2018 Actual	2019 Guidance
Sustaining capital(8)	100 – 105	105.2	85 – 90
Project capital(8)	50	41.3	30
Total	150 – 155	146.5	115 – 120

AVERAGE MARKET METAL PRICES

	2018	2017
Silver ($/ounce)	15.71	17.05
Gold ($/ounce)	1,268	1,257
Zinc ($/tonne)	2,922	2,896
Lead ($/tonne)	2,242	2,317
Copper ($/tonne)	6,523	6,166

(1) Non-GAAP measure. Cash costs is calculated as the net cost of producing an ounce of silver, our primary payable metal, after deducting revenues gained from incidental by-product metals production.

(2) Non-GAAP measure. The Company considers adjusted earnings to better reflect normalized earnings, as it eliminates items that may be volatile from period to period, or relate to positions that will settle in future periods.

(3) Non-GAAP measure. Total debt is calculated as the total current and non-current portions of long-term debt, finance lease liabilities, and loans payable.

(4) Non-GAAP measure. Working capital is calculated as current assets less current liabilities.

(5) Non-GAAP measure. All-in sustaining costs per silver ounce sold, net of by-products, reflects the full cost of operating our consolidated business because it includes the cost of replacing silver ounces through exploration, the cost of ongoing capital investments (sustaining capital), general and administrative expenses, as well as other items that affect the Company's consolidated cash flow.

These non-GAAP measures do not have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies. Please refer to the Alternative Performance (Non-GAAP) Measures section in the Management's Discussion & Analysis for the period ended December 31, 2018 (the MD&A) for further information on these measures.

(6) Original Guidance provided in the Company's news release dated January 11, 2018.

(7) Guidance provided in the Company's news release dated January 21, 2019; this guidance does not include the Tahoe assets acquired as of February 22, 2019. Cash costs and AISCSOS guidance for 2019 are based on the following metal price and exchange rate assumptions: $14.50 per ounce of silver, $1,250 per ounce of gold, $2,600 per tonne of zinc, $1,950 per tonne of lead, and $6,150 per tonne of copper, 19.50 Mexican pesos per USD, 3.3 Peruvian soles per USD, 41.80 Argentine pesos per USD, 6.91 Bolivian bolivianos per USD, $1.30 Canadian dollars per USD.

(8) The sustaining capital total amounts capitalized in 2018 were $0.8 million less than the $106.0 million of 2018 sustaining capital cash outflows. Project capital amounts capitalized in 2018 were $3.4 million less than the $44.7 million of 2018 project capital cash outflows. The sustaining capital cash outflows are included in the 2018 AISCSOS calculation, shown in the "Alternative Performance (non-GAAP) Measures" section in the MD&A, and in the tables included for the individual mines in the "Individual Mine Performance" section of the MD&A; these amounts are different than the amounts capitalized in the period, which are provided in the table above. These differences are due to the timing difference between the cash payment of capital investments compared with the period in which investments are capitalized.

For historical financial and operating data, please see "Interactive Financials" at panamericansilver.com.

CHAIRMAN'S MESSAGE

SILVER ANNIVERSARY EDITION

Dear Fellow Shareholders,

I cannot express enough my pride and pleasure in writing this message on the occasion of Pan American Silver's Jubilee. Twenty five years ago - in March 1994 - I began Pan American with a simple mission: to build the world's biggest and best silver mining company.

It was a bold plan at a time when our share price was only $0.09 and we had no assets. Yet with drive, persistence and teamwork, we have succeeded in building a great company and are now at the brink of achieving this mission. More than this, we have done so while building and maintaining a reputation for excellence - in mining, exploration, engineering, innovation and environmental and social responsibility.

We began our life as a silver company with exploration projects in Mexico in 1994, and then with the acquisition of the Quiruvilca Mine in Peru in 1995. We expanded that mine and then acquired the La Colorada and San Vicente mines in Mexico and Bolivia, respectively, expanding both operations over time. We spent four tough years from 1996 to 2000 working on constructing the Dukat mine in Russia but were bought out there in 2001. In 2000, we acquired the Huaron mine in Peru, in 2002 the Manantial Espejo project in Argentina, and in 2004 the Morococha mine in Peru. We reopened Huaron in 2002, expanded Morococha in 2004 and constructed Manantial Espejo in 2007. In 2003, we added the Alamo Dorado project to our portfolio and constructed a mine there in 2006. We acquired the Navidad project in Argentina in 2010 and the Dolores mine in Mexico in 2012. These operations have been the backbone of the company until today, although Alamo Dorado is now depleted and closed.

I have been so privileged to work with our outstanding teams at all our operations, exploration projects and administration offices. Mining is a tough, risky business but our teams have shown that mining can occur in a way that benefits our employees, contractors, communities, countries we work in, as well as our shareholders - and without harm to the environment.

Mining is a cyclical industry. The key to our success has been to create exposure to higher silver prices during down markets and benefit from this exposure when prices are strong. Our exposure to silver has come both from large silver production at our operating mines as well as our enormous silver reserves and resources. Late in 2001, we experienced great stress when silver prices reached record lows, but fortunately markets turned higher early in 2002 and we never looked back as the silver price rose from around $4 an ounce to a high of about $49 an ounce in 2011. Since 2011, the silver price has declined but I am optimistic it is again in a secular bullish trend that will see its price exceed historic highs.

We had two big events in 2018. The first was a major discovery of silver-lead-zinc-copper mineralization at our La Colorada mine. While it’s too early to quantify, I expect further exploration will outline a world-class polymetallic deposit that will support a major new mine. The second was our offer to acquire Tahoe Resources, which closed in early 2019, bringing five mines, including the huge Escobal silver mine in Guatemala.

And so we begin our next 25 years in 2019 with a focus on getting the world-class Escobal mine back in production and advancing our giant Navidad silver deposit in Argentina. Pan American expects to produce about 27 million ounces of silver this year. Escobal would have the potential to increase our silver production close to 50 million ounces and Navidad would further increase our silver output dramatically. What a wonderful outlook for the years to come!

While many years during our first quarter century were turbulent and difficult, we weathered the storms with success. Now I think the skies have cleared, allowing us to see a long, healthy life ahead for our company. The greatest asset of Pan American Silver has always been the thousands of people who work every day to make us a great company with a great reputation. I’m sure you will understand my pride and pleasure in working with such fine people for so many years as we built such an outstanding company. Onward and upward we go!

Ross Beaty, Chairman
March 12, 2019

PRESIDENT'S MESSAGE

Dear Shareholders,

In 2019, Pan American will celebrate its silver anniversary – 25 years of growth and creating value for our shareholders, employees and communities. Our Board Chair, Ross Beaty, set the vision for Pan American when he founded the company in 1994: to build the largest and best silver company in the world.

It is most fitting on our 25th anniversary that we took a major step in fulfilling that vision. Our acquisition of Tahoe Resources doubles our silver reserves[1], expands our geographic diversification, and results in Pan American becoming the largest publicly-traded silver mining company by free float.

The acquisition of Tahoe is consistent with our disciplined management of capital. Our approach reflects diligence, preparation and timing. *Diligence* - in our quest to generate accretive growth for shareholders, we explored many possibilities and evaluated numerous transactions. None were as logical as the combination of Pan American and Tahoe, nor offered a similar risk to reward opportunity. *Preparation* - over 2018, we continued to strengthen our balance sheet, repaying all of our bank debt and using the excess free cash flow to build a strong cash position. *Timing* - we remained patient and waited for the right time in the precious metals market to pursue a transaction. The result is the right transaction at the right time for our shareholders.

A priority in 2019 will be integrating Tahoe's assets and people into our operations. We are adding five new mines to our portfolio, three in Latin America where we have a long history of working, and two in Canada. We expect to capture valuable synergies through the integration of our two businesses.

Through our acquisition of Tahoe, we also became the owner of the Escobal mine in Guatemala - one of the best silver mines in the world. Escobal has proven and probable silver reserves totaling 264 million ounces[2]. Its production was approximately 20 million ounces at all-in sustaining costs of about $9 an ounce during the last four quarters it was in production[2][3]. Operations have been suspended since mid-2017, and an ILO 169 consultation process, led by Guatemalan Ministry of Energy and Mines ("MEM"), must be completed to reinstate the mining license for Escobal. We will support MEM on the ILO 169 consultation process, as well as work towards gaining the support of the local communities for the mine's operation. We structured the acquisition of Tahoe with a portion of the payment made only when operations restart at Escobal to help mitigate the risk associated with re-opening that mine.

We believe our proven 25-year track record of responsibly constructing and operating mines in Latin

America, and building relationships with communities and Indigenous groups, will help to earn a lasting social license for operations at Escobal. Earning that trust will take time, and cannot be taken for granted.

In 2018, we also achieved progress growing organically with the most significant exploration discovery in our history. Exploration drilling at our La Colorada mine has discovered wide intercepts of high-grade, polymetallic skarn and manto mineralization. The exploration results indicate the potential to substantially expand the mineral resources and production at La Colorada. A 42,000 metre drilling program in 2019 is aimed at defining a first resource estimate later this year. In addition to this exciting discovery, the expansion we recently completed at La Colorada is exceeding design capacity, providing a strong return on invested capital. La Colorada has proven to be a very profitable mine, and this new development indicates a promising future.

Our projects at COSE and Joaquin are advancing well, although we expect a later startup of production, which will push some silver and gold ounces originally anticipated in 2019 into future years. The delay does not change our outlook for 21 million ounces of silver and about 135,000 ounces of gold production over a three-year period from our Manantial Espejo/COSE/Joaquin asset.

Operations during 2018 performed largely in line with expectations. We produced 24.8 million ounces of silver, similar to 2017 production and marginally less than our guidance. Production was lower than expected at Dolores and San Vicente, partly offset by higher-than-forecast production at Morococha, which set an annual record. Cash costs of $3.35 per ounce were the lowest on record since 2006, beating our original guidance and in line with revised guidance issued mid-year.

In 2018, our operations generated $155 million of cash flow. Net earnings of $12.0 million, or $0.07 per share, were impacted by a $27.8 million impairment charge related to the Manantial Espejo/COSE/Joaquin assets. Adjusted earnings were $59.4 million, or $0.39 per share. We paid out a total of $21.3 million in dividends in 2018, reflecting the 40% increase in the dividend we introduced at the beginning of 2018. That brings the total amount of cash returned to our shareholders since 2010 through dividends and share buy-backs to $424 million. Following the close of our acquisition of Tahoe, we continue to have one of the strongest balance sheets in our sector.

The precious metals market was challenging during 2018, with silver prices near a nine-year low. While industrial demand, which represents about 60% of total silver demand, remained strong and is expected to grow(4), investment demand was weak, reflecting strong equity markets that diminished the appeal of safe-haven investments, such as precious metals. We do expect investment demand to strengthen, based on signs that Central Banks will slow down the tightening of monetary policy.

As we celebrate Pan American's silver anniversary, I am very excited about the future of the company. We have a diversified and superior portfolio of assets, a strong financial position and a highly experienced management team. We offer optionality and upside with the potential restart of the Escobal mine, our major discovery at La Colorada and potential development of the Navidad project.

I am very proud of our strong team, and I would specifically like to congratulate Matt Andrews and Monica Moretto, who were recipients of the Robert R. Hedley Award for Excellence in Social and Environmental Responsibility from the Association for Mineral Exploration. Responsible development that respects the environment and communities is the cornerstone of our business operations, and the foundation for our future success.

Michael Steinmann, President and CEO
March 12, 2019

The leading investment vehicle for investors seeking exposure to silver.

(1) Pan American's proven and probable mineral reserves as at December 31, 2018 are estimated to contain approximately 280 million ounces of silver, as disclosed in our news release dated February 21, 2019. Tahoe's proven and probable mineral reserves as at January 1, 2018 are estimated to contain approximately 288 million ounces of silver, as disclosed in its news release dated February 15, 2018.

(2) A description of Escobal's mineral resources and mineral reserves, production, and all-in sustaining costs is included in the individual property descriptions contained in Tahoe's annual report on Form 40-F and Annual Information Form for the year ended December 31, 2017, available on SEDAR (www.sedar.com) and EDGAR (www.sec.gov).

(3) All-in sustaining costs is a non-GAAP measures; see the "Non-GAAP Financial Measures" section in the management's discussion & analysis of Tahoe for the period ended December 31, 2017, available on SEDAR (www.sedar.com) and EDGAR (www.sec.gov).

(4) Metals Focus, Silver Five-Year Forecasting Quarterly, December 2018.

Non-GAAP Measures

This annual report of Pan American Silver Corp. and its subsidiaries (collectively, "Pan American Silver", the "Company", "we" or "our") refers to various non-GAAP measures, such as: cash costs per payable ounce of silver, net of by-product credits ("cash costs"); all-in sustaining cost per silver ounce sold ("AISCSOS"); total debt; adjusted earnings; and adjusted earnings per share. These measures do not have a standardized meaning prescribed by IFRS as an indicator of performance, and may differ from methods used by other companies. Readers should refer to the Alternative Performance (non-GAAP) Measures section of Pan American's Management's Discussion and Analysis for the period ended December 31, 2018, available at www.sedar.com.

Reporting Currency and Financial Information

Unless we have specified otherwise, all references to dollar amounts or $ are to United States dollars.

Cautionary Note Regarding Forward-Looking Statements and Information

Certain of the statements and information in this annual report constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian provincial securities laws. All statements, other than statements of historical fact, are forward-looking statements or information. Forward-looking statements or information in this annual report relate to, among other things, future financial or operational performance, including our estimated production of silver, gold and other metals in 2019 and the estimated production that can be achieved at our Cap-Oeste Sur Este ("COSE") and Joaquin projects, the Escobal mine upon restart of its operations, and Navidad, as well as the timing of any such production; our estimated cash costs, AISCSOS, sustaining capital, and capital investments in 2019; our expectations with respect to future prices of silver and other precious metals; the expected trends of global industrial and investment demand for silver; the timing and success of our exploration programs, development and other capital investment projects, including, but not limited to, results of the expansion and the anticipated drilling program at La Colorada and potential development of Navidad; the disclosure of future mineral reserve and resource information and timing thereof; growth profile, opportunities, and operational synergies as result of our acquisition of and integration with Tahoe; and the success of our community engagement at Escobal. These statements and information reflect Pan American's current views with respect to future events and are necessarily based upon a number of assumptions that, while considered reasonable by Pan American, are inherently subject to significant operational, business, economic and regulatory uncertainties and contingencies. These assumptions include: our ability to successfully integrate the operations and employees and realize synergies and cost savings at the times, and to the extent, anticipated; tonnage of ore to be mined and processed; ore grades and recoveries; prices for silver, gold and base metals remaining as estimated; currency exchange rates remaining as estimated; capital, decommissioning and reclamation estimates; our mineral reserve and resource estimates and the assumptions upon which they are based; prices for energy inputs, labour, materials, supplies and services (including transportation); no labour-related disruptions at any of our operations; no unplanned delays or interruptions in scheduled production; all necessary permits, licenses and regulatory approvals for our operations are received in a timely manner; and our ability to comply with environmental, health and safety laws. The foregoing list of assumptions is not exhaustive.

Pan American cautions the reader that forward-looking statements and information involve known and unknown risks, uncertainties and other factors that may cause actual results and developments to differ materially from those expressed or implied by such forward-looking statements or information contained in this annual report and Pan American has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: restart of the Escobal mine, exploration program at La Colorada, development of Navidad, fluctuations in silver, gold and base metal prices; fluctuations in prices for energy inputs, labour, materials, supplies and services (including transportation); fluctuations in currency markets (such as the Canadian dollar, Peruvian sol, Mexican peso, Argentine peso, Bolivian boliviano and Guatemalan quetzal versus the U.S. dollar); operational risks and hazards inherent with the business of mining (including environmental accidents and hazards, industrial accidents, equipment breakdown, unusual or unexpected geological or structural formations, cave-ins, flooding and severe weather); risks relating to the credit worthiness or financial condition of suppliers, refiners and other parties with whom Pan American does business; inadequate insurance, or inability to obtain insurance, to cover these risks and hazards; employee relations; relationships with, and claims by, local communities and indigenous populations; our ability to obtain all necessary permits, licenses and regulatory approvals in a timely manner; changes in laws, regulations and government practices in the jurisdictions where we operate, including environmental, export and import laws and regulations; diminishing quantities or grades of mineral reserves as properties are mined; increased competition in the mining industry for equipment and qualified personnel; and those factors identified under the caption "Risks Related to Pan American's Business" in Pan American's most recent form 40-F and Annual Information Form and under the caption "Risk Factors" in Pan American's management information circular filed in respect to the special meeting of its shareholders on January 8, 2019, as well as those factors identified in the section entitled "Risk Factors" in the Company's management information circular dated December 4, 2018 with respect to the arrangement with Tahoe, each filed with the United States Securities and Exchange Commission and Canadian provincial securities regulatory authorities, respectively. Although Pan American has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated, described or intended. Investors are cautioned against undue reliance on forward-looking statements or information. Forward-looking statements and information are designed to help readers understand management's current views of our near and longer term prospects and may not be appropriate for other purposes. Pan American does not intend, nor does it assume any obligation to update or revise forward-looking statements or information, whether as a result of new information, changes in assumptions, future events or otherwise, except to the extent required by applicable law.

Technical Information

Technical information contained in this annual report with respect to Pan American Silver Corp. has been reviewed and approved by Martin Wafforn, P.Eng., SVP Technical Services and Process Optimization, and Chris Emerson, FAusIMM, VP Business Development and Geology, who are the Company's qualified persons for the purposes of Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects (''NI 43-101''). Mineral reserves and mineral resources in this annual report were prepared under the supervision of, or were reviewed by, Martin Wafforn and Chris Emerson.

Technical disclosure in this annual report for the Company's material mineral properties is based on technical reports prepared for those properties, which are filed at www.sedar.com. For additional information about the Company's material mineral properties, other than the Joaquin property, please refer to the Company's Annual Information Form dated March 12, 2019, and technical reports with respect to material mineral properties and the Joaquin property, each filed at www.sedar.com.

Cautionary Note to U.S. Investors Regarding References to Mineral Reserves and Resources

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

Canadian public disclosure standards, including NI 43-101, differ significantly from the requirements of the SEC, and information concerning mineralization, deposits, mineral reserve and resource information contained or referred to herein may not be comparable to similar information disclosed by U.S. companies. In particular, and without limiting the generality of the foregoing, this annual report uses the terms ''measured resources'', ''indicated resources'' and ''inferred resources''. U.S. investors are advised that, while such terms are recognized and required by Canadian securities laws, the SEC does not recognize them. The requirements of NI 43-101 for identification of ''reserves'' are not the same as those of the SEC, and reserves reported by Pan American Silver in compliance with NI 43-101 may not qualify as ''reserves'' under SEC standards. Under U.S. standards, mineralization may not be classified as a ''reserve'' unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. U.S. investors are cautioned not to assume that any part of a "measured resource" or "indicated resource" will ever be converted into a "reserve". U.S. investors should also understand that "inferred resources" have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of "inferred resources" exist, are economically or legally mineable or will ever be upgraded to a higher category. Under Canadian securities laws, estimated "inferred resources" may not form the basis of feasibility or pre-feasibility studies except in rare cases. Disclosure of "contained ounces" in a mineral resource is permitted disclosure under Canadian securities laws. However, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade, without reference to unit measures. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

Management's Discussion and Analysis

FOR THE YEAR ENDED DECEMBER 31, 2018

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

March 12, 2019

INTRODUCTION

This Management's Discussion and Analysis ("MD&A") is intended to help the reader understand the significant factors that influence the performance of Pan American Silver Corp. and its subsidiaries (collectively "Pan American", "we", "us", "our" or the "Company") and such factors that may affect its future performance. This MD&A should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2018 (the "2018 Financial Statements") and the related notes contained therein. All amounts in this MD&A and the 2018 Financial Statements are expressed in United States dollars ("USD"), unless identified otherwise. The Company reports its financial position, results of operations and cash flows in accordance with International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board ("IASB"). Pan American's significant accounting policies are set out in Note 3 of the 2018 Financial Statements.

This MD&A refers to various non-Generally Accepted Accounting Principles ("non-GAAP") measures, such as "all-in sustaining cost per silver ounce sold", "cash costs per ounce of silver", "total debt", "working capital", "general and administrative cost per silver ounce produced", "adjusted earnings" and "basic adjusted earnings per share", which are used by the Company to manage and evaluate operating performance at each of the Company's mines and are widely reported in the mining industry as benchmarks for performance, but do not have standardized meaning under IFRS. To facilitate a better understanding of these non-GAAP measures as calculated by the Company, additional information has been provided in this MD&A. Please refer to the section of this MD&A entitled "Alternative Performance (Non-GAAP) Measures" for a detailed description of "all-in sustaining cost per silver ounce sold", "cash costs per ounce of silver", "working capital", "general and administrative cost per silver ounce produced", "adjusted earnings" and "basic adjusted earnings per share", as well as details of the Company's by-product credits and a reconciliation of these measures to the 2018 Financial Statements.

Any reference to "cash costs" or "cash costs per ounce of silver" in this MD&A should be understood to mean cash costs per ounce of silver, net of by-product credits. Any reference to "AISCSOS" in this MD&A should be understood to mean all-in sustaining costs per silver ounce sold, net of by-product credits.

Except for historical information contained in this MD&A, the following disclosures are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and forward-looking information within the meaning of applicable Canadian provincial securities laws, or are future oriented financial information and as such, are based on an assumed set of economic conditions and courses of action. Please refer to the cautionary note regarding forward-looking statements and information at the back of this MD&A and the "Risks Related to Pan American's Business" contained in the Company's most recent Annual Information Form on file with the Canadian provincial securities regulatory authorities and Form 40-F on file with the U.S. Securities and Exchange Commission (the "SEC"). Additional information about Pan American and its business activities, including its Annual Information Form, is available on SEDAR at www.sedar.com

CORE BUSINESS AND STRATEGY

Pan American engages in silver mining and related activities, including exploration, mine development, extraction, processing, refining and reclamation. As of December 31, 2018 the Company owned and operated silver mines located in Peru, Mexico, Argentina, and Bolivia. In addition, the Company is exploring for new silver deposits and opportunities throughout North and South America. As further discussed in the section of this MD&A entitled “Subsequent Events", on February 22, 2019 the Company completed a transaction (the "Tahoe Acquisition") whereby Pan American acquired all of the issued and outstanding shares of Tahoe Resources Inc. ("Tahoe"). The Tahoe core assets include: the La Arena and Shahuindo gold mines, located in northwestern Peru; the Bell Creek gold mine and mill and the Timmins West gold mine (together, the “Timmins mines”), located in northeastern Ontario, Canada; and the currently suspended Escobal silver mine, located in southeastern Guatemala. Other than in the "Subsequent Events" section of this MD&A, there is no discussion and analysis or any operating outlook relating to any of the Tahoe assets included in this MD&A. The Company is listed on the Toronto Stock Exchange (Symbol: PAAS) and on the Nasdaq Global Select Market (“NASDAQ”) in New York (Symbol: PAAS).

Pan American’s vision is to be the world’s pre-eminent silver producer, with a reputation for excellence in discovery, engineering, innovation and sustainable development. To achieve this vision, we base our business on the following strategy:

- Generate sustainable profits and superior returns on investments through the safe, efficient and environmentally sound development and operation of silver assets.
- Constantly replace and grow our mineable silver reserves and resources through targeted near-mine exploration and global business development.
- Foster positive long-term relationships with our employees, our shareholders, our communities and our local governments through open and honest communication and ethical and sustainable business practices.
- Continually search for opportunities to upgrade and improve the quality of our silver assets both internally and through acquisition.
- Encourage our employees to be innovative, responsive and entrepreneurial throughout our entire organization.

To execute this strategy, Pan American has assembled a sector-leading team of mining professionals with a depth of knowledge and experience in all aspects of our business, which enables the Company to confidently advance early stage projects through construction and into operation.

Pan American is determined to conduct its business in a responsible and sustainable manner. Caring for the environment in which we operate, contributing to the long-term development of our host communities and ensuring that our employees can work in a safe and secure manner are core values at Pan American. We are committed to maintaining positive relations with our employees, the local communities and the government agencies, all of whom we view as partners in our enterprise.

2018 HIGHLIGHTS

Operations & Project Development

- **Silver production of 24.8 million ounces**

Consolidated silver production of 24.8 million ounces was similar to the 25.0 million ounces produced in 2017. Silver production was marginally less than the guidance range of 25.0 million to 26.5 million ounces, as provided in the 2017 annual MD&A dated March 22, 2018 (the "Original Guidance"). The slight production shortfall was primarily due to shortfalls at Dolores and San Vicente, partially offset by higher than forecast production at Morococha, which set an annual record.

- **Gold production of 178.9 thousand ounces**

Consolidated gold production was 178.9 thousand ounces in 2018 compared to 160.0 thousand ounces produced in 2017. The 12% increase reflects increased production from Dolores, as a result of higher grades, which more than offset the anticipated production decrease at Manantial Espejo. 2018 gold production was within the Original Guidance range of 175.0 thousand to 185.0 thousand ounces.

- **Record annual base metal production**

Zinc production was a record 64.8 thousand tonnes in 2018, 17% higher than in 2017, and was 5% higher than the Original Guidance range of 60.0 thousand tonnes to 62.0 thousand tonnes.

Lead production was a record 22.4 thousand tonnes, up 4% from 2017 and was higher than the Original Guidance range of 21.0 thousand to 22.0 thousand tonnes, driven by increased production at San Vicente, Morococha and La Colorada, reflecting higher grades at all three mines, along with increased throughput at La Colorada.

Copper production of 9.8 thousand tonnes was 27% lower than in 2017, largely due to mine sequencing at Morococha. 2018 annual copper production was 18% lower than the Original Guidance range of 12.0 thousand to 12.5 thousand tonnes, and was within the revised range of 9.0 thousand to 10.4 thousand tonnes provided on August 8, 2018 (the "Revised Guidance")

- **Cash costs of $3.35 per ounce**

Consolidated cash costs of $3.35 per ounce were $1.20 per ounce or 26% lower than in 2017, largely due to increased by-product credits driven by increased gold, zinc, and lead production, along with higher gold and copper prices. The 2018 annual cash costs were 7% below the low-end of the Original Guidance of $3.60 to $4.60 per ounce, and were within the Revised Guidance range of $2.80 to $3.80. A record low annual cash cost of $2.02 per ounce was set at La Colorada.

- **Advancement of Joaquin and Cap-Oeste Sur Este ("COSE") project**

The Company advanced the development of the COSE and Joaquin projects in Argentina. At Joaquin the initial fleet of development mining equipment was procured, and the development of the underground mine decline access continued. Progress on the underground decline was less than planned due to difficult ground conditions, which may result in the project completion being delaying by approximately two months. At COSE, development of the underground mine decline access also continued, along with commencement of construction on the first underground electrical substation. Both projects remain on budget.

Financial

- **Revenue, net earnings, and operating cash flows.**

Annual **revenue** in 2018 of $784.5 million was down 4% from 2017, mainly due to lower realized prices for silver, zinc and lead, partially offset by additional ounces of gold sold in 2018 compared to 2017.

Net earnings were $12.0 million ($0.07 basic earnings per share) compared with $123.5 million ($0.79 basic earnings per share) in 2017. Net earnings in 2018 included impairment charges of $27.8 million, compared to 2017, which had $61.6 million of impairment reversals.

Net cash generated from operating activities of $155.0 million was 31% lower than the $224.6 million generated in 2017, driven primarily by decreased revenue, higher cash taxes paid, and negative working capital changes.

Adjusted earnings in 2018 were $59.4 million ($0.39 basic adjusted earnings per share) compared with $77.7 million ($0.51 basic adjusted earnings per share) in 2017. Lower revenue and higher depreciation in 2018 was partially offset by lower income tax expense and selling costs.

- **Strong liquidity and working capital position**

As at December 31, 2018, the Company had cash and short-term investment balances of $212.5 million, working capital of $397.8 million, and $300.0 million available under its undrawn revolving credit facility. During 2018, debt was reduced by $3.9 million, resulting in year-end debt of $6.7 million, mostly related to finance lease liabilities.

- **All-in Sustaining Costs per Silver Ounce Sold ("AISCSOS")**

2018 AISCSOS of $10.73 was similar to the $10.79 recorded in 2017 and was within the Original Guidance range of $9.30 to $10.80, and was higher than the Revised Guidance range of $8.50 to $10.00.

2019 OPERATING OUTLOOK

These estimates are forward-looking statements and information that are subject to the cautionary note associated with forward-looking statements and information at the end of this MD&A. The following outlook does not include the assets acquired under the Tahoe Acquisition that was completed after December 31, 2018. Management intends to update the 2019 outlook to include these assets along with updated 2019 annual general and administrative costs, and exploration and project development costs forecasts. We anticipate providing the updated guidance, inclusive of the Tahoe assets, in the second quarter of 2019. We may also revise guidance during the year to reflect actual results to date and those anticipated for the remainder of the year. The 2019 production, cash costs and AISCSOS outlooks for each mine are further discussed in the "2019 Mine Operation Forecasts" section of this MD&A.

2019 Silver Production, Cash Costs and AISCSOS Forecasts:

	Silver Production (million ounces)	Cash Costs ($ per ounce) (1)	AISCSOS ($ per ounce) (1)
La Colorada	8.0 - 8.2	2.50 - 3.50	3.50 - 4.50
Dolores	5.2 - 5.5	4.50 - 5.50	14.00 - 16.00
Huaron	3.6 - 3.7	6.00 - 7.00	7.50 - 9.25
Morococha (92.3%)(2)	2.8 - 2.9	3.10 - 4.00	7.00 - 9.00
San Vicente (95.0%)(2)	3.5 - 3.7	10.60 - 11.50	12.25 - 13.50
Manantial Espejo	3.4 - 3.6	17.00 - 18.50	17.75 - 19.50
Consolidated Total(3)	**26.5 -27.5**	**6.50 - 7.50**	**10.80 - 12.30**

(1) Cash costs per ounce and AISCSOS are non-GAAP measurements. Please refer to section "Alternative Performance (Non-GAAP) Measures" for a detailed reconciliation of how these measures are calculated. The cash costs and AISCSOS forecasts assume: metal prices of $14.50/oz for silver, $2,600/tonne ($1.18/lb) for zinc, $1,950/tonne ($0.88/lb) for lead, $6,150/tonne ($2.79/lb) for copper, and $1,250/oz for gold; and, average annual exchange rates relative to 1 USD of 19.50 for the Mexican peso ("MXN"), 3.33 of the Peruvian sol ("PEN"), 41.80 for the Argentine peso ("ARS"), 6.91 for the Bolivian boliviano ("BOL"), and $1.30 for the Canadian dollar ("CAD").

(2) Reflects Pan American's ownership in the operation.

(3) Totals may not add up due to rounding.

The Company expects 2019 silver production of between 26.5 million and 27.5 million ounces, which is between 1.7 million (7%) and 2.7 million ounces (11%) more than the 2018 consolidated production of 24.8 million ounces. Production increases are expected at Dolores, La Colorada and Manantial Espejo, while production at Morococha, Huaron and San Vicente is expected to be generally consistent with 2018. The expected increase in silver production at Dolores is driven by mine sequencing into higher silver grade zones, combined with increased throughput achieved by improved pre-stripping and underground mining rates. The increase at La Colorada is expected to be achieved by increasing throughput rates through mine mechanization and infrastructure upgrades and improved grades. At Manantial Espejo, the expected increase reflects bringing the COSE and Joaquin mine projects on stream in the second half of 2019.

Consolidated cash costs, net of by-product credits, for 2019 are forecast to be between $6.50 and $7.50 per payable ounce of silver, which is $3.15 to $4.15 higher than the 2018 cash costs of $3.35 per ounce, respectively. The Company expects consolidated cash costs to increase as a result of lower by-product credits, higher direct selling costs, and increased operating costs, partially offset by increased payable silver production. The expected decrease in by-product credits reflects lower base metal price assumptions and lower gold production at Dolores due to mine sequencing. The higher selling costs are driven by changes in the zinc concentrate treatment charges. Increased operating costs are the result of wage inflation, power cost increases in Mexico, and the addition of COSE and Joaquin costs.

Consolidated AISCSOS in 2019 is forecast to be between $10.80 and $12.30 compared to the $10.73 recorded in 2018 (which included net realizable value ("NRV") inventory adjustments that increased AISCSOS by $1.05 per ounce). The expected increase in AISCSOS is largely driven by the same factors expected to increase cash costs discussed above.

2019 By-product Production Forecasts:

	Gold (koz)	Zinc (kt)	Lead (kt)	Copper (kt)
La Colorada	4.1 - 4.8	18.7 - 19.5	9.5 - 9.8	—
Dolores	114.5 - 120.0	—	—	—
Huaron	0.5	17.7 - 18.0	8.5 - 8.8	5.7- 5.9
Morococha (1)	1.2 - 1.5	22.6 - 23.0	5.3 - 5.7	2.8 - 3.1
San Vicente (2)	0.3	6.0 - 6.5	0.7	1.3
Manantial Espejo	42.0 - 45.0	—	—	—
Consolidated Total(3)	**162.5 - 172.5**	**65.0 - 67.0**	**24.0 - 25.0**	**9.8 - 10.3**

(1) Morococha data represents Pan American's 92.3% interest in the mine's production.
(2) San Vicente data represents Pan American's 95.0% interest in the mine's production.
(3) Totals may not add due to rounding.

2019 gold production is expected to be between 162.5 and 172.5 thousand ounces, down from the 178.9 thousand ounces produced in 2018. The decrease reflects anticipated lower gold grades at Dolores as a result of mine sequencing, partially offset by increased gold production at Manantial Espejo with the addition of higher grade ore from the COSE deposit.

Base metal production is expected to increase for zinc, lead and copper in 2019 compared to 2018. Expectations for zinc and lead production are increasing as a result of mine sequencing into higher grades at the Peruvian operations, and from higher sulphide ore throughput at La Colorada. Copper production is expected to increase at Huaron and San Vicente, partially offset by decreases at Morococha as a result of mine sequencing.

2019 Capital Expenditure Forecasts

In 2019, Pan American expects sustaining capital investments of between $85.0 million and $90.0 million, a decrease from the $105.2 million invested in 2018. In addition, Pan American expects to invest approximately $30.0 million of project capital, primarily to complete the development of the Joaquin and COSE projects and to advance the exploration effort on the newly discovered skarn deposit at La Colorada. The following table details the forecast capital investments at the Company's operations and projects in 2019:

	2019 Forecast Capital Investment ($ millions)
La Colorada	6.5 - 7.0
Dolores	53.0 - 54.0
Huaron	6.5 - 7.5
Morococha	11.0 - 12.0
San Vicente	6.5 - 7.5
Manantial Espejo	1.5 - 2.0
Sustaining Capital Total	**85.0 - 90.0**
Morococha projects	2.5
Mexico projects	7.5
Joaquin & COSE projects	20.0
Project Capital Total	**30.0**
Consolidated Total	**115.0 - 120.0**

The forecast 2019 sustaining capital for each mine is related primarily to the following activities:

- La Colorada - underground equipment refurbishments, underground ventilation infrastructure expansions and near mine exploration.
- Dolores - approximately $26.0 million for pre-stripping activities, $23 million for leach pad expansions, and the remainder for underground equipment and infrastructure additions and near-mine exploration.
- Huaron - mine deepening, near mine exploration and equipment replacements.
- Morococha - near-mine exploration, underground ventilation infrastructure expansions, and underground mine equipment additions, replacements, and refurbishments.
- San Vicente - mine equipment refurbishment and replacements, near mine exploration, underground ventilation infrastructure expansions, and camp improvements.
- Manantial Espejo - exploration programs and upgrades to the process plant.

Forecast 2019 project capital consists of:

- Approximately $20.0 million to complete the development of the COSE and Joaquin mine projects.
- Approximately $7.5 million at La Colorada for continued exploration drilling on the newly discovered skarn deposit.
- Approximately $2.5 million to construct a new powerline and to advance engineering and plant design for a future plant relocation at Morococha.

2019 Exploration and Project Development Expense Forecast

The expected 2019 greenfield exploration and project development expense, including approximately $3.4 million of Navidad holding and maintenance costs as will as other holding costs, is expected to be $8.8 million (2018: $11.1 million). These forecasted exploration and project development expenses do not include any such costs expected to be incurred in relation to the Tahoe assets, an estimated $8.0 million in near-mine exploration included in sustaining capital (2018: $9.9 million), and an estimated $7.5 million for La Colorada skarn exploration activities included in project capital (2018: $1.4 million). We anticipate providing updated 2019 exploration sustaining capital as well as the greenfield exploration and project development cost guidance, inclusive of the Tahoe assets, in the second quarter of 2019.

2019 Mine Operation Forecasts

Management of the Company provides expectations for each mine's 2019 operating performance, including a discussion on expected production, cash costs, and AISCSOS, but excluding the incorporation of the Tahoe mines, below:

La Colorada mine

La Colorada 2019 forecast silver production of 8.0 million to 8.2 million ounces is 5% to 8% more than the 7.6 million produced in 2018, driven by an expected 5% increase in throughput from benefits gained from additional mine mechanizations and the implementation of the hydraulic backfill system, as well as improved grades. The 2019 mine plan contemplates the mining and milling rate to increase from 2,000 tonnes per day ("tpd") in January 2019 to 2,150 tonnes per day by year-end 2019, compared to an average of 1,989 tonnes per day achieved in 2018.

Forecast 2019 cash costs per ounce of between $2.50 and $3.50 represent an increase of $0.48 to $1.48 per ounce, respectively, from the record low $2.02 per ounce achieved in 2018. The increase reflects lower by-product credits driven by lower metal prices, increased concentrate treatment and refining charges, partially offset by the benefits from increased silver and base metal production.

AISCSOS for 2019 is expected to be between $3.50 and $4.50, between 3% and 24% lower than the $4.63 achieved in 2018. The expected decline in AISCSOS is largely driven by an expected $9.9 million to $10.4 million decrease in sustaining capital due to a decrease in planned equipment rehabilitations and replacements as well as the completion of the backfill project in 2018, along with increased silver production, partially offset by lower by-product credits.

Dolores mine

Forecast 2019 silver production of 5.2 to 5.5 million ounces is expected to be 1.1 million to 1.4 million ounces higher than the 4.1 million ounces produced in 2018. The forecast increase is primarily driven by increased throughputs, compared with 2018 when production was reduced by the curtailed operations due to certain security-related road closures and an unusually heavy rainy season. Furthermore, the planned mine sequencing into higher silver grade zones will also result in an improved silver production over silver placed ratio. The mine sequencing is conversely resulting in the expected decline in gold production. 2019 gold production of 114.5 to 120.0 thousand ounces is expected to be 16.6 thousand to 22.1 thousand ounces lower than the 136.6 thousand ounces produced in 2018, respectively.

Cash costs in 2019 are expected to be between $4.50 and $5.50 per ounce, higher than the 2018 cash costs of negative $1.87 per ounce, due to reduced gold credits from lower gold production and a lower gold price assumption, partially offset by the previously discussed increased silver production.

AISCSOS for 2019 is expected to be between $14.00 and $16.00, compared to 2018 AISCSOS of $16.36 (which included NRV inventory adjustments that increased AISCSOS by $5.84 per ounce). Excluding the effect of 2018 NRV adjustments, AISCSOS is expected to increase from 2018 primarily due to lower gold production and increased sustaining capital investments, particularly for the annual open pit pre-stripping and leach pad expansion works required for the life-of-mine plan, partially offset by increased silver production.

Huaron mine

In 2019, silver production is expected to be between 3.6 million to 3.7 million ounces, comparable to the 3.6 million ounces produced in 2018. Consistent throughput rates and slightly higher grades from mine sequencing are expected to modestly increase silver and base metal production in 2019 compared to 2018.

2019 cash costs per ounce are forecast to be between $6.00 and $7.00, higher than the 2018 cash costs of $1.63 per ounce, which reflects lower base metal price assumptions and modest inflationary pressures for wages and consumables, partially offset by expected increases in base metal and silver production mentioned previously.

AISCSOS for 2019 is expected to be between $7.50 and $9.25, comparable to the $7.73 achieved in 2018 as a result of the increase in cash costs mentioned previously being largely offset by decreased sustaining capital expenditures due to the completion of the tailings storage facility raise in 2018 and a reduction in the mine deepening project expenditures as it approaches completion.

Morococha mine

The forecast 2019 silver production of 2.8 million to 2.9 million ounces is consistent with the 2.9 million ounces produced in 2018, the result of relatively consistent throughputs, grades and recoveries. However, the planned mine sequencing results in increased production from higher zinc and lead grade zones that contain less copper. As such, lead and zinc production are expected to increase by approximately 17% and 3%, respectively, offset by an approximately 11% decrease in copper production.

Forecast 2019 cash costs of between $3.10 and $4.00 per ounce compare to 2018 cash costs of a negative $4.34 per ounce. The increased cash costs reflect lower base metal price assumptions, increased underground advances and shotcrete costs, and less favorable concentrate treatment and refining terms, partially offset by increased base metal production.

AISCSOS for 2019 is expected to be between $7.00 and $9.00, $5.48 to $7.48 higher than the $1.52 reported in 2018. The increase is the result of decreased base metal price assumptions and increased concentrate treatment charges mentioned previously, which more than offset a decrease in sustaining capital.

San Vicente mine

Silver production for 2019 is forecast to be between 3.5 million and 3.7 million ounces, in-line with the 3.5 million ounces produced in 2018, the result of anticipated throughput increases being partially offset by lower grades. Zinc production is expected to be lower than the 7.97 thousand tonnes produced in 2018, lead production is expected to be relatively consistent, and copper production is expected to increase by 27%, all due to grade differences from mine sequencing.

Cash costs in 2019 are expected to be between $10.60 and $11.50 per ounce, similar to the 2018 cash costs of $10.12 as the increases in operating costs and lower by-product metal price assumptions, are expected to be offset by lower royalties and increased copper production.

AISCSOS for 2019 is expected to be between $12.25 and $13.50, comparable to the $12.19 reported in 2018, due to the same factors impacting cash costs mentioned previously.

Manantial Espejo mine

Forecast 2019 silver production of 3.4 to 3.6 million ounces is higher than the 3.1 million ounces produced in 2018. Further, 2019 gold production of 42.0 thousand to 45.0 thousand ounces is significantly higher than the 34.6 thousand ounces produced in 2018. The expected increase in production is attributable to the addition of higher-grade COSE and Joaquin ore in the second half of 2019 as these projects ramp-up to commercial production.

Forecast 2019 cash costs of $17.00 to $18.50 per ounce are higher than the 2018 cash costs of $13.91 per ounce, as a result of the additional costs associated with mining and hauling the COSE and Joaquin ores, particularly during the continued ramp-up phase subsequent to the commencement of commercial production, along with expected labour cost increases in response to currency devaluations and inflation that occurred in Argentina in 2018.

AISCSOS for 2019 is expected to be between $17.75 and $19.50, an increase from the $16.83 reported in 2018. The increase is due to the same factors affecting cash costs mentioned previously, as well as a decrease in exploration expense relative to 2018.

2018 OPERATING PERFORMANCE

The following table provides silver production and cash costs, net of by-product credits, at each of Pan American's operations for the respective three and twelve month periods ended December 31, 2018 and 2017:

	Silver Production (ounces '000s)				Cash Costs[1] ($ per ounce)			
	Three months ended December 31,		Year ended December 31,		Three months ended December 31,		Year ended December 31,	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
La Colorada	**2,074**	1,870	**7,617**	7,056	**1.73**	0.43	**2.02**	2.08
Dolores	**824**	1,256	**4,081**	4,232	**7.06**	(3.93)	**(1.87)**	(1.65)
Alamo Dorado	**—**	33	**—**	641	**NA**	2.09	**NA**	16.49
Huaron	**965**	951	**3,561**	3,684	**2.82**	2.08	**1.63**	1.35
Morococha[2]	**740**	721	**2,881**	2,634	**0.61**	(7.42)	**(4.34)**	(5.34)
San Vicente[3]	**937**	1,102	**3,544**	3,610	**9.23**	9.04	**10.12**	11.85
Manantial Espejo	**587**	646	**3,092**	3,123	**25.53**	26.52	**13.91**	18.25
Total [4]	**6,127**	6,579	**24,775**	24,979	**6.12**	3.18	**3.35**	4.55

(1) Cash costs is a non-GAAP measure. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of this MD&A for a detailed description of the cash cost calculation, details of the Company's by-product credits and a reconciliation of this measure to the 2018 Financial Statements.

(2) Morococha data represents Pan American's 92.3% interest in the mine's production.

(3) San Vicente data represents Pan American's 95.0% interest in the mine's production.

(4) Totals may not add due to rounding.

Silver Production

Consolidated silver production in the fourth quarter of 2018 ("Q4 2018 ") of 6.13 million ounces was 7% less than the 6.58 million ounces produced in the fourth quarter of 2017 ("Q4 2017"). The decrease was driven by lower production at Dolores and San Vicente, as a result of lower grades and recoveries, partially offset by increased production at La Colorada from improved throughput. Consolidated annual silver production of 24.8 million ounces was similar to the 25.0 million produced in 2017, largely the result of increased production from increased throughput at La Colorada, and from improved grades at Morococha, offsetting the loss from cessation of production from the Alamo Dorado mine, which produced 640.7 thousand ounces before ceasing production in 2017. Each operation's silver production variances are further discussed in the "Individual Mine Performance" section of this MD&A.

Cash Costs

Consolidated cash costs per ounce of silver for Q4 2018 and full year 2018 were $6.12 and $3.35, respectively, representing a 92% increase and a 26% reduction from Q4 2017 and 2017, respectively. Record low annual cash costs per ounce were achieved at La Colorada in 2018.

The quarter-over-quarter increase was the result of higher direct unit operating costs, mainly from Dolores, lower by-product credits from decreased base metal prices, lower gold production at Manantial Espejo, and lower silver production at Dolores. The lower annual cash costs were attributable to increased by-product credits driven by increased gold, zinc and lead production; along with higher gold, zinc and copper prices. Year-over-year direct consolidated operating costs were generally consistent, with increased costs at Dolores being largely offset by lower costs at Manantial Espejo, and no production costs at Alamo Dorado in the current year compared to the 2017 high cost production in its final year. Each operation's cash costs variances are discussed in the "Individual Mine Performance" section of this MD&A.

By-Product Production

	By-Product Production			
	Three months ended December 31,		Year ended December 31,	
	2018	2017	**2018**	2017
Gold – koz	**37.2**	43.7	**178.9**	160.0
Zinc – kt	**18.5**	14.7	**64.8**	55.3
Lead – kt	**6.3**	5.4	**22.4**	21.5
Copper – kt	**2.2**	3.0	**9.8**	13.4

Gold production during Q4 2018 was 37.2 thousand ounces, lower than the 43.7 thousand ounces produced in Q4 2017. The decrease is mainly attributable to Manantial Espejo, where production continues from processing material from underground production and lower grade stockpiles. In addition, there was less gold produced at Dolores as a result of lower grades from mine sequencing. 2018 annual gold production of 178.9 thousand ounces was 12% higher than in 2017. The increase was on account of Dolores' increased production that resulted from the anticipated higher grades, which more than offset the anticipated production decrease at Manantial Espejo, due to processing lower grade stockpiles as a result of the completion of open pit mining activities in 2017.

Q4 2018 zinc production was 26% higher than Q4 2017, driven by increased production at San Vicente, Morococha, and La Colorada, reflecting higher grades at all three mines, along with increased throughput at La Colorada. Q4 2018 lead production was 17% higher than Q4 2017, the result of increased throughput at La Colorada. Q4 2018 copper production was 28% lower than in Q4 2017 as a result of the anticipated lower grades at Morococha.

Record annual zinc production of 64.8 thousand tonnes in 2018 was 17% higher than in 2017, driven by higher grades at Morococha and San Vicente from mine sequencing, and higher throughput at the expanded La Colorada mine. 2018 consolidated lead production was a record 22.4 thousand tonnes, up 4% from 2017, driven by increased grades from Morococha mine sequencing. 2018 copper production of 9.8 thousand tonnes was 27% lower than in 2017, due largely to Morococha mine sequencing. Each operation's by-product production is discussed in the "Individual Mine Performance" section of this MD&A.

Average Market Metal Prices

The following tables set out the average market price for each metal produced for 2018 and 2017:

	Average Market Metal Prices(1)			
	Three months ended December 31,		Year ended December 31,	
	2018	2017	**2018**	2017
Silver $/ounce	**14.54**	16.73	**15.71**	17.05
Gold $/ounce	**1,226**	1,275	**1,268**	1,257
Zinc $/tonne	**2,631**	3,236	**2,922**	2,896
Lead $/tonne	**1,964**	2,492	**2,242**	2,317
Copper $/tonne	**6,172**	6,808	**6,523**	6,166

(1) Average market prices for zinc, lead and copper are the London Metal Exchange cash prices for the three and twelve month periods ended December 31, 2018 and 2017. Silver and gold prices are the London Bullion Metal Association prices for the same periods.

AISCSOS

The following table reflects the quantities of payable silver sold and AISCSOS at each of Pan American's operations for the three and twelve months ended December 31, 2018, as compared to the same period in 2017:

	Payable Silver Sold (ounces '000s)				AISCSOS[(1)] ($ per ounce)			
	Three months ended December 31,		Year ended December 31,		Three months ended December 31,		Year ended December 31,	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
La Colorada	**1,780**	1,847	**7,069**	6,853	**5.93**	2.81	**4.63**	4.44
Dolores	**870**	1,225	**4,205**	4,089	**35.36**	13.62	**16.36**	10.00
Alamo Dorado	**—**	133	**—**	867	**—**	17.45	**—**	17.69
Huaron	**858**	813	**3,094**	3,181	**9.19**	7.00	**7.73**	5.25
Morococha	**674**	658	**2,652**	2,448	**4.24**	(1.54)	**1.52**	1.22
San Vicente	**502**	1,218	**3,054**	3,603	**13.57**	12.31	**12.19**	14.40
Manantial Espejo	**615**	766	**3,086**	3,171	**27.94**	28.63	**16.83**	23.42
Total [(2)]	**5,299**	6,659	**23,160**	24,212	**15.86**	10.86	**10.73**	10.79

(1) AISCSOS is a non-GAAP measure. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements. G&A costs are included in the consolidated AISCSOS, but not allocated in calculating AISCSOS for each operation.

(2) Totals may not add due to rounding.

Consolidated AISCSOS for Q4 2018 and 2018, were $15.86 and $10.73, respectively, representing an increase of 46% and a decrease of 1%, respectively, from the comparable AISCSOS amounts in 2017.

The $5.00 quarter-over-quarter increase in AISCSOS largely reflects: a $4.57 per ounce decrease in by-product credits, driven by lower by-product metal prices and lower quantities of gold and copper sold; lower silver sales quantities, due to lower production at Dolores and the timing of sales at San Vicente and La Colorada; increased negative NRV inventory adjustments, which increased Q4 2018 AISCSOS by $2.50 ($0.83 increase in Q4 2017); and higher sustaining capital, primarily related to mine deepening projects at Huaron and equipment investments at La Colorada. These AISCSOS increases were partially offset by lower production costs, as well as lower royalties and selling costs from lower volumes of silver sold.

The comparable annual change in AISCSOS reflects: higher sustaining capital, largely from pre-stripping and leach pad works at Dolores; increased negative NRV inventory adjustments, which increased 2018 AISCSOS by $1.05 ($0.51 increase in 2017); and lower quantities of silver sold; being offset by $0.89 per ounce higher by-product credits, from increased gold and zinc sales; and, lower direct selling costs relating to decreased concentrate treatment charges.

Individual Mine Performance

2018 Actual versus 2018 Forecast

The following tables summarize the 2018 metal production, cash costs and AISCSOS achieved for each individual operation compared to the original annual forecasted amounts as provided in the Original Guidance. Reported metal figures included in tables in this section are volumes of metal produced. For the purposes of these comparisons, the symbols have the following meanings:

- ✓✓ Actual results were better than 2018 Original Guidance range
- ✓ Actual results met 2018 Original Guidance range
- ✗ Actual results fell short of 2018 Original Guidance range

	2018 Silver Production (million ounces)			2018 Cash Costs[1] ($ per ounce)			2018 AISCSOS[1] ($ per ounce)		
	Forecast [2]	Actual		Forecast [2]	Actual		Forecast [2]	Actual	
La Colorada	7.4 - 7.7	7.62	✓	1.35 - 1.70	2.02	✗	3.80 - 4.30	4.63	✗
Dolores	4.5 - 4.9	4.08	✗	(1.25) - 0.45	(1.87)	✓✓	9.00 - 12.00	16.36	✗
Huaron	3.6 -3.8	3.56	✗	0.75 - 1.50	1.63	✗	6.50 - 7.75	7.73	✓
Morococha[3]	2.5 -2.7	2.88	✓✓	(5.80) - (4.30)	(4.34)	✓	1.05 - 3.50	1.52	✓
San Vicente[3]	3.9 - 4.1	3.54	✗	10.00 -10.50	10.12	✓	11.60 - 12.50	12.19	✓
Manantial Espejo	3.2 - 3.3	3.09	✗	17.60 -19.00	13.91	✓✓	18.45 - 20.20	16.83	✓✓
Total[4]	**25.0 -26.5**	**24.78**	✗	**3.60 - 4.60**	**3.35**	✓✓	**9.30 - 10.80**	**10.73**	✓

(1) Cash Costs and AISCSOS are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.
(2) Forecast amount per the Original Guidance.
(3) Production figures are only for Pan American's ownership share of Morococha (92.3%), and San Vicente (95.0%).
(4) Totals may not add due to rounding.

	2018 Gold Production (koz)			2018 Zinc Production (kt)		
	Forecast [1]	Actual		Forecast [1]	Actual	
La Colorada	4.2 – 4.3	4.4	✓✓	17.0 – 18.0	17.8	✓
Dolores	138.9 – 147.7	136.6	✗	—	—	
Huaron	1.0	0.8	✗	18.5 – 18.7	17.4	✗
Morococha[2]	2.2 – 2.3	2.1	✗	18.0 – 18.6	22.2	✓✓
San Vicente[2]	0.2	0.5	✓✓	6.5 – 6.7	7.5	✓✓
Manantial Espejo	28.5 – 29.5	34.6	✓✓	—	—	
Total[3]	**175.0 – 185.0**	**178.9**	✓	**60.0 - 62.0**	**64.8**	✓✓

(1) Forecast amount per the Original Guidance.
(2) Production figures are only for Pan American's ownership share of Morococha (92.3%), and San Vicente (95.0%).
(3) Totals may not add due to rounding.

	2018 Lead Production (kt)			2018 Copper Production (kt)		
	Forecast [1]	Actual		Forecast [1]	Actual	
La Colorada	9.2 – 9.4	8.8	✗	—	—	
Huaron	7.3 – 7.6	8.0	✓✓	6.0 – 6.2	5.4	✗
Morococha[2]	4.3 – 4.7	4.7	✓	5.1 – 5.3	3.3	✗
San Vicente[2]	0.2	0.8	✓✓	0.9	1.0	✓✓
Total[3]	**21.0 – 22.0**	**22.4**	✓✓	**12.0 - 12.5**	**9.8**	✓

(1) Forecast amount per the Original Guidance.
(2) Production figures are only for Pan American's ownership share of Morococha (92.3%), and San Vicente (95.0%).
(3) Totals may not add due to rounding.

	2018 Capital Expenditure ($ millions)	
	Forecast[1]	Actual[2]
La Colorada	16.5 – 17.0	16.9
Dolores	47.5 – 49.0	48.5
Huaron	17.0 – 17.5	15.9
Morococha	12.0 – 12.5	14.1
San Vicente	6.0 – 7.0	7.0
Manantial Espejo	1.0 – 2.0	2.8
Sustaining Capital Sub-total[2]	**100.0 - 105.0**	**105.2**
Morococha projects	2.0	—
Mexico projects	13.0	15.9
Joaquin and COSE projects	35.0	25.4
Project Capital Sub-total[2]	**50.0**	**41.3**
Total Capital	**150.0 – 155.0**	**146.5**

(1) Forecast amount per the Original Guidance.

(2) The total sustaining capital amounts capitalized in 2018 were $0.8 million less than the $106.0 million of 2018 sustaining capital cash outflows. Project capital amounts capitalized in 2018 were $3.4 million less than the $44.7 million of 2018 project capital cash outflows. The sustaining capital cash outflows are included in the 2018 AISCSOS calculation, shown in the "Alternative Performance (non-GAAP) Measures" section of this MD&A, and in the tables included for the individual mines in the "Individual Mine Performance" section of this MD&A; these amounts are different than the amounts capitalized in the period, which are provided in the table above. These differences are due to the timing difference between the cash payment of capital investments compared with the period in which investments are capitalized.

Silver Production

Consolidated 2018 silver production was 24.8 million ounces which is 1% lower than the 25.0 million ounce low-end of the Original Guidance. The slight production shortfall was primarily due to underperformance at Dolores and San Vicente, partially offset by higher-than-forecast production at Morococha, which set an annual record. At Dolores, above average rainfalls during the third quarter in 2018 hampered our ability to make up open pit tonnages following the security-related road closures in June, resulting in a shortfall of tonnes placed on the heap. In addition, slower cement deliveries due to logistical challenges required lower solution application and reduced leach rates. At San Vicente, narrow vein mechanization efforts required additional operator training, resulting in lower throughput and increased dilution.

Cash Costs

Consolidated cash costs of $3.35 per ounce were less than the $3.60 per ounce low-end of the Original Guidance, reflecting lower direct costs, mainly from heap-inventory build at Dolores and lower costs at Manantial Espejo from currency devaluation, as well as lower than expected concentrate treatment charges.

By-Product Production

Consolidated gold production of 178.9 thousand ounces was in-line with the Original Forecast range of 175.0 to 185.0 thousand ounces. Higher than expected grades at Manantial Espejo offset the production shortfall at Dolores, resulting in 5.1 thousand ounces, or 17%, more production than the high-end of the Original Guidance range.

Consolidated zinc production in 2018 exceeded the high-end of the Original Guidance range by 5% and is mainly attributable to Morococha mining into zones with higher than originally planned zinc grade zones. Consolidated annual lead production was largely in-line with that originally forecast. Consolidated copper production was 18% lower than the low-end of the Original Guidance range, due to mining occurring in different zones with lower than originally planned copper grades at Morococha in 2018.

AISCSOS

Consolidated AISCSOS of $10.73 was towards the high-end of the $9.30 to $10.80 Original Guidance range, however if the $2.50 impact of negative NRV adjustments is excluded, then the net of NRV AISCSOS of $9.68 would be at the low end of the Original Guidance range. This reflects lower than expected direct production costs, as described in the "Cash Costs" section above, being largely offset by lower than expected by-product credits from lower prices, and lower than expected quantities of silver sold.

La Colorada mine

	Year ended December 31,	
	2018	**2017**
Tonnes milled - kt	**726.0**	655.3
Average silver grade – grams per tonne	**358**	368
Average zinc grade - %	**2.83**	2.81
Average lead grade - %	**1.40**	1.54
Average silver recovery - %	**91.2**	91.1
Average zinc recovery - %	**86.5**	83.7
Average lead recovery - %	**87.2**	86.9
Production:		
Silver – koz	**7,617**	7,056
Gold – koz	**4.40**	4.29
Zinc – kt	**17.79**	15.44
Lead – kt	**8.84**	8.80
Cash cost per ounce net of by-products(1)	**$ 2.02**	$ 2.08
AISCSOS(2)	**$ 4.63**	$ 4.44
Payable silver sold - koz	**7,069**	6,853
Sustaining capital expenditure - ('000s)(3)	**$ 16,942**	$ 13,280
Sustaining capital cash outflow - ('000s)(3)	**$ 15,462**	$ 13,970

(1) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.

(2) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

(3) Sustaining capital expenditures exclude $7.1 million of project capital for 2018 (2017: $6.9 million) related to investment capital incurred on the La Colorada expansion projects as disclosed in the "Project Development Update" section of this MD&A.

2018 versus 2017

Production:

- Silver: 8% increase, driven primarily from improved throughput attributable to the mine expansion completed in 2017.
- By-products: 15% increase in zinc from improved throughput and higher grades from mine sequencing. Comparable lead production due to lower grades from mine sequencing, largely offset by the increase in throughput.

Cash costs: were a record low; the 3% decrease reflects: improved by-product credits with higher base metal production more than offsetting lower zinc and lead prices; and increased silver production being largely offset by increased direct unit operating costs, particularly power costs.

AISCSOS: the 4% increase was driven by increased operating costs discussed in cash costs above as well as increased sustaining capital discussed below.

Sustaining Capital: primarily related to investments in equipment replacements and rehabilitations, the hydraulic backfill system, plant infrastructure and increased near-mine exploration activities.

2018 versus 2018 Forecast

Production:

- Silver: in-line with the forecast range of 7.4 to 7.7 million ounces.
- By-products: zinc in-line with the forecast range of 17.0 to 18.0 thousand tonnes. Lead 4% less than forecast range of 9.2 to 9.4 thousand tonnes, due to lower than expected lead grade, partially offset by better than expected throughput.

Cash costs: were \$0.32 higher than the high-end of \$1.35 to \$1.70 forecast range due to lower than expected by-product credits from lower than forecast metal prices, and higher than expected power costs.

AISCSOS: were \$0.33 higher than the high-end of \$3.80 to \$4.30 forecast range due to the same factors that drove higher cash costs.

Sustaining Capital: in-line with the forecast range of \$16.5 to \$17.0 million.

Dolores mine

	Year ended December 31,	
	2018	**2017**
Tonnes placed - kt	**6,903.3**	6,604.9
Average silver grade – grams per tonne	**31**	38
Average gold grade – grams per tonne	**0.85**	0.66
Average silver produced to placed ratio - %	**59.2**	51.7
Average gold produced to placed ratio - %	**72.2**	70.7
Production:		
Silver – koz	**4,081**	4,232
Gold – koz	**136.6**	103.0
Cash cost per ounce net of by-products(1)	**(1.87)**	(1.65)
AISCSOS(2)	**16.36**	10.00
Payable silver sold - koz	**4,205**	4,089
Sustaining capital expenditure - ('000s)(3)	**48,470**	38,421
Sustaining capital cash outflows - ('000s)(3)	**\$ 48,842**	\$ 36,071

(1) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.

(2) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

(3) Sustaining capital expenditures excludes \$8.8 million of project capital for 2018 (2017: \$49.9 million) related to investment capital incurred on Dolores expansion projects, as disclosed in the "Project Development Update" section of this MD&A.

2018 versus 2017

Production:

- Silver: 4% lower due to a reduction in stacking rates and silver grades resulting from the re-sequencing of the mine plan because of the 15-day suspension of mining activities in June 2018 and seasonal heavy rains affecting access to certain ore zones, partially offset by enhanced recoveries attributable to the pulp agglomeration plant completed in 2017. Delivery of additional plate and frame expansion kits, to maximize the capacity of the existing filter units in the pulp agglomeration plant, occurred in Q3 2018 and installation commenced in Q4 2018.
- By-products: 33% increase in gold due to better grades from mine sequencing, and higher recoveries due to the addition of the pulp agglomeration plant and the timing of leach pad kinetics.

Cash costs: Decreased $0.22 per ounce due to increased by-product credits from increased gold production, partially offset by higher operating costs associated with the pulp agglomeration plant, higher direct unit operating costs, particularly power costs, delays in the ramp up of stope mining in the underground mine, and greater waste mining due to the re-sequencing of the mine plan.

AISCSOS: increased $6.36 due to the following factors: (i) negative NRV adjustments that resulted in a year over year increase of $4.17 per ounce; (ii) a $12.8 million increase in cash sustaining capital expenditures, due mostly to the higher pre-stripping rates and leach pad pumping and expansions; and, (iii) higher direct operating costs as described above. These factors were partially offset by higher by-product credits from higher gold sales during the year.

Sustaining Capital: comprised mainly of pre-stripping and the restart of the leach pad expansions, both of which were at higher levels of activity compared to 2017.

2018 versus 2018 Forecast

Production:

- Silver: 9% less than the forecast range of 4.5 to 4.9 million ounces, due to the above average rainfalls during the third quarter that hampered the ability to make up open pit tonnages following the security-related road closures in June 2018, resulting in a shortfall of tonnes placed on the heap. In addition, slower cement deliveries due to logistical challenges required lower solution application and reduced leach rates.
- By-products: gold production was 2% less than the forecast range of 138.9 to 147.7 thousand ounces, due to the same factors that drove the silver production shortfall.

Cash costs: were $0.62 lower than the low-end of $(1.25) to $0.45 forecast range due to lower than expected direct operating costs as a result of inventory, and thus cost, buildups in the heap.

AISCSOS: were $4.36 higher than the high-end of $9.00 to $12.00 forecast range mainly due to $5.84 per ounce in negative NRV adjustments, less by-product credits from lower gold production, and lower quantities of silver sold, partially offset by the lower direct operating costs described above.

Sustaining Capital: in-line with the forecast range of $47.5 to $49.0 million.

Huaron mine

	Year ended December 31,			
		2018		**2017**
Tonnes milled - kt		**935.0**		928.1
Average silver grade – grams per tonne		**142**		146
Average zinc grade - %		**2.44**		2.70
Average lead grade - %		**1.18**		1.23
Average copper grade - %		**0.76**		0.84
Average silver recovery - %		**82.7**		85.2
Average zinc recovery - %		**76.0**		77.6
Average lead recovery - %		**73.2**		77.7
Average copper recovery - %		**76.9**		78.5
Production:				
Silver – koz		**3,561**		3,684
Gold – koz		**0.79**		1.15
Zinc – kt		**17.38**		19.37
Lead – kt		**8.05**		8.77
Copper – kt		**5.44**		6.09
Cash cost per ounce net of by-products[(1)]	**$**	**1.63**	$	1.35
AISCSOS[(2)]	**$**	**7.73**	$	5.25
Payable silver sold – koz		**3,094**		3,181
Sustaining capital expenditure - ('000s)		**15,940**		8,786
Sustaining capital cash outflows - ('000s)	**$**	**17,109**	$	10,267

(1) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.

(2) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

2018 versus 2017

Production:

- Silver: 3% lower, primarily due to lower recoveries from mine sequencing into different ore types.
- By-products: Decreased zinc, lead and copper production of 10%, 8% and 11%, respectively, as a result of lower grades due to mine sequencing.

Cash costs: $0.28 per ounce higher due primarily to higher direct unit operating costs and reduced by-product credits from lower base metal prices and lower zinc and copper production, partially offset by improved concentrate treatment terms.

AISCSOS: an increase of $2.48 due to the same factors affecting year-over-year cash costs, as well as higher sustaining capital.

Sustaining Capital: related primarily to equipment replacements and refurbishments, plant and infrastructure upgrades, near-mine exploration, mine deepening and a tailings storage facility raise. The increase from 2017 was related primarily to the 2018 tailings storage facility raise and mine deepening projects.

2018 versus 2018 Forecast

Production:

- Silver: slightly lower than the forecast range of 3.6 to 3.8 million ounces on account of slightly lower grades.
- By-products: zinc 6% lower than the low-end of the forecast range of 18.5 to 18.7 thousand tonnes and copper 9% lower than the low-end of the forecast range of 6.0 to 6.2 thousand tonnes, both on account of lower than originally forecast grades and recoveries. Lead production was 6% higher than the high-end of the forecast range of 7.3 to 7.6 thousand tonnes, as slightly increased throughput offset the lower grades.

Cash costs: were $0.13 higher than the high-end of $0.75 to $1.50 forecast range due to lower than expected by-product credits from lower than forecast metal prices and production.

AISCSOS: were in-line, though close to the high-end of the $6.50 to $7.75 forecast range due to same factors that drove higher cash costs, and lower than forecast sustaining capital.

Sustaining Capital: 6% lower than the low-end of the forecast range of $17.0 to $17.5 million, due to the timing of expenditures.

Morococha mine(1)

	Year ended December 31,	
	2018	**2017**
Tonnes milled – kt	**672.0**	676.9
Average silver grade – grams per tonne	**149**	137
Average zinc grade - %	**3.80**	3.01
Average lead grade - %	**0.92**	0.78
Average copper grade - %	**0.66**	1.20
Average silver recovery - %	**90.7**	89.2
Average zinc recovery - %	**87.4**	79.6
Average lead recovery - %	**76.5**	66.6
Average copper recovery - %	**75.7**	83.9
Production:		
Silver – koz	**2,881**	2,634
Gold – koz	**2.09**	3.53
Zinc – kt	**22.17**	16.13
Lead – kt	**4.69**	3.46
Copper – kt	**3.30**	6.64
Cash cost per ounce net of by-products (2)	**$ (4.34)**	$ (5.34)
AISCSOS(3)	**$ 1.52**	$ 1.22
Payable silver sold (100%) - koz	**2,652**	2,448
Sustaining capital expenditure (100%) - ('000s)	**14,085**	12,454
Sustaining capital cash outflow (100%) - ('000s)	**$ 14,840**	$ 12,428

(1) Production figures are for Pan American's 92.3% share only, unless otherwise noted.
(2) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to our cost of sales.
(3) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

2018 versus 2017

Production:

- Silver: 9% higher, primarily due to higher grades from mine sequencing.
- By-products: a 37% and 35% increase in zinc and lead production, respectively, and a 50% decrease in copper production, all related to mine sequencing.

Cash costs: $1.00 per ounce higher, primarily because of lower by-product prices and higher direct unit operating costs, partially offset by higher silver production and better concentrate treatment terms.

AISCSOS: $0.30 increase, primarily driven by the same factors affecting year-over-year cash costs.

Sustaining Capital: primarily related to expanded near-mine exploration, equipment replacements and refurbishments, mine ventilation, and plant and infrastructure upgrades.

2018 versus 2018 Forecast

Production:

- Silver: 7% higher than the forecast range of 2.5 to 2.7 million ounces on account of higher than expected grades and recoveries.
- By-products: zinc production was 19% higher than the high-end of the forecast range of 18.0 to 18.6 thousand tonnes, and copper production was 35% lower than the low-end of the forecast range of 5.1 to 5.3 thousand tonnes, both the result of mining into zones with higher than originally planned zinc grades and lower than originally planned copper grades. Lead production for the year was in-line with the forecast range of 4.3 to 4.7 thousand tonnes.

Cash costs: were in-line with the $(5.80) to $(4.30) forecast range, with lower by-product prices and marginally higher operating costs being offset by higher zinc, lead and silver production.

AISCSOS: were in-line with $1.05 to $3.50 forecast range.

Sustaining Capital: was 13% higher than the high-end of the forecast range of $12.0 to $12.5 million, primarily due to the decision to increase near-mine exploration activities and expenses related to deepening the Manuelita mine.

San Vicente mine [1]

	Year ended December 31,	
	2018	**2017**
Tonnes milled – kt	**332.9**	**328.1**
Average silver grade – grams per tonne	**362**	**374**
Average zinc grade - %	**2.77**	**1.94**
Average lead grade - %	**0.34**	**0.29**
Average copper grade - %	**0.40**	**0.43**
Average silver recovery - %	**92.7**	**92.6**
Average zinc recovery - %	**81.5**	**68.7**
Average lead recovery - %	**64.8**	**80.1**
Average copper recovery - %	**80.3**	**83.8**
Production:		
Silver – koz	**3,544**	**3,610**
Gold – koz	**0.50**	**0.51**
Zinc – kt	**7.47**	**4.36**
Lead – kt	**0.78**	**0.47**
Copper – kt	**1.02**	**0.63**
Cash cost per ounce net of by-products [2]	**$ 10.12**	**$ 11.85**
AISCSOS[3]	**$ 12.19**	**$ 14.40**
Payable silver sold (100%) - koz	**3,054**	**3,603**
Sustaining capital expenditure (100%) - ('000s)	**6,965**	8,146
Sustaining capital (100%) - ('000s)	**$ 6,949**	**$ 8,146**

(1) Production figures are for Pan American's 95.0% share only, unless otherwise noted.
(2) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.
(3) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

2018 versus 2017

Production:

- Silver: slightly lower due to lower grades and dilution experienced with narrow vein mining, largely offset by increased throughput.
- By-products: increased zinc, lead, and copper production of 71%, 64% and 61% respectively, the result of overall better base metal grades due to mine sequencing.

Cash costs: $1.73 per ounce lower due to increased base metal quantities and improved concentrate terms, partially offset by higher direct unit operating costs attributable to the transition to more mechanized mining methods and wage increases.

AISCSOS: a $2.21 reduction due to the same factors affecting year-over-year cash costs, as well as lower royalty expenses due to the timing of revenue and royalty expense recognition and lower sustaining capital.

Sustaining Capital: expenditures primarily relate to mine equipment replacements and rehabilitations, near-mine exploration, tailings storage facility expansion, and mine site and camp infrastructure.

2018 versus 2018 Forecast

Production:

- Silver: 9% lower that the low end of the forecast range of 3.9 to 4.1 million ounces, the result of narrow vein mechanization efforts that required additional operator training, resulting in lower throughput and increased dilution.
- By-products: zinc production was 12% higher than the high-end of the forecast range of 6.5 to 6.7 thousand tonnes, lead was over three times higher than the 0.2 thousand tonnes forecasted, and copper was 13% higher than the 0.9 thousand tonnes forecasted, primarily the result of better than expected base metal grades.

Cash costs: were in-line with the $10.00 to $10.50 forecast range, attributable to lower than expected by-product metal prices offset by the higher than forecast base metal production.

AISCSOS: were in-line with the $11.60 to $12.50 forecast range, due to same factors described in cash costs.

Sustaining Capital: in-line with the forecast range of $6.0 to $7.0 million.

Manantial Espejo mine

	Year ended December 31,	
	2018	**2017**
Tonnes milled - kt	**804.4**	793.5
Average silver grade – grams per tonne	**135**	134
Average gold grade – grams per tonne	**1.42**	1.88
Average silver recovery - %	**88.0**	90.6
Average gold recovery - %	**93.4**	93.8
Production:		
Silver – koz	**3,092**	3,123
Gold – koz	**34.55**	45.34
Cash cost per ounce net of by-products (1)	**$ 13.91**	$ 18.25
AISCSOS(2)	**$ 16.83**	$ 23.42
Payable silver sold - koz	**3,086**	3,171
Sustaining capital expenditure - ('000s)	**2,827**	3,333
Sustaining capital - ('000s)	**$ 2,827**	$ 3,333

(1) Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.
(2) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the 2018 Financial Statements.

2018 versus 2017

Production:

- Silver: comparable due to slightly better grades, partially offset by lower recoveries.
- By-products: 24% decrease in gold production due to processing of lower grade stockpile ore, as planned.

Cash costs: a $4.34 per ounce decrease from lower direct unit operating costs from the devaluation in the Argentine peso and the termination of open pit mining at the end of the third quarter of 2017, partially offset by lower by-product credits from the lower gold production.

AISCSOS: a $6.59 per ounce decrease due to an $8.3 million decrease in negative NRV inventory adjustments and the lower operating costs described above, partially offset with lower by-product credits from lower gold sales.

Sustaining Capital: primarily related to near-mine exploration.

2018 versus 2018 Forecast

<u>Production:</u>

- Silver: 3% less than the low-end of the forecast range of 3.2 to 3.3 million ounces, due to lower than expected grades.
- By-products: gold production was 17% more than the high-end of the forecast range of 28.5 to 29.5 thousand ounces, the result of higher than anticipated gold grades.

<u>Cash costs:</u> were $3.69 lower than the low-end of the $17.60 to $19.00 forecast range due to lower than expected direct operating costs as a result of the devaluation of the Argentine peso, and higher by-product credits from the higher quantities of gold sold.

<u>AISCSOS:</u> were $1.62 lower than the low-end of $18.45 to $20.20 forecast range due to the same factors that drove lower cash costs.

<u>Sustaining Capital:</u> above Original Guidance range of $1.0 to $2.0 million, primarily due to a surface loader purchase to increase throughput, and additional underground equipment purchases.

PROJECT DEVELOPMENT UPDATE

The following table reflects the amounts spent at each of Pan American's major projects in 2018 as compared to 2017.

Project Development Investment (thousands of USD)	Year ended December 31,	
	2018	**2017**
Dolores Projects (1)	**8,789**	49,886
La Colorada Expansion (2)	**7,099**	6,869
Total Mexico Projects	**15,888**	56,755
Joaquin & COSE Projects (3)	**25,403**	4,674
Total	**41,291**	61,429

(1) As a result of periodic changes in accounts payable balances, the amounts capitalized for the projects during 2018 were $1.8 million less than the project cash outflows (2017: $0.6 million less).

(2) As a result of periodic changes in accounts payable balances, the amounts capitalized for the project during 2018 were $0.1 million more than the project cash outflows (2017: $1.1 million more).

(3) As a result of periodic changes in accounts payable balances, the amounts capitalized for the project during 2018 were $1.6 million less than the project cash outflows (2017: $2.0 million more). In 2017 total expenditures of $9.7 million were incurred for the Joaquin and COSE projects, of which $5.0 million was expensed as part of 2017 exploration and project development expenses, and the remaining $4.7 million was capitalized.

Dolores and La Colorada

The Company invested $8.8 million on completing the Dolores expansion projects, the majority of which was spent on the construction of the underground mine maintenance shop and the acquisition of additional underground mobile equipment units. The underground mine crews were remobilized following the 10-week suspension of underground mining, and the mine recommenced production and ramp-up in Q4 2018, including the continued development of the footwall drifts and ramps in the south-zone.

The Company invested $7.1 million on the La Colorada projects, primarily relating to the construction of a tailings storage facility raise and commissioning of a neutralization plant and exploration on the skarn deposit.

Joaquin and COSE

The Company invested $15.6 million on the Joaquin project, primarily on the surface facilities and the initial fleet of development mining equipment. Approximately 494 metres of development were completed on the decline access for the underground mine, which was less than planned due to difficult ground being unexpectedly encountered close to the surface. The delay in developing the decline access may result in extending completion of the Joaquin project by approximately two months. The Joaquin project remains on budget.

During 2018, the Company invested $9.8 million at COSE, primarily on the decline access to the underground mine. During the year, 308 metres of ramp development were completed for a total of 1,397 metres to date. Construction commenced on the first underground electrical substation, the fresh air raise bore was completed from the 338 level to surface, and installation of a safety escape ladder-way was completed. The COSE project remains on budget.

OVERVIEW OF 2018 FINANCIAL RESULTS

Selected Annual and Quarterly Information

The following tables set out selected quarterly results for the past twelve quarters as well as selected annual results for the past three years. The dominant factors affecting results in the quarters and years presented below are volatility of realized metal prices, and the timing of sales, which varies with the timing of shipments. The fourth quarter of 2018 included an impairment charge to Manantial Espejo. Q4 2017 included an impairment reversal to Morococha and Calcatreu.

2018	Quarter Ended				Year Ended
(In thousands of USD, other than per share amounts)	**March 31**	**June 30**	**Sept 30**	**Dec 31**	**Dec 31**
Revenue	$ 206,961	$ 216,460	$ 187,717	$ 173,357	**$ 784,495**
Mine operating earnings (loss)	$ 55,124	$ 54,851	$ (4,412)	$ (4,666)	**$ 100,897**
Earnings (loss) for the period attributable to equity holders	$ 47,376	$ 36,187	$ (9,460)	$ (63,809)	**$ 10,294**
Basic earnings (loss) per share	$ 0.31	$ 0.24	$ (0.06)	$ (0.42)	**$ 0.07**
Diluted earnings (loss) per share	$ 0.31	$ 0.24	$ (0.06)	$ (0.42)	**$ 0.07**
Cash flow from operating activities	$ 34,400	$ 66,949	$ 41,699	$ 11,930	**$ 154,978**
Cash dividends paid per share	$ 0.035	$ 0.035	$ 0.035	$ 0.035	**$ 0.140**
Other financial information					
Total assets					**$ 1,937,476**
Total long-term financial liabilities[(1)]					**$ 96,828**
Total attributable shareholders' equity					**$ 1,508,212**

(1) Total long-term financial liabilities are comprised of non-current liabilities excluding deferred tax liabilities, deferred revenue, and share purchase warrant liabilities.

2017	Quarter Ended				Year Ended
(In thousands of USD, other than per share amounts)	**March 31**	**June 30**	**Sept 30**	**Dec 31**	**Dec 31**
Revenue	$ 198,687	$ 201,319	$ 190,791	$ 226,031	$ 816,828
Mine operating earnings	$ 32,875	$ 44,782	$ 47,818	$ 43,285	$ 168,760
Earnings for the period attributable to equity holders	$ 19,371	$ 35,472	$ 17,256	$ 48,892	$ 120,991
Basic earnings per share	$ 0.13	$ 0.23	$ 0.11	$ 0.32	$ 0.79
Diluted earnings per share	$ 0.13	$ 0.23	$ 0.11	$ 0.32	$ 0.79
Cash flow from operating activities	$ 38,569	$ 42,906	$ 63,793	$ 79,291	$ 224,559
Cash dividends paid per share	$ 0.025	$ 0.025	$ 0.025	$ 0.025	$ 0.100
Other financial information					
Total assets					$ 1,993,332
Total long-term financial liabilities[(1)]					$ 90,027
Total attributable shareholders' equity					$ 1,516,850

(1) Total long-term financial liabilities are comprised of non-current liabilities excluding deferred tax liabilities, deferred revenue, and share purchase warrant liabilities.

2016 (In thousands of USD, other than per share amounts)	Quarter Ended March 31	June 30	Sept 30	Dec 31	Year Ended Dec 31
Revenue	$ 158,275	$ 192,258	$ 233,646	$ 190,596	$ 774,775
Mine operating earnings	$ 16,698	$ 44,730	$ 88,495	$ 48,956	$ 198,879
Earnings for the period attributable to equity holders	$ 1,738	$ 33,804	$ 42,766	$ 21,777	$ 100,085
Basic earnings per share	$ 0.01	$ 0.22	$ 0.28	$ 0.14	$ 0.66
Diluted earnings per share	$ 0.01	$ 0.22	$ 0.28	$ 0.14	$ 0.66
Cash flow from operating activities	$ 771	$ 66,019	$ 102,346	$ 45,668	$ 214,804
Cash dividends paid per share	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0500
Other financial information					
Total assets					$ 1,898,141
Total long-term financial liabilities[(1)]					$ 118,594
Total attributable shareholders' equity					$ 1,396,298

(1) Total long-term financial liabilities are comprised of non-current liabilities excluding deferred tax liabilities, deferred revenue, and share purchase warrant liabilities.

Income Statement: 2018 versus 2017

Net earnings of $12.0 million were recorded in 2018 compared to $123.5 million in 2017, which corresponds to basic earnings per share of $0.07 and $0.79, respectively.

The following table highlights the key items driving the difference between the net earnings in 2018 and 2017:

Net earnings, year ended December 31, 2017 (in thousands of USD)		$ 123,451	Note
Decreased revenue:			
Decreased realized metal prices	$ (34,179)		
Higher quantities of metal sold	3,488		
Decreased direct selling costs	16,225		
Decreased positive settlement adjustments	(17,867)		
Total decrease in revenue		**$ (32,333)**	(1)
Increased cost of sales:			
Increased production costs and decreased royalty charges	$ (11,129)		(2)
Increased depreciation and amortization	(24,401)		(3)
Total increase in cost of sales		**$ (35,530)**	
Decreased recovery on impairment reversal		(89,343)	(4)
Decreased income tax expense		37,887	(5)
Increased dilution gain, net of share of loss from associate		11,627	(6)
Decreased foreign exchange gain		(11,149)	(7)
Increased net gain on asset sales, commodity contracts and derivatives		10,964	(8)
Increased transaction costs		(10,229)	(9)
Decreased exploration and project development expense		8,617	(10)
Increased general and administrative expense		(1,252)	(11)
Increased interest and finance expense		(954)	
Increased investment income and other expense		285	
Net earnings, year ended December 31, 2018		**$ 12,041**	

1. ***Revenue*** for 2018 was $784.5 million, a $32.3 million decrease from the $816.8 million of revenue recognized in 2017. The major factor driving the decrease was a $34.2 million price variance from lower realized prices for silver, zinc and lead, partially offset by an estimated $3.5 million positive variance from higher quantities of metal sold, with 17.3 thousand additional ounces of gold sold in 2018 compared to 2017. Revenue in 2018 was also impacted by a $16.2 million positive variance from decreased selling costs, mainly from favorable changes in contract terms relating to concentrate treatment and refining charges.

The following table reflects the metal prices realized by the Company and the quantities of metal sold during each year:

	Realized Metal Prices		Quantities of Metal Sold	
	Year ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Silver(1) – koz	$ **15.61**	16.99	**23,160**	24,212
Gold(1) – koz	$ **1,272**	1,257	**173.9**	156.6
Zinc(1) – kt	$ **2,846**	2,929	**54.6**	47.3
Lead(1) – kt	$ **2,189**	2,351	**20.6**	20.7
Copper(1) – kt	$ **6,519**	$ 6,174	**9.2**	12.7

(1) Metal price stated as dollars per ounce for silver and gold, and dollars per tonne for zinc, lead and copper, inclusive of final settlement adjustments on concentrate sales.

Realized prices for silver, lead, and zinc decreased by 8%, 7% and 3%, respectively, in 2018 compared to 2017. The realized price for copper increased by 6%, while gold prices remained relatively consistent.

Zinc and gold quantities sold in 2018 increased by 15% and 11%, respectively, compared to 2017, while copper and silver quantities sold decreased by 27% and 4%, respectively. Lead sales quantities were consistent year-over-year.

2. ***Production cost*** increases were primarily driven by a net negative $12.0 million period-over-period change in NRV inventory adjustments (all at Dolores and Manantial Espejo) which increased 2018 costs by $24.3 million and increased 2017 costs by $12.3 million. In addition, 2018 production costs include a provision, with no comparable provision in 2017, of $3.9 million related to certain doré metal inventory held at a refinery used by the Company that filed for bankruptcy in November, 2018. The remainder of the increased production costs was largely driven by higher quantities of gold sold at Dolores, partially offset by the cessation of production at Alamo Dorado and decreased production costs at Manantial Espejo.
3. ***Depreciation and amortization ("D&A")*** expense of $147.3 million in 2018 was $24.4 million more than the $122.9 million in 2017. The increase was mainly driven by higher D&A at Dolores, Morococha and La Colorada. The increased D&A at Dolores was attributable to higher depreciable asset bases from the recent expansions while the increased D&A at Morococha and La Colorada was due to increased sales volumes.
4. ***Impairment charges*** of $27.8 million ($27.8 million, net of tax expense) were recorded in 2018, with impairment reversals of $61.6 million ($53.4 million, net of tax expense) recorded in 2017. Non-current assets are tested for impairment, or reversal of previous impairment charges, when events or changes in circumstance indicate that the carrying amount may not be recoverable, or previous impairment charges against assets are recoverable. The Company performs an impairment test for goodwill at each financial year-end and when events or changes in circumstances indicate that the related carrying value may not be recoverable. The Company considers its internal discounted cash flow economic models as a proxy for the calculation of fair value less cost to sell, given a willing market participant would use such models in establishing a value for the properties. The Company considers impairment, or if previous impairment charges should be reversed, at the cash generating unit ("CGU") level, which is considered to be an individual mine or a development property. The CGU carrying amount for purposes of this test includes the carrying value of the mineral properties plant and equipment less deferred tax liabilities and closure and decommissioning liabilities related to each CGU.

   The Company's key assumptions for determining the recoverable amounts of its various CGUs, for the purpose of testing for impairment or impairment reversals, include the most current operating and capital costs information and risk adjusted project specific discount rates. The Company uses an average of analysts' consensus prices for the first four years of its economic modeling, and long-term reserve prices for the remainder of each asset's life. The prices used can be found in the key assumptions and sensitivity section below.

Based on the Company’s assessment with respect to possible indicators of either impairment or reversal of previous impairments to its mineral properties, the Company concluded that as of December 31, 2018, based on certain indicators, reversals of impairment were required on the following CGUs:

	2018	2017
Manantial Espejo	**$ (27,789)**	$ —
Morococha	—	60,237
Calcatreu	—	1,317
	$ (27,789)	$ 61,554

2018 Impairment - Manantial Espejo

The decrease in short term analyst consensus silver prices and the introduction of an export tax of three to four Argentine pesos per Dollar of export in September 2018 led management to conclude that there was an indication of impairment to its operating assets in Argentina, namely the Manantial Espejo mine, and the COSE and Joaquin projects. As at December 31, 2018, the Company determined that the combined Net Carrying Amount of the Manantial Espejo mine and the Joaquin and COSE development projects, including mineral properties, plant and equipment, and stockpile inventories, net of associated closure and decommissioning liabilities of $68.1 million was greater than the combined estimated recoverable amount of $39.3 million when using a 7.25% risk adjusted discount rate. Based on this assessment, the Company recorded an impairment charge related to the Manantial Espejo mineral property, and the COSE and Joaquin projects, of $27.8 million ($27.8 million, net of tax).

2017 Impairment Reversal - Morococha

During the years ended December 2017 and 2016, Morococha generated significantly higher cash flows from operations than the amount assumed in the recoverable value estimation at December 31, 2015, primarily the results of continued costs performance and base metal prices being superior to prior expectations. Further, as of December 31, 2017, Morococha's estimated silver mineral reserve increased by 2.8 million ounces. As a result of the CGU's continued strong performance, increased silver mineral reserves and higher long-term metal prices, the Company recognized a reversal of the remaining unamortized impairment of $60.2 million ($52.1 million, net of tax) related to its investment in Morococha at December 31, 2017.

2017 Impairment Reversal - Calcatreu

On January 31, 2018, the Company completed the sale of 100% of the shares of Minera Aquiline Argentina SA, which owns the Calcatreu project ("Calcatreu"), for total consideration of $15.0 million in cash (the "Aquiline Acquisition"). During Q4 2017, immediately prior to the classification to assets and liabilities held for sale, the carrying amount of Calcatreu was re-measured to its recoverable amount, being its fair value less costs of disposal, based on the expected proceeds from the sale. As a result, the Company recorded an impairment reversal of $1.3 million in Q4 2017.

Key assumptions and sensitivity:

The metal prices used to calculate the recoverable amounts at December 31, 2018 and December 31, 2017 are based on analyst consensus prices and the Company’s long-term mineral reserve prices, and are summarized in the following tables:

Metal prices used at December 31, 2018:

Metal Prices	2019-2022 average	Long term
Silver - $/oz	$17.07	$18.50
Gold - $/oz	$1,300	$1,300
Zinc - $/tonne	$2,599	$2,400
Lead - $/tonne	$2,171	$2,100
Copper - $/tonne	$6,975	$6,000

Metal prices used at December 31, 2017:

Metal Prices	2018-2021 average	Long term
Silver - $/oz	$18.57	$18.50
Gold - $/oz	$1,307	$1,300
Zinc - $/tonne	$2,818	$2,600
Lead - $/tonne	$2,251	$2,200
Copper - $/tonne	$6,742	$5,500

In 2018, the discount rates used to present value the Company's life of mine cash flows were derived from the Company's weighted average cost of capital, which was calculated as 5.3% (2017 – 5.2%), with rates ranging from 4.5% to 9.8% (2017 - 4.0% to 9.0%) applied to the various mines and projects, depending on the Company's assessment of country risk, project risk and other potential risks specific to each CGU.

The key assumptions in determining the recoverable value of the Company's mineral properties are metal prices, operating and capital costs, foreign exchange rates and discount rates. At December 31, 2018, the Company performed a sensitivity analysis on all key assumptions that assumed a 10% adverse change to each assumption while holding the other assumptions constant.

At December 31, 2018, an adverse 10% movement in any of the major assumptions in isolation did not cause the recoverable amount to be below the CGU carrying value for any of the La Colorada, San Vicente, Huaron, or Morococha mines. For the Dolores mine, Manantial Espejo mine and Navidad project, which previously had their carrying values adjusted to fair value less cost to sell ("FVLCTS") through impairment charges, a modest adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

At December 31, 2017, an adverse 10% movement in any of the major assumptions in isolation did not cause the recoverable amount to be below the CGU carrying value for any of the La Colorada, San Vicente, Huaron, or Morococha mines. For the Dolores mine, Manantial Espejo mine and Navidad project, which previously had their carrying values adjusted to FVLCTS through impairment charges, a modest adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

5. ***Income tax expense*** for the year ended December 31, 2018 decreased to $21.1 million compared to $59.0 million in 2017. The $37.9 million year-over-year decrease in income tax expense was mainly due to the decrease in earnings before taxes from 2017 to 2018.

6. ***Share of loss from associate and dilution gain*** for 2018 was $13.7 million, compared to $2.1 million in 2017 and related entirely to the Company's investment in Maverix Metals Inc. ("Maverix"). As a result of Maverix issuing common shares to acquire certain assets, dilution gains totaling $13.3 million were recognized in 2018, compared to gains of $2.3 million recorded in 2017. Further, during 2018, a $0.4 million gain was recognized for the Company's portion of Maverix's estimated income, compared to a loss of $0.2 million in 2017.

7. ***Foreign exchange ("FX") losses*** in 2018 were $9.3 million compared to FX gains of $1.8 million incurred in 2017. The 2018 losses were largely attributable to the depreciation of the Argentine peso, where 2017 gains arose mainly from the appreciation of the Mexican peso on the Company's monetary assets denominated in those currencies.

8. ***Gain on sale of assets, commodity contracts and derivatives*** variance was primarily the result of the sale of mineral properties, plant and equipment, which in 2018 was $8.0 million compared to $0.2 million in 2017. The increase is attributable to the sale of 100% of the shares of Minera Aquiline Argentina SA, which owns the Calcatreu project, to Patagonia Gold Canada Inc in 2018 with no significant comparable asset sales with resulting gains or losses in 2017.

9. ***Transactions costs*** incurred in 2018 relate to the Tahoe Acquisition described in the "Subsequent Events" section of this MD&A.

10. ***Exploration and project development*** expenses were $11.1 million in 2018 compared to $19.8 million incurred in 2017. The year-over-year decrease was primarily the result of decreased exploration expense relating to

the COSE and Joaquin projects which were in the development phase in 2018, whereby all project costs were capitalized, as discussed in the "Project Development" section of this MD&A. Other exploration expenses recorded in each year relate to exploration and project development activities near the Company's existing mines, at select greenfield projects, and on the holding and maintenance costs associated with the Navidad project, where approximately $3.6 million was spent in 2018 compared to approximately $2.9 million in 2017.

11. ***G&A*** expense was $22.6 million in 2018 compared to $21.4 million in 2017. The $1.2 million increase was primarily related to higher accrued bonuses for restricted share unit cash compensation that reference the Company's share price. The Share-based compensation of $3.0 million in 2018 was comparable to the $3.1 million in 2017.

Statement of Cash Flows: 2018 versus 2017

Cash flow from operations in 2018 totaled $155.0 million, $69.6 million less than the $224.6 million generated in 2017. The decrease was largely the result of decreased cash mine operating earnings and a $16.0 million decrease in operating cash flows from working capital changes, coupled with a $26.4 million increase in taxes paid.

The period-over-period decrease in mine operating earnings, excluding non-cash D&A and inventory adjustments, was driven by decreased revenues, partially offset by decreased royalty costs and decreased production costs (excluding non-cash NRV inventory adjustments). Working capital changes in 2018 resulted in a $4.3 million use of cash, comprised mainly of inventory buildups and decreased provisions, partially offset by accounts payable buildups and collection of receivables. This use of cash compared to a source of working capital of $11.7 million in 2017, and was driven primarily by receivables and inventory draw downs, partially offset by decreased provisions.

Investing activities utilized $159.2 million in 2018, inclusive of $25.6 million used on the net purchase of short-term investments. The balance of 2018 investing activities consisted primarily of spending $144.3 million on mineral property, plant and equipment at the Company's mines and projects, and the remaining $7.5 million payment used for the acquisition of the COSE project. In 2017, investing activities utilized $177.8 million inclusive of $14.3 million used on the net purchase of short-term investments, $142.2 million spent on mineral property, plant and equipment additions at the Company's various operations and projects, and $20.2 million for the acquisition of the COSE and Joaquin projects.

Financing activities in 2018 used $33.1 million compared to $51.5 million in 2017. Cash used in 2018 consisted of $21.3 million paid as dividends to shareholders, $7.9 million of lease repayments, $3.0 million for short-term loan repayments, and $1.1 million in proceeds on share issuances from the exercise of stock options. In 2017, $36.2 million in revolving Credit Facility repayments were made, $15.3 million of dividends were paid, $4.5 million of lease payments were made, $3.0 million was provided from short-term loan proceeds, and $2.6 million in proceeds were generated on share issuances from the exercises of stock options.

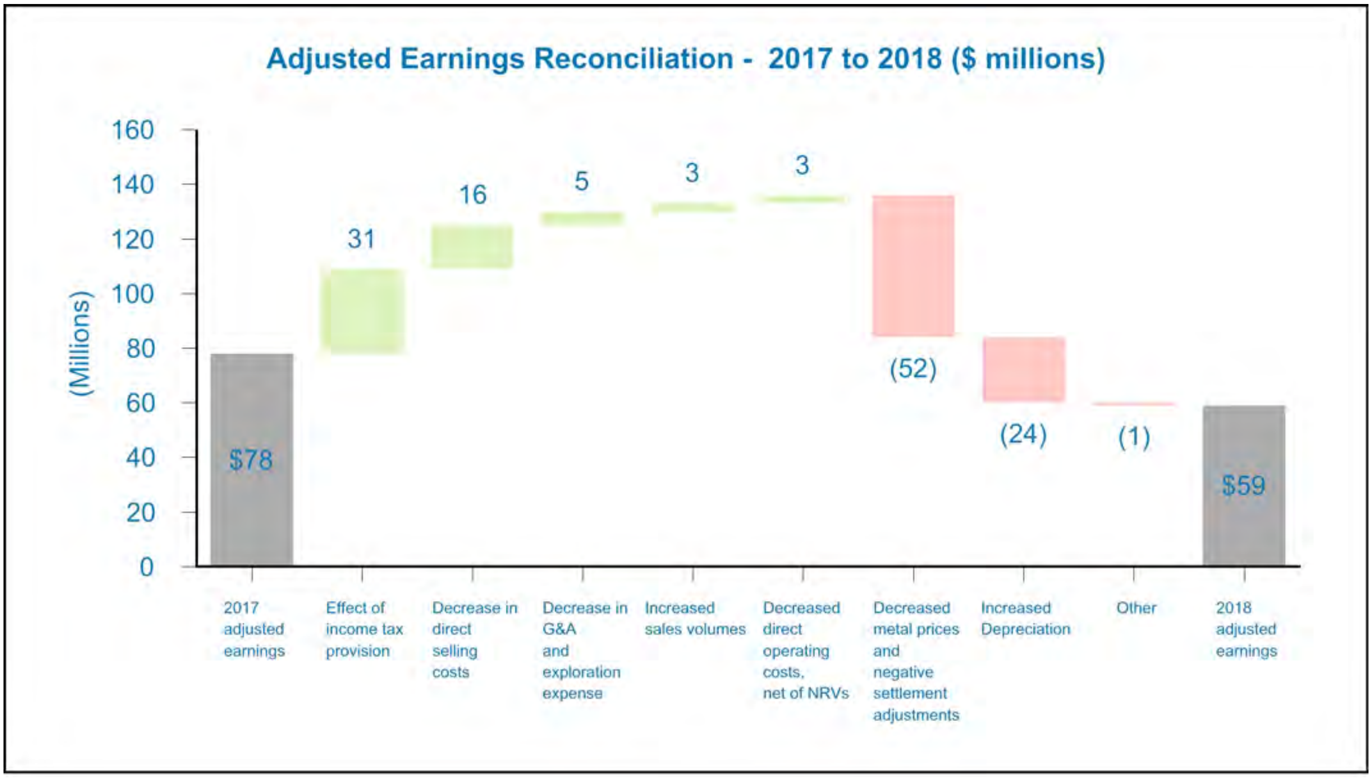
Adjusted Earnings: 2018 versus 2017

Adjusted earnings and basic adjusted earnings per share are non-GAAP measures that the Company considers to better reflect normalized earnings as it eliminates items that in management's judgment are subject to volatility as a result of factors which are unrelated to operations in the period, and/or relate to items that will settle in future periods. Neither adjusted earnings nor basic adjusted earnings per share have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies.

Please refer to the section of this MD&A entitled "Alternative Performance (Non-GAAP) Measures" for a detailed description, and a reconciliation of these measures to the 2018 Financial Statements.

Adjusted Earnings in 2018 were $59.4 million, representing a basic adjusted earnings per share of $0.39, which was $18.3 million, or $0.12 per share, lower than 2017 adjusted earnings of $77.7 million, and basic adjusted earnings per share of $0.51, respectively.

The following chart illustrates the key factors leading to the change in adjusted earnings from 2017 to 2018:



Income Statement: Q4 2018 versus Q4 2017

Net loss of $63.6 million was recorded in Q4 2018 compared to net earnings of $49.7 million in Q4 2017, which corresponds to basic loss per share of $0.42 and basic earnings per share of $0.32, respectively.

The following table highlights the key items driving the difference between the net loss in Q4 2018 as compared to the net earnings recorded in Q4 2017:

Net earnings, three months ended December 31, 2017 (in thousands of USD)			$	49,664	Note
Decreased revenue:					
Decreased realized metal prices	$	(30,318)			
Lower quantities of metal sold		(28,811)			
Decreased direct selling costs		4,794			
Increased positive settlement adjustments		1,661			
Total decrease in revenue			**$**	**(52,674)**	**(1)**
Decreased cost of sales:					
Decreased production costs and decreased royalty charges	$	7,728			**(2)**
Increased depreciation and amortization		(3,005)			**(3)**
Total decrease in cost of sales			**$**	**4,723**	
Decreased recovery on impairment reversal				(89,343)	(4)
Decreased income tax expense				33,170	(5)
Increased transaction costs				(10,229)	(6)
Increased net gain on asset sales, commodity contracts and derivatives				2,979	(7)
Decreased investment income and other expense				(870)	
Decreased exploration and project development expense				760	
Increased general and administrative expense				(718)	
Decreased foreign exchange gain				(646)	
Decreased dilution gain, net of share of loss from associate				(441)	
Decreased interest and finance expense				48	
Net loss, three months ended December 31, 2018			**$**	**(63,577)**	

1. ***Revenue*** for Q4 2018 was $173.4 million, a $52.7 million decrease from $226.0 million in Q4 2017. The major factors for the decrease were: a $30.3 million price variance from lower realized metal prices for all metals, and a $28.8 million variance from lower quantities of metal sold, primarily from silver, gold and copper sales; offset slightly by a $4.8 million decrease in direct selling costs, primarily from favorable changes in contract terms relating to concentrate treatment and refining charges, and a $1.7 million increase in positive settlement adjustments on concentrate shipments.

   The following table reflects the metal prices realized by the Company and the quantities of metal sold during each quarter:

	Realized Metal Prices				Quantities of Metal Sold	
	Three months ended December 31,				Three months ended December 31,	
		2018		2017	**2018**	2017
Silver[(1)] – koz	**$**	**14.35**	$	16.65	**5,299**	6,659
Gold[(1)] – koz	**$**	**1,232**	$	1,276	**36.6**	44.7
Zinc[(1)] – kt	**$**	**2,508**	$	3,282	**15.6**	12.6
Lead[(1)] – kt	**$**	**1,914**	$	2,472	**5.4**	5.2
Copper[(1)] – kt	**$**	**6,098**	$	6,811	**2.1**	3.0

(1) Metal price stated as dollars per ounce for silver and gold, and dollars per tonne for zinc, lead and copper, inclusive of final settlement adjustments on concentrate sales.

Decreased quarter-over-quarter realized silver, gold, and copper prices of 14%, 3% and 10%, respectively, had the most significant impact on revenues. Lead and zinc price decreases of 23% and 24%, respectively, also negatively impacted Q4 2018 revenue.

Sales volumes decreased for all metals except lead and zinc. The quantity of silver sold in Q4 2018 was 20% lower than in Q4 2017, largely from build-up of inventories. Quarter-over-quarter gold and copper sales volumes decreased by 18% and 31%, respectively, while quantities of lead and zinc sold increased by 4% and 24%, respectively.

2. ***Production and royalty costs variances*** were comprised of a $4.2 million reduction in royalty costs and a $3.5 million reduction in production costs, reflecting the quarter-over-quarter decrease in the quantity of metal sold. The quarter-over-quarter production cost variance included a negative $7.8 million NRV inventory movement, mainly from Dolores, which added $11.4 million to Dolores production costs in Q4 2018, compared to increasing costs by $4.1 million in Q4 2017. Reduced royalty costs in Q4 2018 were largely attributable to lower sales volumes from the San Vicente mine.

3. ***D&A* expense** of $37.2 million in Q4 2018 was $3.0 million higher than in Q4 2017, largely the result of increased D&A at Dolores on account of higher depreciable asset-bases, as well as from increased quantities of metal sold.

4. ***Impairment charges*** of $27.8 million ($27.8 million, net of tax expense) were recorded in Q4 2018, compared to impairment reversals of $61.6 million ($53.4 million, net of tax expense) recorded in Q4 2017. The Q4 2018 impairment charge related to the previously discussed charge at Manantial Espejo and the Q4 2017 impairment reversals related to the reversals at Morococha and Calcatreu.

5. ***Income tax expense*** in Q4 2018 was $6.0 million compared to $39.2 million in Q4 2017. The $33.2 million decrease was mainly due to a decrease in earnings before taxes. The decrease in tax expense caused by this reduction in earnings was partially offset by: (i) the Q4 2018 impairment charge for Manantial Espejo and the COSE and Joaquin projects for which no tax benefit could be recorded; and, (ii) the impairment reversal for Morococha, which decreased Q4 2017 tax expense by approximately $11.8 million.

6. ***Transactions costs*** incurred in Q4 2018 relate to the Tahoe Acquisition described in the "Subsequent Events" section of this MD&A.

7. ***Gain on sale of assets, commodity contracts and derivatives*** in Q4 2018 was primarily attributable to gains from foreign currency hedge contracts of $0.6 million partially offset by losses from metals hedge contracts and derivatives of $0.2 million which resulted in gains of $0.4 million in Q4 2018 compared to losses of $2.6 million in Q4 2017.

Statement of Cash Flows: Q4 2018 versus Q4 2017

Cash flow from operations in Q4 2018 totaled $11.9 million, $67.4 million less than the $79.3 million generated in Q4 2017. The decrease was largely the result of approximately $43.4 million lower cash mine operating earnings, a $20.1 million decrease in operating cash flows from working capital changes and a $4.0 million increase in taxes paid.

The period-over-period decrease in mine operating earnings, excluding non-cash D&A and inventory adjustments, was driven by decreased revenues, partially offset by increased production costs (excluding non-cash NRV inventory adjustments). Working capital changes in Q4 2018 resulted in a $4.9 million use of cash comprised mainly of inventory buildups offset slightly by payables settlements. Comparatively, working capital changes added $15.2 million to Q4 2017 operating cash flows, largely from inventory draw-downs.

Investing activities utilized $51.0 million in Q4 2018, inclusive of $10.0 million used on the net purchase of short-term investments. The balance of Q4 2018 investing activities related primarily to spending $42.3 million on mineral property, plant and equipment at the Company's mines and projects, as previously described in the "Operating Performance" section of this MD&A. In Q4 2017, investing activities utilized $36.8 million inclusive of $0.7 million used on the net purchase of short-term investments. The majority of Q4 2017 investing activity cash flow reflected $36.5 million spent on mineral property, plant and equipment additions at the Company's various operations and projects.

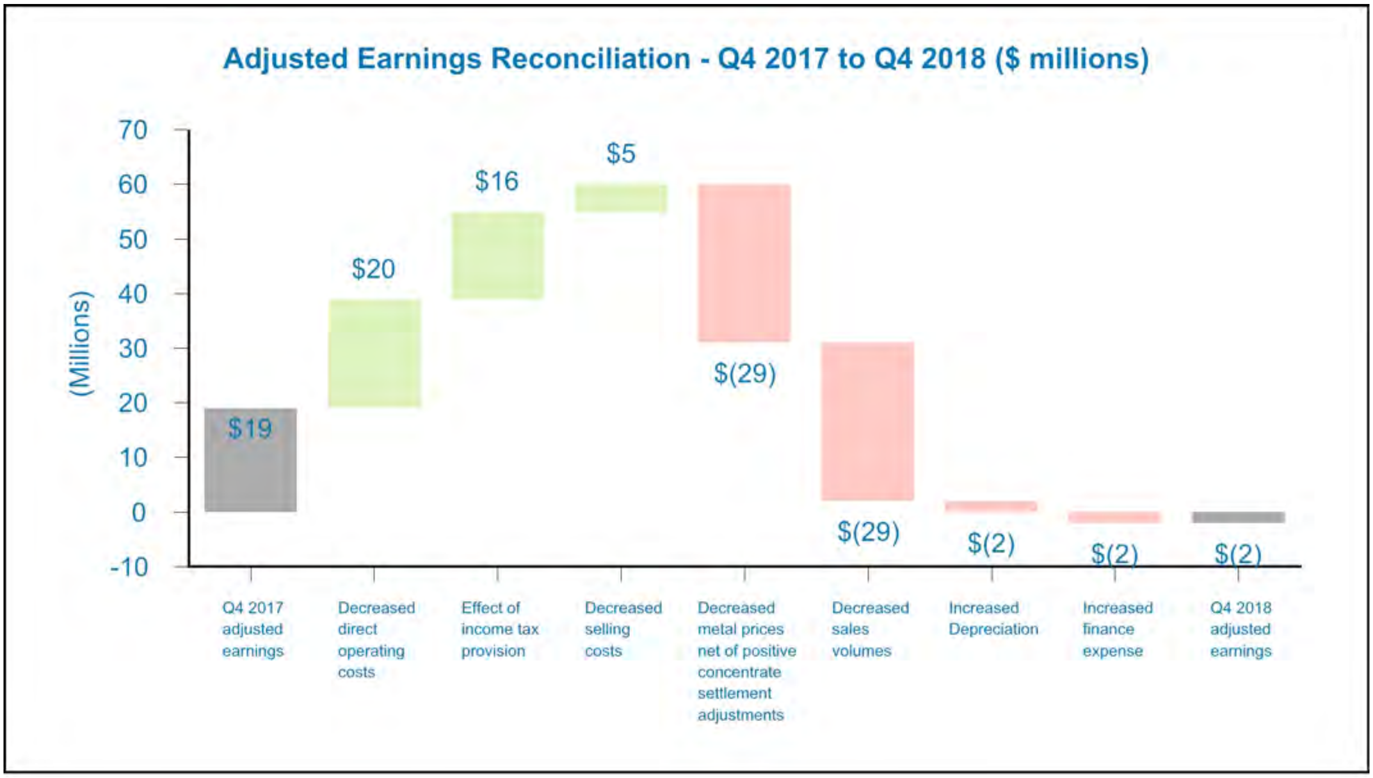
Financing activities in Q4 2018 used $8.7 million compared to $2.5 million in Q4 2017. Cash used in Q4 2018 consisted of $5.4 million paid as dividends to shareholders, $2.2 million of lease repayments, and $1.2 million of distributions to non-controlling interests. In Q4 2017, cash used in financing activities consisted of $3.8 million in dividends to shareholders and $1.3 million of lease repayments, offset by $3.0 million in short-term debt advances.

Adjusted Earnings: Q4 2018 versus Q4 2017

Please refer to the section of this MD&A entitled "Alternative Performance (Non-GAAP) Measures" for a detailed description of "adjusted earnings", and a reconciliation of these measures to the 2018 Financial Statements.

Adjusted Loss in Q4 2018 was $2.0 million, representing a basic adjusted loss per share of $0.01, which was $21.2 million, or $0.14 per share, lower than Q4 2017 adjusted earnings of $19.2 million, and basic adjusted earnings per share of $0.13.

The following chart illustrates the key factors leading to the change in adjusted earnings from Q4 2017 to Q4 2018:



LIQUIDITY AND CAPITAL POSITION

Liquidity and Capital

Liquidity and Capital Measures (in $000s)	Dec. 31, 2018	Sept. 30, 2018	Dec. 31, 2017	Q4 2018 Change	2018 Change
Cash and cash equivalents ("Cash")	**138,510**	186,424	175,953	(47,914)	(37,443)
Short-term Investments	**74,004**	66,233	51,590	7,771	22,414
Cash and Short-term investments	**212,514**	252,657	227,543	(40,143)	(15,029)
Working Capital	**397,846**	443,586	410,756	(45,740)	(12,910)
Revolving Credit Facility ("RCF") Availability	**300,000**	300,000	300,000	—	—
Amount drawn on RCF	**—**	—	—	—	—
Shareholders' equity	**1,513,349**	1,581,602	1,521,051	(68,253)	(7,702)
Total debt (1)	**6,676**	8,439	10,559	(1,763)	(3,883)
Capital (2)	**1,307,511**	1,337,384	1,304,067	(29,873)	3,444

(1) Total debt is a Non-GAAP measure calculated as the total of amounts drawn on the Revolving Credit Facility, finance lease liabilities and loans payable.

(2) The capital of the Company consists of items included in shareholders' equity and debt, net of cash and cash equivalents and short term investments.

Liquidity

The Company's net liquidity position decreased by $40.1 million and $15.0 million during Q4 2018 and 2018, respectively. Operating cash flows in Q4 2018 of $11.9 million, which included $12.1 million in tax payments and a $4.9 million use of cash from working capital changes, financed a portion of the Company's investing and financing activities in the quarter. The significant financing and investing activity cash outflows in the quarter included $42.3 million in payments for mineral property plant and equipment, and $5.4 million in dividend payments.

2018 annual operating cash flows of $155.0 million, which included $75.2 million in tax payments and an $4.3 million use of cash from working capital changes, financed the majority of the Company's investing and financing activities in the year. The significant financing and investing activity cash outflows in the year included $144.3 million in payments for mineral property plant and equipment, and $21.3 million in dividend payments.

Pan American's investment objectives for its cash balances are to preserve capital, to provide liquidity and to maximize returns. The Company's strategy to achieve these objectives is to invest excess cash balances in a portfolio of primarily fixed income instruments with specified credit rating targets established by the Board of Directors of the Company (the "Board"), and by diversifying the currencies in which it maintains its cash balances. The Company does not own any asset-backed commercial paper or other similar, known, at-risk investments in its investment portfolio.

Working capital at December 31, 2018 of $397.8 million decreased by $45.7 million from September 30, 2018. The decrease was mainly attributable to the $40.1 million liquidity decrease described above, along with a $10.2 million increase in accounts payable and accrued liabilities and a $5.5 million decrease in inventories, which were impacted by $13.3 million in negative NRV adjustments in Q4 2018, partially offset by a $9.4 million increase in trade and other receivables. Since December 31, 2017, working capital decreased by $12.9 million, primarily from: the $15.0 million liquidity decrease described above; a $13.7 million decrease in trade and other receivables, and the nonrecurring $7.9 million of assets held for sale as at December 31, 2017 all partially offset by a net $11.0 million decrease in accounts payable, accrued liabilities and loans payable and a $13.9 million decrease in net current tax liabilities.

Capital Resources

The Company manages its capital structure and makes adjustments in light of changes in its economic environment and the risk characteristics of the Company's assets. To effectively manage the Company's capital requirements, Pan American utilizes a planning, budgeting and forecasting process to help determine the funds required to ensure the Company has the appropriate liquidity to meet its operating and growth objectives. The Company ensures that there are sufficient committed loan facilities to meet its short-term business requirements, taking into account its anticipated cash flows from operations and its holdings of cash and cash equivalents and short term investments.

The Company's four-year, $300.0 million secured revolving credit facility that was set to mature on April 15, 2020 (the "RCF") remained undrawn as of December 31, 2018 and December 31, 2017, and the Company was in compliance with all covenants required by the RCF. In February 2019, in part related to the Tahoe Acquisition discussed in the "Subsequent Events" section of this MD&A, the Company amended and extended its RCF ("Amended RCF"). The Amended RCF has been increased by $200.0 million to $500.0 million, and matures on February 1, 2023. At Pan American's option, amounts can be drawn under the Amended RCF and will incur interest based on the Company's leverage ratio at either (i) LIBOR plus 1.875% to 2.750% or; (ii) The Bank of Nova Scotia's Base Rate on U.S. dollar denominated commercial loans plus 0.875% to 1.750%. Undrawn amounts under the revolving facility are subject to a stand-by fee of 0.4219% to 0.6188% per annum, dependent on the Company's leverage ratio. The Company drew down US$301 million under the Amended RCF, under LIBOR-based interest rates to fund, in part, the cash purchase price under the Tahoe Acquisition and to repay, in full, and cancel Tahoe's second amended and restated revolving facility, under which US$125 million had been drawn.

The Company's financial position at December 31, 2018, and the operating cash flows that are expected over the next twelve months, lead management to believe that the Company's liquid assets are sufficient to satisfy our 2019 working capital requirements, commitments, fund currently planned capital expenditures, and to discharge liabilities as they come due. The Company remains well positioned to take advantage of strategic opportunities as they become available. Liquidity risks are discussed further in the "Risks and Uncertainties" section of this MD&A.

The impact of inflation on the Company's financial position, operational performance or cash flows over the next twelve months cannot be determined with any degree of certainty.

Commitments

In the normal course of business, the Company enters into contracts that give rise to commitments for future minimum payments. The following table summarizes the remaining contractual maturities of the Company's financial and non-financial liabilities, shown in contractual undiscounted cash flow:

Payments due by period 2018					
	Within 1 year	2 - 3 years	4- 5 years	After 5 years	Total
Financial liabilities					
Accounts payable and accrued liabilities other than:	$ 128,486	$ —	$ —	$ —	$ 128,486
Severance accrual	1,791	3,763	534	112	6,200
Employee compensation	1,466	—	—	—	1,466
Total accounts payable and accrued liabilities	131,743	3,763	534	112	136,152
Loss on commodity contracts	51	—	—	—	51
Provisions(1)(2)	3,123	547	720	178	4,568
Income taxes payable	8,306	—	—	—	8,306
Other commitments					
Capital and operating expenditure commitments	7,947	7,898	2,885	530	19,260
Future employee compensation	1,530	4,911	—	—	6,441
Credit facility charges	1,200	350	—	—	1,550
Total contractual obligations(2)	**$ 153,900**	**$ 17,469**	**$ 4,139**	**$ 820**	**$ 176,328**

(1) Total litigation provision as further discussed in Note 17 of the 2018 Financial Statements.

(2) Amounts above do not include payments related to the Company's anticipated closure and decommissioning obligation (current $1.9 million, long-term $68.6 million) as discussed in Note 17 of the 2018 Financial Statements (2017 - current $5.6 million, long-term $59.8 million), the deferred credit arising from the Aquiline acquisition ($20.8 million) (2017 - $20.8 million) discussed in Note 19 of the 2018 Financial Statements, and deferred tax liabilities of $148.8 million (2017 - $171.2 million).

Outstanding Share Amounts

As at December 31, 2018, the Company had approximately 0.7 million stock options outstanding (each exercisable for one common share of the Company), with exercise prices in the range of CAD $9.76 to CAD $23.61 and a weighted average life of 52 months. Approximately 0.5 million of the stock options were vested and exercisable at December 31, 2018, with an average weighted exercise price of CAD $13.92 per share.

The following table sets out the common shares and options outstanding as at the date of this MD&A:

	Outstanding as at March 12, 2019
Common shares	209,438,868
Options [(1)]	1,534,261
Total	**210,973,129**

(1) As part of the Tahoe Acquisition the Company issued 835,874 replacement options with exercise prices in the range of CAD $20.52 to CAD $97.26 and a weighted average life of 33 months.

In January 2019, the Company obtained shareholder approval to increase its authorized share capital from 200 million to 400 million Common Shares without par value.

As part of the consideration payable to Tahoe shareholders in connection with the Tahoe Acquisition, Tahoe shareholders received contingent consideration in the form of one contingent value right ("CVR") for each Tahoe share. Each CVR has a 10 year term and will be exchanged for 0.0497 of a Pan American share upon first commercial shipment of concentrate following restart of operations at the Escobal mine. The Company issued an aggregate of 313,887,490 CVRs. Please refer to the Subsequent Events section of this MD&A for additional information.

CLOSURE AND DECOMMISSIONING COST PROVISION

The estimated future closure and decommissioning costs are based principally on the requirements of relevant authorities and the Company's environmental policies. The provision is measured using management's assumptions and estimates for future cash outflows. The Company accrues these costs, which are determined by discounting costs using rates specific to the underlying obligation. Upon recognition of a liability for the closure and decommissioning costs, the Company capitalizes these costs to the related mine and amortizes such amounts over the life of each mine on a unit-of-production basis, except in the case of exploration projects for which the offset to the liability is expensed. The accretion of the discount due to the passage of time is recognized as an increase in the liability and a finance expense.

The total inflated and undiscounted amount of estimated cash flows required to settle the Company's estimated future closure and decommissioning costs as of December 31, 2018 was $159.1 million (December 31, 2017 - $142.2 million) using inflation rates of between 2% and 17% (2017 - between 2% and 25%). The inflated and discounted provision on the statement of financial position as at December 31, 2018, using discount rates between 2% and 22% (December 31, 2017 - between 2% and 24%), was $70.6 million (December 31, 2017 - $65.4 million). Spending with respect to decommissioning obligations at the Alamo Dorado and Manantial Espejo mines began in 2016, while the remainder of the obligations are expected to be paid through 2040 or later if mine life is extended. Revisions made to the reclamation obligations in Q4 2018 were primarily a result of increased site disturbance from the ordinary course of operations at the mines, reclamation activities at the Alamo Dorado mine, as well as revisions to the estimates based on periodic reviews of closure plans and related costs, actual expenditures incurred and closure activities completed. These obligations will be funded from operating cash flows, reclamation deposits and cash on hand.

The accretion of the discount charged in Q4 2018 and 2018 earnings as finance expense were $1.6 million and $6.5 million, respectively (Q4 2017 and 2017 - $1.5 million and $6.0 million, respectively). Reclamation expenditures incurred during Q4 2018 and 2018 were $2.0 million and $7.8 million, respectively (Q4 2017 and 2017 - $4.7 million and $8.7 million, respectively).

RELATED PARTY TRANSACTIONS

The Company's related parties include its subsidiaries, associates over which it exercises significant influence and key management personnel. During its normal course of operation, the Company enters into transactions with its related parties for goods and services. Related party transactions with Maverix have been disclosed in Note 13 of the 2018 Financial Statements.

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the parties.

ALTERNATIVE PERFORMANCE (NON-GAAP) MEASURES

AISCSOS

AISCSOS is a non-GAAP financial measure. AISCSOS does not have any standardized meaning prescribed by IFRS and is therefore unlikely to be comparable to similar measures presented by other companies. We believe that AISCSOS reflects a comprehensive measure of the full cost of operating our consolidated business given it includes the cost of replacing silver ounces through exploration, the cost of ongoing capital investments (sustaining capital), general and administrative expenses, as well as other items that affect the Company's consolidated cash flow. To facilitate a better understanding of this measure as calculated by the Company, the following table provides the detailed reconciliation of this measure to the applicable cost items, as reported in the consolidated income statements for the respective periods:

		Three months ended December 31,		Year ended December 31,	
(In thousands of USD, except as noted)		**2018**	2017	**2018**	2017
Direct operating costs		**$ 119,070**	$ 134,202	**$ 487,462**	$ 488,363
Inventory NRV adjustments	**A**	**13,263**	5,495	**24,330**	12,307
Production costs(1)		**$ 132,334**	$ 139,697	**$ 511,793**	$ 500,670
Royalties		**4,601**	8,809	**20,673**	24,510
Direct selling costs (2)		**14,614**	19,408	**53,119**	69,344
Less by-product credits (2)		**(107,468)**	(131,679)	**(483,325)**	(462,663)
Cash cost of sales net of by-products (3)		**$ 44,080**	$ 36,235	**$ 102,259**	$ 131,862
Sustaining capital (4)		**$ 29,377**	$ 25,573	**$ 106,030**	$ 84,215
Exploration and project development(5)		**3,509**	4,269	**11,138**	17,858
Reclamation cost accretion		**1,631**	1,493	**6,524**	5,973
General and administrative expense		**5,450**	4,732	**22,649**	21,397
All-in sustaining costs (3)	**B**	**$ 84,048**	$ 72,303	**$ 248,601**	$ 261,304
Payable ounces sold (in thousands)	**C**	**5,299**	6,659	**23,160**	24,212
All-in sustaining cost per silver ounce sold, net of by-products	**B/C**	**$ 15.86**	$ 10.86	**$ 10.73**	$ 10.79
All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV inventory adjustments)	**(B-A)/C**	**$ 13.36**	$ 10.03	**$ 9.68**	$ 10.28

(1) Productions costs used to calculate 2018 and Q4 2018 AISCSOS excludes $3.9 million of costs to produce certain doré metal inventory that was subsequently written-off in full as a result of the inventory being held at a refinery that filed for bankruptcy in November of 2018.

(2) Included in the revenue line of the consolidated income statements, and for by-product credits are reflective of realized metal prices for the applicable periods.

(3) Totals may not add due to rounding.

(4) Please refer to the table below. 2018 annual sustaining capital cash outflows included in this table were $0.8 million more than the $105.2 million of sustaining capital expenditures capitalized in 2018 (2017, $0.2 million less than the $84.4 million capitalized). The difference is due to the timing difference between the cash payment of capital investments compared with the period in which investments are capitalized.

(5) The amounts for 2017 year-to-date exclude $1.9 million from non-cash project development write-downs.

As part of the AISCSOS measure, sustaining capital is included while expansionary or acquisition capital (referred to by the Company as non-sustaining capital) is not. Inclusion of sustaining capital only is a measure of capital costs associated with current ounces sold as opposed to investment capital, which is expected to increase future production. For the periods under review, the items noted below are associated with the La Colorada expansion project, the Dolores leach pad and other expansionary expenditures considered to be investment capital projects.

Reconciliation of payments for mineral properties, plant and equipment and sustaining capital	Three months ended December 31,		Year ended December 31,	
(in thousands of USD)	2018	2017	2018	2017
Payments for mineral properties, plant and equipment[1]	$ 42,302	$ 36,473	$ 144,348	$ 142,232
Add/(Subtract)				
Advances received for leases	450	1,385	7,028	5,000
Non-Sustaining capital	(13,375)	(12,284)	(45,346)	(63,017)
Sustaining Capital[2]	$ 29,377	$ 25,573	$ 106,030	$ 84,215

(1) As presented on the consolidated statements of cash flows.
(2) Totals may not add due to rounding

Three months ended December 31, 2018								
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	16,947	39,667	19,707	16,096	6,984	19,671		119,070
NRV inventory adjustments	—	11,440	—	—	—	1,822		13,263
Production costs	16,947	51,107	19,707	16,096	6,984	21,494		132,334
Royalties	130	1,642	—	—	2,554	275		4,601
Direct selling costs	2,050	31	6,061	2,524	1,816	2,132		14,614
Less by-product credits	(14,749)	(35,862)	(23,696)	(19,013)	(6,231)	(7,917)		(107,468)
Cash cost of sales net of by-products[1]	**4,378**	**16,919**	**2,073**	**(394)**	**5,123**	**15,984**		**44,080**
Sustaining capital	5,364	13,255	5,653	3,039	1,628	436		29,377
Exploration and project development	711	241	7	123	—	51	2,375	3,509
Reclamation cost accretion	114	351	152	87	63	708	156	1,631
General & administrative expense	—	—	—	—	—	—	5,450	5,450
All-in sustaining costs[1]	10,567	30,766	7,885	2,855	6,814	17,178	7,981	84,048
Payable ounces sold (thousand)	**1,780**	**870**	**858**	**674**	**502**	**615**		**5,299**
All-in sustaining cost per silver ounce sold, net of by-products	**$ 5.93**	**$ 35.36**	**$ 9.19**	**$ 4.24**	**$ 13.57**	**$ 27.94**		**$ 15.86**
All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV inventory adjustments)	**5.93**	**22.21**	**9.19**	**4.24**	**13.57**	**24.98**		**13.36**

(1) Totals may not add due to rounding.

Twelve months ended December 31, 2018								
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	70,248	154,598	75,382	68,068	33,461	85,705		487,462
NRV inventory adjustments		24,567				(238)		24,330
Production costs	70,248	179,165	75,382	68,068	33,461	85,468	0	511,793
Royalties	616	7,991	—	—	9,943	2,124		20,673
Direct selling costs	8,537	129	21,326	13,313	7,451	2,363		53,119
Less by-product credits	(63,442)	(170,337)	(91,155)	(93,142)	(20,829)	(44,420)		(483,325)
Cash cost of sales net of by-products[1]	**15,959**	**16,949**	**5,553**	**(11,761)**	**30,026**	**45,534**		**102,259**
Sustaining capital	15,462	48,842	17,109	14,840	6,949	2,827		106,030
Exploration and project development	880	1,594	660	598	—	744	6,661	11,138
Reclamation cost accretion	457	1,405	609	347	252	2,832	622	6,524
General & administrative expense	—	—	—	—	—	—	22,649	22,649
All-in sustaining costs[1]	32,758	68,790	23,931	4,024	37,227	51,937	29,932	248,601
Payable ounces sold (thousand)	**7,069**	**4,205**	**3,094**	**2,652**	**3,054**	**3,086**		**23,160**
All-in sustaining cost per silver ounce sold, net of by-products	**$ 4.63**	**$ 16.36**	**$ 7.73**	**$ 1.52**	**$ 12.19**	**$ 16.83**		**$ 10.73**
All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV adjustments)	**$ 4.63**	**$ 10.52**	**$ 7.73**	**$ 1.52**	**$ 12.19**	**$ 16.91**		**$ 9.68**

(1) Totals may not add due to rounding.

Three months ended December 31, 2017									
(In thousands of USD, except as noted)	La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	16,580	35,739	3,957	19,551	16,931	10,484	30,960		134,202
NRV inventory adjustments	—	4,098	(1,916)	—	—	—	3,313		5,495
Production costs	16,580	39,838	2,041	19,551	16,931	10,484	34,273		139,697
Royalties	106	1,966	—	—	—	6,105	633		8,809
Direct selling costs	4,066	31	248	6,659	5,014	3,383	8		19,408
Less by-product credits	(18,316)	(39,317)	(61)	(24,653)	(26,767)	(6,969)	(15,595)		(131,679)
Cash cost of sales net of by-products[1]	**2,435**	**2,518**	**2,227**	**1,557**	**(4,823)**	**13,002**	**19,319**		**36,235**
Sustaining capital	2,576	13,303	—	3,548	3,162	1,939	1,045		25,573
Exploration and project development	73	564	—	428	543	—	936	1,726	4,269
Reclamation cost accretion	112	296	89	162	105	56	619	54	1,493
General & administrative expense	—	—	—	—	—	—	—	4,732	4,732
All-in sustaining costs[1]	5,196	16,682	2,317	5,695	(1,013)	14,998	21,918	6,511	72,303
Payable ounces sold (thousand)	**1,847**	**1,225**	**133**	**813**	**658**	**1,218**	**766**		**6,659**
All-in sustaining cost per silver ounce sold, net of by-products	**$ 2.81**	**$ 13.62**	**$ 17.45**	**$ 7.00**	**$ (1.54)**	**$ 12.31**	**$ 28.63**		**$ 10.86**
All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV adjustments)	**$ 2.81**	**$ 10.27**	**$ 31.89**	**$ 7.00**	**$ (1.54)**	**$ 12.31**	**$ 24.30**		**$ 10.03**

(1) Totals may not add due to rounding.

Twelve months ended December 31, 2017									
(In thousands of USD, except as noted)	La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	67,170	116,104	20,477	75,551	63,967	34,731	110,362		488,363
NRV inventory adjustments		6,847	(2,598)				8,058		12,307
Production costs	67,170	122,951	17,879	75,551	63,967	34,731	118,420		500,670
Royalties	475	6,501	79	—	—	14,321	3,134		24,510
Direct selling costs	12,235	93	479	26,238	18,770	10,740	789		69,344
Less by-product credits	(64,133)	(128,351)	(3,467)	(97,715)	(94,233)	(16,278)	(58,485)		(462,663)
Cash cost of sales net of by-products[1]	**15,748**	**1,194**	**14,970**	**4,074**	**(11,496)**	**43,513**	**63,858**		**131,862**
Sustaining capital	13,970	36,071	—	10,267	12,428	8,146	3,333		84,215
Exploration and project development	251	2,444	—	1,713	1,629	—	4,588	7,232	17,858
Reclamation cost accretion	448	1,186	357	646	420	225	2,474	216	5,973
General & administrative expense	—	—	—	—	—	—	—	21,397	21,397
All-in sustaining costs[1]	30,417	40,894	15,327	16,701	2,981	51,884	74,254	28,845	261,304
Payable ounces sold (thousand)	**6,853**	**4,089**	**867**	**3,181**	**2,448**	**3,603**	**3,171**		**24,212**
All-in sustaining cost per silver ounce sold, net of by-products	**$ 4.44**	**$ 10.00**	**$ 17.69**	**$ 5.25**	**$ 1.22**	**$ 14.40**	**$ 23.42**		**$ 10.79**
All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV adjustments)	**$ 4.44**	**$ 8.33**	**$ 20.68**	**$ 5.25**	**$ 1.22**	**$ 14.40**	**$ 20.88**		**$ 10.28**

(1) Totals may not add due to rounding.

Cash Costs per Ounce of Silver, net of by-product credits

Pan American produces by-product metals incidentally to our silver mining activities. We have adopted the practice of calculating the net cost of producing an ounce of silver, our primary payable metal, after deducting revenues gained from incidental by-product production, as a performance measure. This performance measurement has been commonly used in the mining industry for many years and was developed as a relatively simple way of comparing the net production costs of the primary metal for a specific period against the prevailing market price of that metal.

Cash Costs per Ounce of Silver, net of by-product credits, is used extensively in our internal decision making processes. We believe the metric is also useful to investors because it facilitates comparison, on a mine-by-mine basis, notwithstanding the unique mix of incidental by-product production at each mine, of our operations' relative performance on a period-by-period basis, and against the operations of our peers in the silver industry on a consistent basis. Cash costs per ounce is conceptually understood and widely reported in the silver mining industry. However, cash cost per ounce of silver is a non-GAAP measure and does not have a standardized meaning prescribed by GAAP and the Company's method of calculating cash costs may differ from the methods used by other entities.

To facilitate a better understanding of these measures as calculated by the Company, the following table provides the detailed reconciliation of these measures to the production costs, as reported in the consolidated income statements for the respective periods:

Total Cash Costs per ounce of Payable Silver, net of by-product credits		Three months ended December 31,		Year ended December 31,	
(in thousands of U.S. dollars except as noted)		**2018**	2017	**2018**	2017
Production costs		**$ 136,177**	$ 139,697	**$ 515,636**	$ 500,670
Add/(Subtract)					
Royalties		**4,601**	8,809	**20,673**	24,510
Smelting, refining, and transportation charges		**14,736**	18,469	**57,137**	73,222
Worker's participation and voluntary payments		**(616)**	(1,374)	**(3,506)**	(5,067)
Change in inventories		**5,922**	(12,776)	**16,581**	(16,011)
Other		**(1,090)**	555	**(8,866)**	1,559
Non-controlling interests (1)		**(456)**	(64)	**(875)**	(1,126)
Inventory NRV adjustments		**(13,263)**	(5,495)	**(24,330)**	(12,307)
Cash Operating Costs before by-product credits(2)		**146,012**	147,820	**572,449**	565,450
Less gold credit		**(44,609)**	(54,648)	**(224,716)**	(196,649)
Less zinc credit		**(42,270)**	(40,826)	**(162,646)**	(137,826)
Less lead credit		**(11,482)**	(12,687)	**(46,501)**	(46,948)
Less copper credit		**(12,707)**	(20,026)	**(60,706)**	(77,348)
Cash Operating Costs net of by-product credits (2)	**A**	**34,945**	19,633	**77,881**	106,678
Payable Silver Production (koz)	**B**	**5,710**	6,172	**23,258**	23,444
Cash Costs per ounce net of by-product credits	**A/B**	**$ 6.12**	$ 3.18	**$ 3.35**	$ 4.55

(1) Figures presented in the reconciliation table above are on a 100% basis as presented in the consolidated financial statements with an adjustment line item to account for the portion of the Morococha and San Vicente mines owned by non-controlling interests, an expense item not included in operating cash costs. The associated tables below are for the Company's share of ownership only.

(2) Figures in this table and in the associated tables below may not add due to rounding.

Three months ended December 31, 2018 (1) (in thousands of USD except as noted)		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
Cash Costs before by-product credits	**A**	**$ 20,448**	**$ 41,872**	**$ —**	**$ 25,721**	**$ 18,147**	**$ 15,422**	**$ 22,527**	**$ 144,136**
Less gold credit	b1	(1,223)	(36,065)	—	—	298	(63)	(7,578)	**(44,631)**
Less zinc credit	b2	(11,342)	—	—	(10,426)	(12,845)	(6,251)	—	**(40,865)**
Less lead credit	b3	(4,492)	—	—	(3,991)	(2,593)	(179)	—	**(11,255)**
Less copper credit	b4	—	—	—	(8,930)	(2,617)	(893)	—	**(12,441)**
Sub-total by-product credits	**B=(b1+ b2+ b3+ b4)**	**$ (17,058)**	**$ (36,065)**	**$ —**	**$ (23,346)**	**$ (17,757)**	**$ (7,386)**	**$ (7,578)**	**$ (109,192)**
Cash Costs net of by-product credits	C=(A+B)	$ 3,390	$ 5,807	$ —	$ 2,374	$ 390	$ 8,036	$ 14,948	**$ 34,945**
Payable ounces of silver (thousand)	D	1,955	823	—	841	636	870	586	**5,710**
Cash cost per ounce net of by-products	**C/D**	**$ 1.73**	**$ 7.06**	**NA**	**$ 2.82**	**$ 0.61**	**$ 9.23**	**$ 25.53**	**$ 6.12**

(1) Totals may not add due to rounding.

		Twelve months ended December 31, 2018(1) (in thousands of USD except as noted)							
		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
Cash Costs before by-product credits	**A**	**$ 81,578**	**$ 166,048**	**$ —**	**$ 96,464**	**$ 75,836**	**$ 56,973**	**$ 87,074**	**$ 563,974**
Less gold credit	b1	(4,802)	(173,657)	—	(3)	(1,673)	(284)	(44,142)	**(224,561)**
Less zinc credit	b2	(43,777)	—	—	(41,422)	(54,392)	(17,573)	—	**(157,164)**
Less lead credit	b3	(18,459)	—	—	(16,786)	(9,819)	(584)	—	**(45,648)**
Less copper credit	b4	—	—	—	(33,193)	(20,658)	(4,868)	—	**(58,719)**
Sub-total by-product credits	**B=(b1+ b2+ b3+ b4)**	**$ (67,038)**	**$ (173,657)**	**$ —**	**$ (91,405)**	**$ (86,542)**	**$ (23,309)**	**$ (44,142)**	**$ (486,093)**
Cash Costs net of by-product credits	C=(A+B)	$ 14,541	$ (7,608)	$ —	$ 5,060	$ (10,706)	$ 33,664	$ 42,932	**$ 77,883**
Payable ounces of silver (thousand)	D	7,196	4,075	—	3,107	2,467	3,326	3,086	**23,258**
Cash cost per ounce net of by-products	**C/D**	**$ 2.02**	**$ (1.87)**	**NA**	**$ 1.63**	**$ (4.34)**	**$ 10.12**	**$ 13.91**	**$ 3.35**

(1) Totals may not add due to rounding.

		Three months ended December 31, 2017(1) (in thousands of USD except as noted)							
		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
Cash Costs before by-product credits	**A**	**$ 18,708**	**34,778**	**$ 136**	**$ 26,440**	**$ 20,276**	**$ 15,300**	**$ 29,800**	**$ 145,437**
Less gold credit	b1	(1,377)	(39,708)	(90)	(9)	(625)	(79)	(12,704)	**(54,592)**
Less zinc credit	b2	(11,337)	—	—	(12,296)	(12,205)	(3,767)	—	**(39,605)**
Less lead credit	b3	(5,232)	—	—	(4,758)	(2,361)	(131)	—	**(12,483)**
Less copper credit	b4	—	—	—	(7,671)	(9,585)	(1,868)	—	**(19,124)**
Sub-total by-product credits	**B=(b1+ b2+ b3+ b4)**	**$ (17,947)**	**$ (39,708)**	**$ (90)**	**$ (24,733)**	**$ (24,776)**	**$ (5,845)**	**$ (12,704)**	**$ (125,804)**
Cash Costs net of by-product credits	C=(A+B)	$ 761	$ (4,930)	$ 46	$ 1,706	$ (4,500)	$ 9,455	$ 17,095	**$ 19,633**
Payable ounces of silver (thousand)	D	1,777	1,254	22	821	607	1,046	645	**6,172**
Cash cost per ounce net of by-products	**C/D**	**$ 0.43**	**$ (3.93)**	**$ 2.09**	**$ 2.08**	**$ (7.42)**	**$ 9.04**	**$ 26.52**	**$ 3.18**

(1) Totals may not add due to rounding.

		Twelve months ended December 31, 2017(1) (in thousands of USD except as noted)							
		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
Cash Costs before by-product credits	**A**	**$ 75,407**	**122,532**	**$ 12,666**	**$ 101,588**	**$ 76,085**	**$ 55,286**	**$ 113,726**	**$ 557,291**
Less gold credit	b1	(4,477)	(129,503)	(2,498)	(148)	(2,639)	(305)	(56,842)	**(196,411)**
Less zinc credit	b2	(37,967)	—	—	(46,080)	(39,402)	(10,522)	—	**(133,972)**
Less lead credit	b3	(18,994)	—	—	(19,039)	(7,573)	(672)	—	**(46,278)**
Less copper credit	b4	—	—	(46)	(32,059)	(38,315)	(3,533)	—	**(73,952)**
Sub-total by-product credits	**B=(b1+ b2+ b3+ b4)**	**$ (61,438)**	**$ (129,503)**	**$ (2,544)**	**$ (97,327)**	**$ (87,929)**	**$ (15,032)**	**$ (56,842)**	**$ (450,614)**
Cash Costs net of by-product credits	C=(A+B)	$ 13,970	$ (6,971)	$ 10,123	$ 4,261	$ (11,844)	$ 40,254	$ 56,884	**$ 106,677**
Payable ounces of silver (thousand)	D	6,709	4,225	614	3,164	2,219	3,396	3,117	**23,444**
Cash cost per ounce net of by-products	**C/D**	**$ 2.08**	**$ (1.65)**	**$ 16.49**	**$ 1.35**	**$ (5.34)**	**$ 11.85**	**$ 18.25**	**$ 4.55**

(1) Totals may not add due to rounding.

Adjusted Earnings and Basic Adjusted Earnings Per Share

Adjusted earnings and basic adjusted earnings per share are non-GAAP measures that the Company considers to better reflect normalized earnings as it eliminates items that in management's judgment are subject to volatility as a result of factors which are unrelated to operations in the period, and/or relate to items that will settle in future periods. Certain items that become applicable in a period may be adjusted for, with the Company retroactively presenting comparable periods with an adjustment for such items and conversely, items no longer applicable may be removed from the calculation. The Company adjusts certain items in the periods that they occurred, but does not reverse or otherwise unwind the effect of such items in future periods. Neither adjusted earnings nor basic adjusted earnings per share have any standardized meaning prescribed by GAAP and are therefore unlikely to be comparable to similar measures presented by other companies.

The following table shows a reconciliation of adjusted earnings for the three and twelve months ended December 31, 2018 and 2017, to the net earnings for each period.

	Three Months Ended December 31,		Year ended December 31,	
(In thousands of USD, except as noted)	**2018**	2017	**2018**	2017
Net (loss) earnings for the period	**$ (63,577)**	$ 49,664	**$ 12,041**	$ 123,451
Adjust for:				
Loss (gain) on derivatives	**60**	(64)	**1,078**	(64)
Impairment charges (reversals)	**27,789**	(61,554)	**27,789**	(61,554)
Write-down of project development costs	**—**	—	**—**	1,898
Unrealized foreign exchange (gains) losses	**(348)**	362	**10,337**	(383)
Net realizable value adjustment of heap inventory	**12,977**	4,936	**24,082**	10,060
Unrealized losses (gains) on commodity and foreign currency contracts	**765**	2,190	**(2,481)**	(909)
Mine operation severance costs	**—**	—	**—**	3,509
Share of loss (income) from associate and dilution gain	**182**	(259)	**(13,679)**	(2,052)
Reversal of previously accrued tax liabilities	**—**	—	**(1,188)**	(2,793)
Metal inventory loss	**4,670**	—	**4,670**	—
Transaction costs	**10,229**	—	**10,229**	—
Losses (gains) on sale of mineral properties, plant and equipment	**56**	794	**(7,973)**	(191)
Closure and decommissioning liability adjustment	**2,832**	4,515	**2,832**	8,388
Adjust for effect of taxes relating to the above	**(5,832)**	6,046	**(9,914)**	2,273
Adjust for effect of foreign exchange on taxes	**8,175**	12,589	**1,611**	(3,928)
Adjusted (loss) earnings for the period	**$ (2,022)**	$ 19,219	**$ 59,434**	$ 77,705
Weighted average shares for the period	**153,352**	153,207	**153,315**	153,070
Adjusted (loss) earnings per share for the period	**$ (0.01)**	$ 0.13	**$ 0.39**	$ 0.51

Total Debt

Total debt is a non-GAAP measure calculated as the total current and non-current portions of: long-term debt, finance lease liabilities, and loans payable. Total debt does not have any standardized meaning prescribed by GAAP and is therefore unlikely to be comparable to similar measures presented by other companies. The Company and certain investors use this information to evaluate the financial debt leverage of the Company.

Working Capital

Working capital is a non-GAAP measure calculated as current assets less current liabilities. Working capital does not have any standardized meaning prescribed by GAAP and is therefore unlikely to be comparable to similar measures presented by other companies. The Company and certain investors use this information to evaluate whether the Company is able to meet its current obligations using its current assets.

RISKS AND UNCERTAINTIES

The Company is exposed to many risks in conducting its business, including but not limited to: metal price risk as the Company derives its revenue from the sale of silver, zinc, lead, copper, and gold; credit risk in the normal course of dealing with other companies; foreign exchange risk as the Company reports its financial statements in USD whereas the Company operates in jurisdictions that utilize other currencies; the inherent risk of uncertainties in estimating mineral reserves and mineral resources; political, economic and social risks related to conducting business in foreign jurisdictions such as Peru, Mexico, Argentina and Bolivia; environmental risks; and risks related to its relations with employees. Certain of these risks are described below, and are more fully described in Pan American's Annual Information Form (available on SEDAR at www.sedar.com) and Form 40-F filed with the SEC", and in the Financial Instruments and related risks section of the 2018 Financial Statements. Certain additional risk factors relating to the business of Tahoe are described in the Company's management information circular dated December 4, 2018, with respect to the Arrangement, which is available on SEDAR at www.sedar.com. Readers are encouraged to refer to these documents for a more detailed description of some of the risks and uncertainties inherent to Pan American's business.

Financial Instruments Risk Exposure

The Company's is exposed to financial risks, including metal price risk, credit risk, interest rate risk, foreign currency exchange rate risk, and liquidity risk. The Company's exposures and management of each of those risks is described in the Company's 2018 Financial Statements under Note 8 "Financial Instruments", along with the financial statement classification, the significant assumptions made in determining the fair value, and amounts of income, expenses, gains and losses associated with financial instruments. Fair value estimates are made at a specific point in time, based on relevant market information and information about the financial instrument. These estimates are subjective in nature and involve uncertainties and matters of significant judgment and, therefore, cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

The following provides a description of the risks related to financial instruments and how management manages these risks:

Trading Activities and Credit Risk

The zinc, lead, and copper concentrates produced by us are sold through long-term supply arrangements to metal traders or integrated mining and smelting companies. The terms of the concentrate contracts may require us to deliver concentrate that has a value greater than the payment received at the time of delivery, thereby introducing us to credit risk of the buyers of our concentrates. Should any of these counterparties not honour supply arrangements, or should any of them become insolvent, we may incur losses for products already shipped and be forced to sell our concentrates in the spot market, or we may not have a market for our concentrates and therefore our future operating results may be materially adversely impacted.

For example, the Doe Run Peru smelter, a significant buyer of our production in Peru, experienced financial difficulties in the first quarter of 2009 and closed. The Doe Run Peru smelter remains closed and we are owed approximately $7.6 million under the terms of our contract with Doe Run Peru. We continue to pursue all legal and commercial avenues to collect the amount outstanding.

As at December 31, 2018, we had receivable balances associated with buyers of our concentrates of $40.8 million (2017- $52.0 million). The vast majority of the Company's concentrate is sold to a limited number of concentrate buyers.

Silver doré production is refined under long-term agreements with fixed refining terms at three separate refineries worldwide. We generally retain the risk and title to the precious metals throughout the process of refining and therefore are exposed to the risk that the refineries will not be able to perform in accordance with the refining contract and that we may not be able to fully recover our precious metals in such circumstances. For example, in November 2018, Republic Metals Corporation ("Republic"), a refinery used by us, filed for bankruptcy. At the time of the bankruptcy, Republic had possession of approximately $4.9 million of our metal, which for accounting purposes has been fully provided for, and we are pursuing a claim to collect the metals, or in lieu thereof, damages. As at December 31, 2018, we had approximately $19.7 million (2017 - $21.9 million) contained in precious metal inventory at refineries. We maintain insurance coverage against the loss of precious metals at our mine sites, in-transit to refineries and while at the refineries.

Refined silver and gold is sold in the spot market to various bullion traders and banks. Credit risk may arise from these activities if we are not paid for metal at the time it is delivered, as required by spot sale contracts.

We maintain trading facilities with several banks and bullion dealers for the purposes of transacting our trading activities. None of these facilities are subject to margin arrangements. Our trading activities can expose us to the our counterparties' credit risk to the extent that our trading positions have a positive mark-to-market value.

Supplier advances for products and services yet to be provided are a common practice in some jurisdictions in which the Company operates. These advances represent a credit risk to the Company to the extent that suppliers do not deliver products or perform services as expected. As at December 31, 2018, the Company had made $14.4 million of supplier advances (December 31, 2017 - $14.3 million), which are reflected in “Trade and other receivables” on the Company’s balance sheet.

Management constantly monitors and assesses the credit risk resulting from our concentrate sales, refining arrangements and commodity contracts. Furthermore, management carefully considers credit risk when allocating prospective sales and refining business to counterparties. In making allocation decisions, management attempts to avoid unacceptable concentration of credit risk to any single counterparty.

From time to time, we may invest in equity securities of other companies. Just as investing in Pan American is inherent with risks such as those set out in this MD&A, by investing in other companies we will be exposed to the risks associated with owning equity securities and those risks inherent in the investee companies.

Liquidity Risk

Liquidity risk is the risk that we will not be able to meet our financial obligations as they come due. The volatility of the metals markets can impact our ability to forecast cash flow from operations.

We must maintain sufficient liquidity to meet our short-term business requirements, taking into account our anticipated cash flows from operations, our holdings of cash and cash equivalents and committed loan facilities.

We manage our liquidity risk by continuously monitoring forecasted and actual cash flows. We have in place a rigorous reporting, planning and budgeting process to help determine the funds required to support our normal operating requirements on an ongoing basis and our expansion plans. We continually evaluate and review capital and operating expenditures in order to identify, decrease and limit all non-essential expenditures.

We currently have an aggregate consolidated indebtedness of approximately $6.7 million, comprised of capital leases. As a result of this indebtedness, we are required to use a portion of our cash flow to service principal and interest on this debt, which will limit the cash flow available for other business opportunities. We also maintain and enter into intercompany credit arrangements with our subsidiaries in the normal course. Our ability to make scheduled principal payments, pay interest on or refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Unexpected delays in production, the suspension of our mining licenses, or other operational problems could impact our ability to service the debt and make necessary capital expenditures when the debt becomes due. If we are unable to generate such cash flow to timely repay any debt outstanding, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Foreign currency exchange rate risk

We report our financial statements in USD, however we operate in jurisdictions that utilize other currencies. As a consequence, the financial results of our operations, as reported in USD, are subject to changes in the value of the USD relative to local currencies. Since Pan American’s sales are denominated in USD and a portion of our operating costs and capital spending are in local currencies, we are negatively impacted by strengthening local currencies relative to the USD and positively impacted by the inverse.

From time to time, the Company mitigates part of this currency exposure by accumulating local currencies, entering into contracts designed to fix or limit the Company's exposure to changes in the value of local currencies relative to the USD, or assuming liability positions to offset financial assets subject to currency risk. The Company held cash and short-term investments of $22.5 million in CAD, $2.7 million in MXN, $1.3 million in PEN, $2.7 million in ARS, and $0.3 million in BOB as at December 31, 2018. The Company recorded gains of $0.6 million and $0.7 million on the MXN forward contracts for Q4 2018 and full-year 2018, respectively (Q4 2017 and full-year 2017 losses of $0.8 million and gains of $3.8 million, respectively). As at December 31, 2018, the Company had outstanding positions on $36.0M in foreign currency exposure of MXN purchases with put rates of $20.00 and call rates ranging from $20.72 to $23.97 expiring between January 2019 and December 2019.

The following table illustrates the effect of changes in the exchange rate of PEN and MXN against the USD on anticipated cost of sales for 2019, expressed in percentage terms:

2019 Cost of Sales Exchange Rate Sensitivity

		MXN/USD						
		$18.00	$18.50	$19.00	$19.50	$20.00	$20.50	$21.00
PEN/ USD	$3.03	103%	102%	102%	101%	101%	101%	100%
	$3.13	102%	102%	101%	101%	101%	100%	100%
	$3.23	102%	101%	101%	100%	100%	100%	99%
	$3.33	101%	101%	100%	**100%**	100%	99%	99%
	$3.43	101%	100%	100%	100%	99%	99%	98%
	$3.53	101%	100%	100%	99%	99%	98%	98%
	$3.63	100%	100%	99%	99%	98%	98%	98%
	$3.73	100%	99%	99%	98%	98%	98%	97%

The Company's balance sheet contains various monetary assets and liabilities, some of which are denominated in foreign currencies. Accounting convention dictates that these balances are translated at the end of each period, with resulting adjustments being reflected as foreign exchange gains or losses on the Company's income statement.

In addition to the foregoing, governmental restrictions and controls relating to exchange rates also impact our operations. In Argentina, for example, the government has at times established official exchanges rates that were significantly different than the unofficial exchange rates more readily utilized locally to determine prices and value. Our investments in Argentina are primarily funded from outside of the country, and therefore conversion of foreign currencies, like USD, at the official exchange rate has had the effect of reducing purchasing power and substantially increasing relative costs in an already high inflationary market. Maintaining monetary assets in ARS also exposes us to the risks of ARS devaluation and high domestic inflation.

Metal Price Risk

Pan American derives its revenue from the sale of silver, zinc, lead, copper and gold, and therefore fluctuations in the price of these metals significantly affect our operations and profitability. The Company's sales are directly dependent on metal prices, and metal prices have historically shown significant volatility and are beyond the Company's control. The Board continually assesses Pan American's strategy towards our base metal exposure, depending on market conditions. The table below illustrates the effect of changes in silver and gold prices on anticipated revenues for 2019, expressed in percentage terms. This analysis assumes that quantities of silver and gold produced and sold remain constant under all price scenarios presented.

2019 Revenue Metal Price Sensitivity

		Gold Price						
		$950	$1,050	$1,150	$1,250	$1,350	$1,450	$1,550
Silver Price	$11.50	83%	86%	88%	90%	92%	94%	96%
	$12.50	87%	89%	91%	93%	95%	98%	100%
	$13.50	90%	92%	94%	97%	99%	101%	103%
	$14.50	94%	96%	98%	**100%**	102%	104%	106%
	$15.50	97%	99%	101%	103%	106%	108%	110%
	$16.50	100%	102%	105%	107%	109%	111%	113%
	$17.50	104%	106%	108%	110%	112%	114%	117%
	$18.50	107%	109%	111%	113%	116%	118%	120%

Since base metal and gold revenue are treated as a by-product credit for purposes of calculating cash costs per ounce of silver and AISCSOS, these non-GAAP measures are highly sensitive to base metal and gold prices. The table below illustrates this point by plotting the expected cash cost per ounce according to our 2019 forecast against various price assumptions for the Company's two main by-product credits, zinc and gold, expressed in percentage terms:

2019 Cash Cost Metal Price Sensitivity

		Gold Price						
		$950	$1,050	$1,150	$1,250	$1,350	$1,450	$1,550
Zinc Price	$2,300	132%	125%	117%	109%	101%	93%	85%
	$2,400	129%	122%	114%	106%	98%	90%	82%
	$2,500	126%	118%	111%	103%	95%	87%	79%
	$2,600	123%	116%	108%	**100%**	92%	84%	76%
	$2,700	121%	113%	105%	98%	90%	82%	74%
	$2,800	118%	111%	103%	95%	87%	79%	71%
	$2,900	116%	108%	100%	93%	85%	77%	69%
	$3,000	113%	106%	98%	90%	82%	74%	66%

The price of silver and other metals are affected by numerous factors beyond our control, including:

- global and regional levels of supply and demand;
- sales by government holders and other third parties;
- metal stock levels maintained by producers and others;
- increased production due to new mine developments and improved mining and production methods;
- speculative activities;
- inventory carrying costs;
- availability, demand and costs of metal substitutes;
- international economic and political conditions;
- interest rates, inflation and currency values;
- increased demand for silver or other metals for new technologies; and
- reduced demand resulting from obsolescence of technologies and processes utilizing silver and other metals.

Declining market prices for these metals could materially adversely affect our operations and profitability. A decrease in the market price of silver, gold and other metals could affect the commercial viability of our mines and production at some of our mining properties. Lower prices could also adversely affect future exploration and our ability to develop mineral properties and mines, including the development of capital intensive projects such as Navidad, all of which would have a material adverse impact on our financial condition, results of operations and future prospects. There can be no assurance that the market prices will remain at sustainable levels.

If market prices of gold and silver remain below levels used in Pan American's impairment testing and reserve prices for an extended period of time, Pan American may need to reassess its long-term price assumptions, and a significant decrease in the long-term price assumptions would be an indicator of potential impairment, requiring Pan American to perform an impairment assessment on related assets. Pan American further discusses key assumptions used in measuring the recoverable amounts of its mining assets in Note 12 of Pan American's Audited Consolidated Financial Statements for the year ended December 31, 2018. Due to the sensitivity of the recoverable amounts to long term metal prices, as well as to other factors including changes to mine plans and cost escalations, any significant change in these key assumptions and inputs could result in impairment charges in future periods.

From time to time, we mitigate the market price risk associated with our base metal production by committing some of our forecast base metal production to forward sales and options contracts. However, decisions relating to hedging may have material adverse effects on our financial performance, financial position, and results of operations. The Board of Directors continually assesses Pan American's strategy towards our base metal exposure, depending on market conditions. As at December 31, 2018 the only put and call contracts the Company had outstanding was for 3,000 tonnes of lead, with a floor of $1,800 and a cap of $2,175 from January 2019 to June 2019.

We take the view that our precious metals production should not be hedged, thereby allowing the maximum exposure to precious metal prices. However, in extreme circumstances, the Board may make exceptions to this approach. Such decisions could have material adverse effects upon our financial performance, financial position, and results of operations.

Taxation Risks

We are exposed to tax related risks. In assessing the probability of realizing income tax assets recognized, the Company makes estimates related to expectations of future taxable income, applicable tax planning opportunities, expected timing of reversals of existing temporary differences and the likelihood that tax positions taken will be sustained upon examination by applicable tax authorities. In making its assessments, we give additional weight to positive and negative evidence that can be objectively verified. Estimates of future taxable income are based on forecasted cash flows from operations and the application of existing tax laws in each jurisdiction. We consider relevant tax planning opportunities that are within the Company's control, are feasible and within management's ability to implement. Examination by applicable tax authorities is supported based on individual facts and circumstances of the relevant tax position examined in light of all available evidence. Where applicable tax laws and regulations are either unclear or subject to ongoing varying interpretations, it is reasonably possible that changes in these estimates can occur that materially affect the amounts of income tax assets recognized. Also, future changes in tax laws could limit the Company from realizing the tax benefits from the deferred tax assets. We reassess unrecognized income tax assets at each reporting period.

Claims and Legal Proceedings

We are subject to various claims and legal proceedings covering a wide range of matters that arise in the ordinary course of business activities. Many of these claims relate to current or ex-employees, or employees of former or current owners of our operations, some of which involve claims of significant value, for matters ranging from workplace illnesses, such as silicosis, and claims for additional profit-sharing and bonuses in prior years. In some cases, the Company or its subsidiaries may become subject to class action lawsuits. For example, in mid-2017, Tahoe, which was acquired by us in late February 2019, and certain of its former directors and officers became, and continue to be, the subject of three purported class action lawsuits filed in the United States that center primarily around alleged misrepresentations. In October 2018, Tahoe learned that a similar proposed class action lawsuit had been filed against Tahoe and its former chief executive officer in the Superior Court of Ontario. These lawsuits seek significant damages. Tahoe has disputed the allegations made in these suits, however the outcomes are not determinable at this time. Furthermore, we are in some cases the subject of claims by local communities, indigenous groups or private land owners relating to land and mineral rights and such claimants may seek sizeable monetary damages against us and/or the return of surface or mineral rights that are valuable to us and which may impact our operations and profitability if lost.

Each of these matters is subject to various uncertainties and it is possible that some of these matters may be resolved unfavourably to us. We establish provisions for matters that are probable and can be reasonably estimated. We also carry liability insurance coverage, however such insurance does not cover all risks to which we might be exposed and in other cases, may only partially cover losses incurred by the Company. In addition, we may be involved in disputes with other parties in the future that may result in litigation, which may result in a material adverse effect on our financial position, cash flow and results of operations.

Foreign Operations

As at December 31, 2018, all of our production and revenues were derived from our operations in Peru, Mexico, Argentina and Bolivia, and, as a result, we are exposed to a number of risks and uncertainties, including:

- expropriation, nationalization, and the cancellation, revocation, renegotiation, or forced modification of existing contracts, permits, licenses, approvals, or title, particularly without adequate compensation;
- changing political and fiscal regimes, and economic and regulatory instability;
- unanticipated adverse changes to laws and policies, including those relating to mineral title, royalties and taxation;
- delays or inability to obtain or maintain necessary permits, licenses or approvals;
- opposition to mine development projects, which include the potential for violence, property damage and frivolous or vexatious claims;
- restrictions on foreign investment;
- unreliable or undeveloped infrastructure;
- labour unrest and scarcity;
- difficulty obtaining key equipment and components for equipment;
- regulations and restrictions with respect to imports and exports;
- high rates of inflation;
- extreme fluctuations in currency exchange rates and restrictions on foreign exchange, currencies and repatriation;
- inability to obtain fair dispute resolution or judicial determinations because of bias, corruption or abuse of power;
- abuse of power of foreign governments who impose, or threaten to impose, fines, penalties or other similar mechanisms, without regard to the rule of law;

- difficulties enforcing judgments, particularly judgments obtained in Canada or the United States, with respect to assets located outside of those jurisdictions;
- difficulty understanding and complying with the regulatory and legal framework with respect to mineral properties, mines and mining operations, and permitting;
- violence and the prevalence of criminal activity, including organized crime, theft and illegal mining;
- civil unrest, terrorism and hostage taking;
- military repression and increased likelihood of international conflicts or aggression; and
- increased public health concerns.

Certain of these risks and uncertainties are illustrated well by circumstances in Bolivia.

In early 2009, a new constitution was enacted in Bolivia that further entrenched the government's ability to unilaterally amend or enact laws, and which enshrined the concept that all natural resources belong to the Bolivian people. On May 28, 2014, the Bolivian government enacted the New Mining Law. Among other things, the New Mining Law established a new Bolivian mining authority to provide principal mining oversight (varying the role of COMIBOL) and set out a number of new economic and operational requirements relating to state participation in mining projects. Further, the New Mining Law provided that all pre-existing contracts were to migrate to one of several new forms of agreement within a prescribed period of time. As a result, we anticipate that our current joint venture agreement with COMIBOL relating to the San Vicente mine will be subject to such migration and possible renegotiation of key terms. The primary effects on the San Vicente operation and our interest therein will not be known until such time as we have, if required to do so, renegotiated the existing contract, and the full impact may only be realized over time. We will take appropriate steps to protect and, if necessary, enforce our rights under our existing agreement with COMIBOL. There is, however, no guarantee that governmental actions, including possible expropriation or additional changes in the law, and the migration of our contract will not impact our involvement in the San Vicente operation in an adverse way and such actions could have a material adverse effect on us and our business.

On June 25, 2015, the Bolivian government further enacted the New Conciliation and Arbitration Law, which endeavors to set out newly prescribed arbitral norms and procedures, including for foreign investors. However, its application is unclear and we await clarification by regulatory authorities in order to assess its impact on our business.

In most cases, the effect of these risks and uncertainties cannot be accurately predicted and, in many cases, their occurrence is outside of our control. Although we are unable to determine the impact of these risks on our future financial position or results of operations, many of these risks and uncertainties have the potential to substantially affect our exploration, development and production activities and could therefore have a material adverse impact on our operations and profitability.

Government Regulations

Our operations, exploration, and development activities are subject to extensive laws and regulations in the jurisdictions in which we conduct our business, including with respect to:

- environmental protection, including carbon emissions;
- permitting;
- management and use of toxic substances and explosives;
- management and use of natural resources, including water and energy supplies;
- management of waste and waste water;
- exploration, development, production, and post-closure reclamation of mines;
- imports and exports;
- transportation;

- price controls;
- taxation;
- mining royalties;
- labour standards, employee profit-sharing and occupational health and safety, including mine safety;
- human rights;
- social matters, including historic and cultural preservation, engagement and consultation, local hiring and procurement, development funds;
- anti-corruption and anti-money laundering; and
- data protection and privacy.

The costs associated with compliance with these and future laws and regulations can be substantial, and changes to existing laws and regulations (including the imposition of higher taxes and mining royalties) could cause additional expense, capital expenditures, restrictions on or suspensions of our operations and delays in the development of our properties. In addition, the regulatory and legal framework in some jurisdictions in which we operate are out-dated, unclear and at times, inconsistent. A failure to comply with these laws and regulations, including with respect to our past and current operations, and possibly even actions of parties from whom we acquired our mines or properties, could lead to, among other things, the imposition of substantial fines, penalties, sanctions, the revocation of licenses or approvals, expropriation, forced reduction or suspension of operations, and other civil, regulatory or criminal proceedings.

Many of the jurisdictions in which we operate also have certain laws or policies that impose restrictions on mining activities. For example, there are currently laws in the Province of Chubut, Argentina, which, among other things, prohibit open pit mining and the use of cyanide in mineral processing across the entire Province. As currently enacted, the laws in the Province of Chubut would likely render any future construction and development of the Navidad property uneconomic or not possible at all. There is no guarantee that these restrictions on mining will be removed or that they will not become more restrictive, or that new constraints will not be imposed, including those that might have significant economic impacts on our operations and profitability.

Unanticipated or drastic changes in laws and regulations have affected our operations in the past. For example, under the previous political regime in Argentina, the government intensified the use of severe price, foreign exchange, and import controls in response to unfavourable domestic economic trends. These included informal restrictions on dividend, interest, and service payments abroad and limitations on the ability to convert ARS into USD, exposing us to additional risks of ARS devaluation and high domestic inflation. The new federal government elected in 2015 has eased many of the previously instituted controls and restrictions, but in September 2018, it introduced a new export duty on silver and gold doré exported from Argentina. The duty is scheduled to expire on December 31, 2020. However, for the period from September to December 2018, we paid approximately $1.6 million in export duties, representing an average rate for the export duty of approximately 8% or revenue.

As governments continue to struggle with deficits and concerns over the effects of depressed economies, the mining and metals sector has been targeted to raise revenue. Taxation and royalties are often subject to change and are vulnerable to increases in both poor and good economic times, especially in many resource rich countries. The addition of new taxes, specifically those aimed at mining companies, could have a material impact on our operations and will directly affect profitability and our financial results.

In late December 2016, for example, the Zacatecas state government in Mexico enacted a new set of ecological taxes which took effect on January 1, 2017. The Zacatecas Tax applies broadly across a number of industries in the State of Zacatecas that involve extraction, emissions to the air, soil or water, and deposits of residue or waste. The Zacatecas Tax primarily effects the La Colorada mine in respect of the materials placed in its tailings storage facility. We paid approximately $1.2 million in respect of the Zacatecas Tax in 2018, however, the validity of the Zacatecas Tax has been challenged on constitutional grounds by various parties, including Pan American.

In addition to more targeted changes in taxation, we are also subject to broad-based changes. For example, in December 2017, the United States' Tax Cuts and Job Act (the "US Tax Reform") was enacted, which made significant changes to income tax law in the United States. Among the many provision included in the US Tax Reform, the most notable change was a reduction in the general corporate income tax rate from 35% to 21%, effective January 1, 2018.

SIGNIFICANT JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY IN THE APPLICATION OF ACCOUNTING POLICIES

In preparing financial statements in accordance with IFRS, management is required to make estimates and assumptions that affect the amounts reported in the consolidated financial statements. These critical accounting estimates represent management estimates and judgments that are uncertain, and any changes in these could materially impact the Company's financial statements. Management continuously reviews its estimates, judgments and assumptions using the most current information available. The significant judgments and key sources of estimation uncertainty in the application of accounting policies are described in Note 4 and Note 5 of the 2018 Financial Statements, respectively.

Readers should also refer to Note 3 of the 2018 Financial Statements, for the Company's summary of significant accounting policies.

CHANGES IN ACCOUNTING STANDARDS

New and Amended IFRS Standards that are Effective for the Current Year

Financial Instruments

On January 1, 2018, the Company adopted, retrospectively without restatement, IFRS 9 - *Financial Instruments* ("IFRS 9") which replaced IAS 39 - *Financial Instruments: Recognition and Measurement* ("IAS 39"). IFRS 9 provides a revised model for recognition and measurement of financial instruments with a single, forward-looking 'expected loss' impairment model, and significant changes to hedge accounting. The standard is effective for annual periods beginning on or after January 1, 2018. There was no impact from IFRS 9 on the Company's classification and measurement of financial assets and liabilities, except for equity securities as described below.

Under IFRS 9, subsequent to initial recognition, financial assets are classified and measured at either: amortized cost, fair value through other comprehensive income ("FVTOCI") or at fair value through profit or loss ("FVTPL"). The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of the financial assets.

IFRS 9 introduced a single expected credit loss impairment model for financial assets measured at amortized cost and for debt instruments at FVTOCI, which is based on changes in credit quality since initial recognition. The adoption of the expected credit loss impairment model did not have a significant impact on the Company's financial statements.

IFRS 9 changed the requirements for hedge effectiveness and consequently for the application of hedge accounting, which did not impact the Company. As the Company does not apply hedge accounting, either under IAS 39 or IFRS 9, the adoption of IFRS 9 with regards to hedge accounting did not impact the Company or its accounting policies.

The Company has not restated comparative 2017 information for financial instruments in the scope of IFRS 9. Therefore, the comparative 2017 information is reported under IAS 39 and is not comparable to the information presented for 2018. Differences arising from the adoption of IFRS 9 have been recognized directly in retained earnings as of January 1, 2018. The adoption of IFRS 9 did not result in a change in carrying value of any of our financial instruments on the transition date. The main area of change was the accounting for equity securities previously classified as available for sale.

In accordance with IFRS 9 guidance, investments in equity securities that are neither subsidiaries nor associates ("equity securities") are categorized as FVTPL unless they are designated as FVTOCI. Further, investments in equity securities, previously classified as available for sale, are now classified at FVTPL. As of January 1, 2018 equity securities are measured at FVTPL, prior to this and under IAS 39 these assets were initially recorded at fair value with subsequent measurements recorded at FVTOCI. The Company continued to designate its short term investments other than equity securities as financial assets at FVTOCI. This change in measurement classification resulted in an adjustment to opening retained earnings on January 1, 2018 for the historical unrealized gains and losses on the Company's existing equity securities investments. The adjustment was $1.6 million with a corresponding adjustment to accumulated other comprehensive income.

The Company's financial instrument policy in accordance with IFRS 9 is disclosed in Note 3(g) of the 2018 Financial Statements.

Revenue Recognition

The Company adopted IFRS 15 - *Revenue from Contracts with Customers* ("IFRS 15") which replaced IAS 11 - Construction Contracts; IAS 18 - Revenue, and other revenue interpretations.

IFRS 15 requires either a full retrospective application, whereby comparative information is restated in accordance with IFRS 15, or a modified retrospective application, whereby the cumulative impact of adoption is recognized in opening retained earnings, as of January 1, 2018, and comparative period balances are not restated. The Company elected to apply the modified retrospective approach, though the new standard had no cumulative impact as at January 1, 2018.

IFRS 15 establishes a single five-step model framework for determining the nature, amount, timing and uncertainty of revenue and cash flows arising from a contract with a customer, and introduces a revenue recognition model under which an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This new framework did not result in a change in the way the Company recognizes or measures revenue but additional disclosures have been presented in Note 3(f) as a result of adopting IFRS 15. Further, the standard introduces the concept of performance obligations that are defined as 'distinct' promised goods or services, and requires entities to apportion revenue earned to the distinct performance obligations on a relative stand-alone selling price basis. The Company may from time to time enter into concentrate contracts where the Company is responsible for shipping and insurance costs necessary to bring the goods to a named destination after the date on which control of the goods is transferred to the customer. Accordingly, under IFRS 15, a portion of the revenue earned under such contracts, representing the obligation to fulfill the shipping and insurance services, will be deferred and recognized over the time the obligations are fulfilled. There were no such contracts in 2017, nor in 2018.

The Company's revenue recognition policy in accordance with IFRS 15 is disclosed in Note 3(f) of the 2018 Financial Statements.

Other Narrow Scope Amendments

The Company has adopted IFRIC interpretation 22 - *Foreign Currency Transactions and Advanced Consideration*, and narrow scope amendments to IFRS 2 - *Share-based Payment,* which did not have a material impact on the Company's consolidated financial statements.

New and amended IFRS standards not yet effective

The Company has not early adopted any amendment, standard or interpretation that has been issued by the IASB but is not yet effective.

Leases

IFRS 16, *Leases* ("IFRS 16") In January 2016, the IASB issued IFRS 16 - *Leases* which replaces IAS 17 - *Leases* and its associated interpretative guidance, including IFRIC 4 and SIC 15. IFRS 16 applies a control model to the identification of leases, distinguishing between a lease and a non-lease component on the basis of whether the customer controls the specific asset. For those contracts that are or contain a lease, IFRS 16 introduces significant changes for lessees to the accounting for contracts that are or contain a lease, introducing a single, on-balance sheet accounting model that is similar to current finance lease accounting, with limited exceptions for short-term leases less than 12 months in duration or leases of low value assets. Lessor accounting remains similar to current accounting practice. The standard is effective for annual periods beginning on or after January 1, 2019, with early application permitted for entities that apply IFRS 15.

The Company plans to apply IFRS 16 at the date it becomes effective and has selected the modified retrospective transition approach, which does not require restatement of comparative periods, instead, the cumulative impact of applying IFRS 16 will be accounted for as an adjustment to equity at the start of the accounting period in which it is first applied. The Company does not intend to bring short-term leases (contracts with terms that end within 12 months of the mandatory transition date) or low value leases on balance sheet. Costs for these items will continue to be expensed directly to the Consolidated Income Statements.

The Company is close to finalizing its implementation project. It is expected that the Company will record a material balance of lease assets and associated lease liabilities on the Consolidated Statements of Financial Position at January 1, 2019. IFRS 16 will further result in increased depreciation and amortization on these lease assets and increased interest on these additional lease liabilities. These lease payments will be recorded as financing outflows in the Consolidated Statements of Cash Flows.

Uncertainty Over Income Tax Treatments

IFRIC 23, Uncertainty over Income Tax Treatments ("IFRIC 23") provides guidance regarding the application of the IAS 12 Income Taxes recognition and measurement requirements where there is uncertainty surrounding income tax treatment of a tax position. To apply IFRIC 23, the Company must determine whether it is probable that the relevant tax authorities will accept an uncertain tax treatment used, or proposed to be used, in its income tax filings. If it determined that the tax authorities will accept the tax treatment, the Company should account for the impact consistent with that tax treatment. If it is determined that the tax authorities are not likely to accept the tax treatment, the Company should account for the impact of the uncertainty in the period in which this determination is made. IFRIC 23 is effective for annual periods beginning on or after January 1, 2019 and can be applied with either full retrospective application or modified retrospective application without restatement of comparatives retrospectively or prospectively. The Company does not expect the application of IFRIC 23 will have a significant impact on the Company’s consolidated financial statements.

Annual Improvements 2015-2017 Cycle

In December 2017, the IASB issued the Annual Improvements 2015-2017 cycle, containing amendments to IFRS 3 - Business Combinations ("IFRS 3"), IFRS 11 - Joint Arrangements, IAS 12 - Income Taxes and IAS 23 - Borrowing Costs. These amendments are effective for annual periods beginning on or after January 1, 2019 and are not expected to have a significant impact on the Company's consolidated financial statements.

CORPORATE GOVERNANCE, SOCIAL RESPONSIBILITY, AND ENVIRONMENTAL STEWARDSHIP

Governance

Pan American adheres to high standards of corporate governance and closely follows the requirements established by both the Canadian Securities Administrators and the SEC. We believe that our current corporate governance systems meet or exceed these requirements.

Our Board oversees the direction and strategy of the business and the affairs of the Company. The Board is comprised of seven directors, six of whom are independent as at December 31, 2018. As at the date of this MD&A, the Board is comprised of nine directors, seven of whom are dependent. The Board’s wealth of experience allows it to effectively oversee the development of corporate strategies, provide management with long-term direction, consider and approve major decisions, oversee the business generally and evaluate corporate performance. The Nominating and Governance Committee, appointed by the Board, oversees the effective functioning of the Board and the implementation of governance best practices.

We believe that good corporate governance is important to the effective performance of the Company, and plays a significant role in protecting the interests of all stakeholders while helping to maximize value.

Corporate Social Responsibility

The Health, Safety, Environment, and Communities Committee, appointed by the Board, provides oversight for the corporate social initiatives of the Company and reports directly to the Board. We are committed to creating sustainable value in the communities where our people work and live. Guided by research conducted by our local offices, we participate in, and contribute to numerous community programs. They typically center on education and health, nutrition, environmental awareness, local infrastructure and alternative economic activities. Some of our key initiatives are:

- *Strengthening the production chain of livestock breeding.*
- *Value adding through the development of alpaca textiles weaving workshops with product commercialization in North America.*
- *Improving nutrition, focusing on children and women.*
- *Promoting community health with emphasis on immunizations, optometry, and oral health.*
- *Promoting tourism and local areas of interest such as the Stone Forest in Huayllay in Peru.*
- *Encouraging education for children and adults by contributing to teacher's salaries, and providing continuous support through different scholarships at a local and national level.*

Environmental Stewardship

We are committed to operating our mines and developing our new projects in an environmentally responsible manner. Guided by our Corporate Environmental Policy, we take every practical measure to minimize the environmental impacts of our operations in each phase of the mining cycle, from early exploration through development, construction and operation, up to and after the mine's closure.

We build and operate mines in varied environments across the Americas. From the Patagonian plateau to the Sierra Madre in Mexico, our mines are generally located in isolated places where information about environmental and cultural values is often limited. Our mines in Peru and Bolivia are situated in historic mining districts where previous operations have left significant environmental liabilities that have potential to impact surrounding habitats and communities.

We manage these challenges using best practice methods in environmental impact assessment and teams of leading local and international professionals who clearly determine pre-existing environmental values at each location. These extensive baseline studies often take years of work and cover issues such as biodiversity and ecosystems, surface and groundwater resources, air quality, soils, landscape, archeology and paleontology, and the potential for acid rock drainage in the natural rocks of each new mineral deposit or historic waste facilities. The data collected often significantly advances scientific knowledge about the environments and regions where we work.

The baseline information is then used interactively in the design of each new mine or to develop management and closure plans for historic environmental liabilities, in open consultation with local communities and government authorities. We conduct detailed modeling and simulation of the environmental effects of each alternative design in order to determine the optimum solution, always aiming for a net benefit.

Once construction and operations begin, we conduct regular monitoring of all relevant environmental variables in order to measure real impacts against baseline data and report to the government and communities on our progress. Community participation in environmental monitoring is encouraged across all our mines. We implement management systems, work procedures and regular staff training to ensure optimum day-to-day management of issues like waste separation and disposal, water conservation, spill prevention, and incident investigation and analysis.

We conduct corporate environmental audits of our operations to ensure optimum environmental performance. Environmental staff from all mines participate in the audits, which improves integration and consolidation of company-wide standards across our operations. In 2018, audits were conducted on the Huaron and Morococha mines. In 2017, audits were conducted on the Dolores, La Colorada and Manantial Espejo mines. No material issues were identified in either the 2018 or 2017 environmental audits.

SUBSEQUENT EVENTS

On February 22, 2019, the Company completed the Tahoe Acquisition. Each Tahoe shareholder had the right to elect to receive either $3.40 in cash (the "Cash Election") or 0.2403 of a Pan American share (the "Share Election") for each Tahoe share, subject in each case to pro-ration based on a maximum cash consideration of $275 million and a maximum number of Pan American shares issued of 56.0 million. Tahoe shareholders who did not make an election by the election deadline were deemed to have made the Share Election. Holders of 23,661,084 Tahoe shares made the Cash Election and received all cash consideration in the amount of $3.40 per Tahoe share. The holders of 290,226,406 Tahoe shares that made or were deemed to have made, the Share Election were subject to pro-ration, and received consideration of approximately $0.67 in cash and 0.1929 of a Pan American share per Tahoe share.

In addition, Tahoe shareholders received contingent consideration in the form of one CVR for each Tahoe share. Each CVR will be exchanged for 0.0497 of a Pan American share upon first commercial shipment of concentrate following restart of operations at the Escobal mine. The CVRs are transferable and have a term of 10 years.

As a result of the acquisition of Tahoe, the Company paid $275 million in cash, issued 55,990,512 common shares of Pan American, and issued 313,887,490 CVRs. After this share issuance, Pan American shareholders owned approximately 73%, while former Tahoe shareholders owned approximately 27%, of the shares of the combined company. The Company has determined that this transaction represents a business combination with Pan American identified as the acquirer. Based on the February 21, 2019 closing share price of Pan American's common shares, the total consideration of the acquisition is approximately $1.1 billion. We began consolidating the operating results, cash flows and net assets of Tahoe from February 22, 2019 onwards.

Tahoe is a mid-tier publicly traded precious metals mining company with ownership interests in a diverse portfolio of mines and projects including the following principle mines: Timmins West and Bell Creek in Canada; La Arena and Shahuindo in Peru; and Escobal in Guatamela. The Escobal mine's operations have been suspended since June 2017.

As the transaction closed in February 2019, the initial allocation of the purchase price to the assets and liabilities acquired is not complete. The main areas under consideration are the values attributable to the mineral interests of each of the mines acquired. We will disclose a preliminary purchase price allocation in our first quarter 2019 condensed consolidated interim financial statements.

Acquisition related costs incurred in 2018 amounted to $10.2 million, have been expensed, and are presented as transaction costs as at December 31, 2018.

DISCLOSURE CONTROLS AND PROCEDURES

Pan American's management considers the meaning of internal control to be the processes established by management to provide reasonable assurance about the achievement of the Company's objectives regarding operations, reporting and compliance. Internal control is designed to address identified risks that threaten any of these objectives.

As of December 31, 2018, the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2018, the Company's disclosure controls and procedures were effective.

Management’s Report on Internal Control over Financial Reporting

Management of Pan American is responsible for establishing and maintaining an adequate system of internal control, including internal controls over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the President and Chief Executive Officer and the Chief Financial Officer and effected by the Board, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS as issued by the IASB. It includes those policies and procedures that:

a) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of Pan American,

b) are designed to provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS, and that receipts and expenditures of Pan American are being made only in accordance with authorizations of management and Pan American’s directors, and

c) are designed to provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of Pan American’s assets that could have a material effect on the annual financial statements or interim financial reports.

The Company’s management, including its President and Chief Executive Officer and Chief Financial Officer, believe that due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis. Also, projections of any evaluation of the effectiveness of internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of Pan American’s internal control over financial reporting as of December 31, 2018, based on the criteria set forth in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management concluded that, as of December 31, 2018, Pan American’s internal control over financial reporting was effective.

Management reviewed the results of management’s assessment with the Audit Committee of the Board. Deloitte LLP, an independent registered public accounting firm, was engaged, as approved by a vote of the Company’s shareholders, to audit and provide independent opinions on the Company’s consolidated financial statements and the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018. Deloitte LLP has provided such opinions.

Changes in Internal Controls over Financial Reporting

There has been no change in the Company’s internal control over financial reporting during the period ended December 31, 2018 that has materially affected or is reasonably likely to materially affect, its internal control over financial reporting.

Pan American Silver Corporation Mineral Reserves as of December 31, 2018 (1,2)

Property	Location	Classification	Tonnes (Mt)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)	Cu (%)	Pb (%)	Zn (%)
Huaron	Peru	Proven	6.3	156	31.4	N/A	N/A	0.55	1.36	2.84
		Probable	4.1	163	21.7	N/A	N/A	0.42	1.49	2.84
Morococha(92.3%) (3)	Peru	Proven	3.7	160	19.0	N/A	N/A	0.44	1.36	4.17
		Probable	3.1	150	15.1	N/A	N/A	0.32	1.26	3.32
La Colorada	Mexico	Proven	4.3	387	53.5	0.31	42.9	N/A	1.66	2.92
		Probable	4.3	346	47.5	0.27	36.6	N/A	1.21	2.13
Dolores	Mexico	Proven	35.8	27	31.3	0.86	990.8	N/A	N/A	N/A
		Probable	8.7	27	7.7	0.79	220.4	N/A	N/A	N/A
La Bolsa	Mexico	Proven	9.5	10	3.1	0.67	202.9	N/A	N/A	N/A
		Probable	6.2	7	1.4	0.57	113.1	N/A	N/A	N/A
Manantial Espejo	Argentina	Proven	1.2	156	5.9	1.26	47.3	N/A	N/A	N/A
		Probable	0.1	204	0.9	3.64	16.0	N/A	N/A	N/A
San Vicente (95%) (3)	Bolivia	Proven	1.5	396	19.3	N/A	N/A	0.43	0.34	3.00
		Probable	0.7	383	8.9	N/A	N/A	0.40	0.37	2.90
Joaquin	Argentina	Probable	0.5	721	11.0	0.41	6.2	N/A	N/A	N/A
COSE	Argentina	Probable	0.1	918	2.2	17.7	43.3	N/A	N/A	N/A
Totals (4)		**Proven + Probable**	**90.0**	**97**	**279.8**	**0.76**	**1,719.5**	**0.45**	**1.31**	**2.98**

(1) Prices used to estimate mineral reserves for 2018 were $18.50 per ounce of silver, $1,300 per ounce of gold, $2,400 per tonne of zinc, $2,100 per tonne of lead, and $6,000 per tonne of copper, except at Manantial Espejo where $16.50 per ounce of silver and $1,250 per ounce of gold were used. Metal prices used for La Bolsa were $14.00 per ounce of silver and $825 per ounce of gold.

(2) Mineral reserve estimates were prepared under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in National Instrument 43-101 (“NI 43-101").

(3) This information represents the portion of mineral reserves attributable to Pan American based on its ownership interest in the operating entity as indicated.

(4) Totals may not add up due to rounding.

Pan American Silver Corporation Measured and Indicated Mineral Resources as of December 31, 2018 (1,2)										
Property	**Location**	**Classification**	**Tonnes (Mt)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
Huaron	Peru	Measured	2.1	155	10.4	N/A	N/A	0.19	1.56	2.91
		Indicated	1.7	151	8.3	N/A	N/A	0.30	1.47	2.76
Morococha (92.3%) (3)	Peru	Measured	0.3	145	1.4	N/A	N/A	0.21	0.87	2.15
		Indicated	0.5	151	2.4	N/A	N/A	0.26	0.98	2.93
La Colorada	Mexico	Measured	0.6	193	3.7	0.22	4.2	N/A	0.60	1.00
		Indicated	2.0	156	9.9	0.15	9.4	N/A	0.54	1.11
Dolores	Mexico	Measured	4.5	20	2.8	0.25	36.4	N/A	N/A	N/A
		Indicated	1.6	27	1.4	0.53	27.4	N/A	N/A	N/A
La Bolsa	Mexico	Measured	1.4	11	0.5	0.90	39.9	N/A	N/A	N/A
		Indicated	4.5	9	1.3	0.50	71.2	N/A	N/A	N/A
Manantial Espejo	Argentina	Measured	0.1	169	0.8	1.66	7.8	N/A	N/A	N/A
		Indicated	0.2	241	1.4	2.86	16.5	N/A	N/A	N/A
San Vicente (95%) (3)	Bolivia	Measured	0.8	154	4.0	N/A	N/A	0.21	0.17	2.23
		Indicated	0.2	148	0.9	N/A	N/A	0.22	0.22	1.73
Navidad	Argentina	Measured	15.4	137	67.8	N/A	N/A	0.10	1.44	N/A
		Indicated	139.8	126	564.5	N/A	N/A	0.04	0.79	N/A
Pico Machay	Peru	Measured	4.7	N/A	N/A	0.91	137.5	N/A	N/A	N/A
		Indicated	5.9	N/A	N/A	0.67	127.1	N/A	N/A	N/A
Joaquin	Argentina	Indicated	0.1	385	0.7	0.58	1.1	N/A	N/A	N/A
Totals (4)		**Measured +Indicated**	**186.3**	**121**	**682.1**	**0.58**	**478.5**	**0.05**	**0.86**	**2.18**

(1) Prices used to estimate mineral resources for 2018 were $18.50 per ounce of silver, $1,300 per ounce of gold, $2,400 per tonne of zinc, $2,100 per tonne of lead, and $6,000 per tonne of copper, except at Dolores and Manantial Espejo, where $24.00 per ounce of silver and $1,400 per ounce of gold were used. Metal prices for Joaquin were $25.00 per ounce of silver and $1,400 per ounce of gold. Metal prices used for La Bolsa were $14.00 per ounce of silver and $825 per ounce of gold. Metal prices for Navidad were $12.52 per ounce of silver and $1,100 per tonne of lead.
(2) Mineral resource estimates were prepared under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in NI 43-101 - *Standards of Disclosure for Mineral Projects*.
(3) This information represents the portion of mineral resources attributable to Pan American based on its ownership interest in the operating entity as indicated.
(4) Totals may not add up due to rounding.

Pan American Silver Corporation Inferred Mineral Resources as of December 31, 2018 (1,2)										
Property	**Location**	**Classification**	**Tonnes (Mt)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
Huaron	Peru	Inferred	6.2	157	31.0	N/A	N/A	0.37	1.50	2.75
Morococha (92.3%) (3)	Peru	Inferred	4.7	140	21.4	N/A	N/A	0.38	1.08	4.30
La Colorada	Mexico	Inferred	6.2	185	37.1	0.20	40.8	N/A	2.08	4.09
Dolores	Mexico	Inferred	4.3	45	6.2	1.15	158.5	N/A	N/A	N/A
La Bolsa	Mexico	Inferred	13.7	8	3.3	0.51	224.6	N/A	N/A	N/A
Manantial Espejo	Argentina	Inferred	0.5	194	3.0	2.71	41.4	N/A	N/A	N/A
San Vicente (95%) (3)	Bolivia	Inferred	2.5	322	26.3	N/A	N/A	0.27	0.33	3.44
Navidad	Argentina	Inferred	45.9	81	119.4	N/A	N/A	0.02	0.57	N/A
Pico Machay	Peru	Inferred	23.9	N/A	N/A	0.58	445.7	N/A	N/A	N/A
Joaquin	Argentina	Inferred	0.01	389	0.1	1.29	0.2	N/A	N/A	N/A
COSE	Argentina	Inferred	0.03	382	0.3	7.10	6.3	N/A	N/A	N/A
Totals (4)		**Inferred**	**108.0**	**92**	**248.0**	**0.59**	**917.5**	**0.10**	**0.83**	**3.64**

(1) Prices used to estimate mineral resources for 2018 were $18.50 per ounce of silver, $1,300 per ounce of gold, $2,400 per tonne of zinc, $2,100 per tonne of lead, and $6,000 per tonne of copper, except at Dolores and Manantial Espejo, where $24.00 per ounce of silver and $1,400 per ounce of gold were used. Metal prices used for Joaquin were $25.00 per ounce of silver and $1,400 per ounce of gold. Metal prices used for La Bolsa were $14.00 per ounce of silver and $825 per ounce of gold. Metal prices for Navidad were $12.52 per ounce of silver and $1,100 per tonne of lead.
(2) Mineral resource estimates were prepared under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in NI 43-101 - *Standards of Disclosure for Mineral Projects*.
(3) This information represents the portion of mineral resources attributable to Pan American based on its ownership interest in the operating entity as indicated.
(4) Totals may not add up due to rounding.

Dolores, Mexico, as of December 31, 2018:

Location	Classification	Tonnes (Mt)	Ag ppm	Ag contained metal (Moz)	Au ppm	Au contained metal (koz)
Open pit	Proven	30.16	26.0	24.7	0.90	868.0
	Probable	7.42	20.0	4.7	0.51	122.0
	Proven + Probable	37.58	24.0	29.4	0.82	990.0
Underground	Proven	1.71	81.0	4.4	1.62	89.0
	Probable	1.29	72.0	3.0	2.38	99.0
	Proven + Probable	3.00	77.0	7.4	1.95	188.0
Stockpiles	Proven	3.90	17.0	2.2	0.27	34.0
	Probable	—	—	—	—	—
	Proven + Probable	3.90	17.0	2.2	0.27	34.0
All	Proven	35.76	27.0	31.3	0.86	991.0
	Probable	8.71	27.0	7.7	0.79	220.0
	Proven + Probable	44.47	27.0	39.0	0.85	1,211.0

Notes: Totals may not add up due to rounding. Mineral reserve estimates were prepared under the supervision of or were reviewed by Martin Wafforn, P. Eng., Senior Vice President, Technical Services and Process Optimization of Pan American. Mineral reserves have been estimated using metal prices of $18.50 per ounce of silver and $1,300 per ounce of gold.

General Notes Applicable to the Foregoing Tables:

Mineral reserves and resources are as defined by the Canadian Institute of Mining, Metallurgy and Petroleum.

Pan American reports mineral resources and mineral reserves separately. Reported mineral resources do not include amounts identified as mineral reserves. Mineral resources that are not mineral reserves have no demonstrated economic viability.

Pan American does not expect these mineral reserve and resource estimates to be materially affected by metallurgical, environmental, permitting, legal, taxation, socio-economic, political, and marketing or other relevant issues.

See the Company's Annual Information Form dated March 12, 2019, available at www.sedar.com for further information on the Company's material mineral properties, including information concerning associated QA/QC and data verification matters, the key assumptions, parameters and methods used by the Company to estimate mineral reserves and mineral resources, and for a detailed description of known legal, political, environmental, and other risks that could materially affect the Company's business and the potential development of the Company's mineral reserves and resources.

Grades are shown as contained metal before mill recoveries are applied.

TECHNICAL INFORMATION

Scientific and technical information contained in this MD&A has been reviewed and approved by Martin Wafforn, P.Eng., Senior Vice President Technical Services and Processing Optimization, and Christopher Emerson, FAusIMM, Vice President Business Development and Geology, each of whom are Qualified Persons, as the term is defined in Canadian National Instrument 43-101 - *Standards of Disclosure of Mineral Projects*.

For more detailed information regarding the Company's material mineral properties and technical information related thereto, including a complete list of current technical reports applicable to such properties, please refer to the Company's Annual Information Form dated March 12, 2019, filed at www.sedar.com or the Company's most recent Form 40-F filed with the SEC.

Cautionary Note Regarding Forward-Looking Statements and Information

Certain of the statements and information in this MD&A constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable Canadian provincial securities laws relating to the Company and its operations. All statements, other than statements of historical fact, are forward-looking statements. When used in this MD&A, the words, "will", "believes", "expects", "intents", "plans", "forecast", "objective", "guidance", "outlook", "potential", "anticipated", "budget", and other similar words and expressions, identify forward-looking statements or information. These forward-looking statements or information relate to, among other things: future financial and operational performance; future production of silver, gold and other metals produced by the Company; future cash costs per ounce of silver and all-in sustaining costs per silver ounce sold; the sufficiency of the Company's current working capital, anticipated operating cash flow or its ability to raise necessary funds; timing of production and the cash costs of production at each of the Company's properties; the estimated cost of and availability of funding necessary for sustaining capital; the successful implementation and effects of ongoing or future development and expansion plans, including the development of the Joaquin and COSE projects, and exploration of the newly discovered skarn deposit at La Colorada, and the anticipated financial and operational results of such projects; the intention to provide updated guidance related to the Tahoe Acquisition in the second quarter of 2019; forecast capital and non-operating spending; the timing and method of payment of compensation; anticipated volatility in effective tax rates and contributing factors; the implementation of new accounting standards, and the anticipated effect of such accounting standards on the Company's financial statements; and the Company's plans and expectations for its properties and operations.

These forward-looking statements and information reflect the Company's current views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by the Company, are inherently subject to significant operational, business, economic, competitive, political, regulatory, and social uncertainties and contingencies. These assumptions include: tonnage of ore to be mined and processed; ore grades and recoveries; prices for silver, gold and base metals remaining as estimated; the ability of the Company to successfully integrate Tahoe's operations and employees and realize synergies and cost savings at the times, and to the extent, anticipated; the potential impact of the Arrangement on relationships, including with regulatory bodies, employees, suppliers, customers and competitors; currency exchange rates remaining as estimated; capital, decommissioning and reclamation estimates; our mineral reserve and resource estimates and the assumptions upon which they are based; prices for energy inputs, labour, materials, supplies and services (including transportation); no labour-related disruptions at any of our operations; no unplanned delays or interruptions in scheduled production; all necessary permits, licenses and regulatory approvals for our operations are received in a timely manner; and our ability to comply with environmental, health and safety laws. The foregoing list of assumptions is not exhaustive.

The Company cautions the reader that forward-looking statements and information involve known and unknown risks, uncertainties and other factors that may cause actual results and developments to differ materially from those expressed or implied by such forward-looking statements or information contained in this MD&A and the Company has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: fluctuations in silver, gold, and base metal prices; fluctuations in prices for energy inputs; fluctuations in currency markets (such as the PEN, MXN, ARS, BOL and CAD versus the USD); risks related to the technological and operational nature of the Company's business; changes in national and local government, legislation, taxation, controls or regulations and political, legal or economic developments in Canada, the United States, Mexico, Peru, Argentina, Bolivia or other countries where the Company may carry on business, including the risk of expropriation relative to certain of our operations, particularly in Argentina and Bolivia; risks and hazards associated with the business of mineral exploration, development and mining (including environmental hazards, industrial accidents, unusual or unexpected geological or structural formations, pressures, cave-ins and flooding); risks relating to the credit worthiness or financial condition of suppliers, refiners and other parties with whom the Company does business; inadequate insurance, or inability to obtain insurance, to cover these risks and hazards; employee relations; relationships with and claims by the local communities and indigenous populations; availability and increasing costs associated with mining inputs and labour; the speculative nature of mineral exploration and development, including the risk of obtaining necessary licenses and permits and the presence of laws and regulations that may impose restrictions on mining, including those currently in the province of Chubut, Argentina; diminishing quantities or grades of mineral reserves as properties are mined; global financial conditions; the Company's ability to complete and successfully integrate acquisitions and to mitigate other business combination risks; challenges to, or difficulty in maintaining, the Company’s title to properties and continued ownership thereof; the actual results of current exploration activities, conclusions of economic evaluations, and changes in project parameters to deal with unanticipated economic or other factors; increased competition in the mining industry for properties, equipment, qualified personnel, and their costs; having sufficient cash to pay obligations as they come due; and those factors identified under the caption “Risks Related to Pan American’s Business” in the Company’s most recent Form 40-F and Annual Information Form as well as those factors identified in the section entitled "Risk Factors" in the Company's management information circular dated December 4, 2018with respect to the Arrangement, each filed with the United States Securities and Exchange Commission and Canadian provincial securities regulatory authorities, respectively. Although the Company has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated, described, or intended. Investors are cautioned against attributing undue certainty or reliance on forward-looking statements or information. Forward-looking statements and information are designed to help readers understand management's current views of our near and longer term prospects and may not be appropriate for other purposes. The Company does not intend, and does not assume any obligation, to update these forward-looking statements or information to reflect changes in assumptions or in circumstances or any other events affecting such statements or information, other than as required by applicable law.

Cautionary Note to U.S. Investors Concerning Estimates of Mineral Reserves and Resources

This MD&A has been prepared in accordance with the requirements of Canadian securities laws, which differ from the requirements of U.S. securities laws. Unless otherwise indicated, all mineral reserve and resource estimates included in the MD&A have been disclosed in accordance with NI 43-101 and the Canadian Institute of Mining, Metallurgy, and Petroleum Definition Standards. NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. Canadian standards, including NI 43-101, differ significantly from the requirements of the SEC, and information concerning mineralization, deposits, mineral reserve and resource information contained or referred to herein may not be comparable to similar information disclosed by U.S. companies. In particular, and without limiting the generality of the foregoing, this MD&A uses the terms “measured resource”, “indicated resources” and “inferred resources”. U.S. investors are advised that, while such terms are recognized and required by Canadian Securities laws, the SEC does not recognize them. The requirements of NI 43-101 for identification of “reserves” are not the same as those of the SEC, and reserves reported by Pan American, in compliance with NI 43-101, may not qualify as “reserves” under SEC standards. Under U.S. standards, mineralization may not be classified as a “reserve” unless the determination has been made that the mineralization could be economically and legally produced for extracted at the time the reserve determination is made. **U.S. investors are cautioned not to assume that any part of a “measured resource” or “indicated resource” will ever be converted in to a “reserve”. U.S. investors should also understand that “inferred resources” have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of the “inferred resources” exist, are economically or legally mineable or will ever be upgraded to a higher category.** Under Canadian Securities laws, estimated “inferred resources” may not form the basis of feasibility or pre-feasibility studies, except in rare cases. Disclosure of “contained ounces” in a mineral resource is permitted disclosure under Canadian Securities laws. However, the SEC normally only permits issuers to report mineralization that does not constitute “reserves” by SEC standards as in place tonnage and grade, without reference to unit measures. Accordingly, information concerning mineral deposits set forth may not be comparable with information made public companies that report in accordance with U.S. standards.

Consolidated Financial Statements and Notes

FOR THE YEARS ENDED DECEMBER 31, 2018 AND DECEMBER 31, 2017

Management’s Responsibility For Financial Reporting

The accompanying Consolidated Financial Statements of Pan American Silver Corp. were prepared by management, which is responsible for the integrity and fairness of the information presented, including the many amounts that must of necessity be based on estimates and judgments. These Consolidated Financial Statements were prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board (“IASB”). Financial information appearing throughout our management’s discussion and analysis is consistent with these Consolidated Financial Statements.

In discharging our responsibility for the integrity and fairness of the consolidated financial statements and for the accounting systems from which they are derived, we maintain the necessary system of internal controls designed to ensure that transactions are authorized, assets are safeguarded and proper records are maintained. These controls include quality standards in hiring employees, policies and procedure manuals, a corporate code of conduct and accountability for performance within appropriate and well-defined areas of responsibility.

The Board of Directors of Pan American Silver Corp. (the "Board") oversees management’s responsibilities for financial reporting through an Audit Committee, which is composed entirely of directors who are neither officers nor employees of Pan American Silver Corp. The Audit Committee reviews our consolidated financial statements and recommends them to the Board for approval. Other key responsibilities of the Audit Committee include reviewing our existing internal control procedures and planned revisions to those procedures, and advising the directors on auditing matters and financial reporting issues.

Deloitte LLP, Independent Registered Public Accounting Firm appointed by the shareholders of Pan American Silver Corp. upon the recommendation of the Audit Committee and the Board, have performed an independent audit of the Consolidated Financial Statements and their report follows. The auditors have full and unrestricted access to the Audit Committee to discuss their audit and related findings.

"signed"	*"signed"*
Michael Steinmann	A. Robert Doyle
Chief Executive Officer	Chief Financial Officer

March 12, 2019

Deloitte.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Pan American Silver Corp.

Opinion on the Financial Statements
We have audited the accompanying consolidated statements of financial position of Pan American Silver Corp. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated income statements, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows, for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and its financial performance and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 12, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion
These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte LLP

Chartered Professional Accountants
Vancouver, Canada

March 12, 2019

We have served as the Company's auditor since 1993.

Deloitte.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Pan American Silver Corp.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Pan American Silver Corp. and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated March 12, 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte LLP

Chartered Professional Accountants
Vancouver, Canada

March 12, 2019

(in thousands of U.S. dollars)

	December 31, 2018	December 31, 2017
Assets		
Current assets		
Cash and cash equivalents (Note 25)	**$ 138,510**	$ 175,953
Short-term investments (Note 9)	**74,004**	51,590
Trade and other receivables	**96,091**	109,746
Income taxes receivable	**13,108**	16,991
Inventories (Note 10)	**214,465**	218,715
Derivative financial instruments (Note 8)	**640**	1,092
Assets held for sale (Note 11)	**—**	7,949
Prepaid expenses and other current assets	**11,556**	13,434
	548,374	595,470
Non-current assets		
Mineral properties, plant and equipment (Note 11)	**1,301,002**	1,336,683
Long-term refundable tax	**70**	80
Deferred tax assets (Note 28)	**12,244**	2,679
Investment in associates (Note 13)	**70,566**	55,017
Other assets (Note 14)	**2,163**	346
Goodwill (Note 12)	**3,057**	3,057
Total Assets	**$ 1,937,476**	$ 1,993,332
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities (Note 15)	**$ 131,743**	$ 139,698
Loans payable (Note 16)	**—**	3,000
Derivative financial instruments (Note 8)	**51**	1,906
Current portion of provisions (Note 17)	**5,072**	8,245
Current portion of finance lease (Note 18)	**5,356**	5,734
Income tax payable	**8,306**	26,131
	150,528	184,714
Non-current liabilities		
Long-term portion of provisions (Note 17)	**70,083**	61,248
Deferred tax liabilities (Note 28)	**148,819**	171,228
Long-term portion of finance lease (Note 18)	**1,320**	1,825
Deferred revenue (Note 13)	**13,288**	12,017
Other long-term liabilities (Note 19)	**25,425**	26,954
Share purchase warrants (Note 13)	**14,664**	14,295
Total Liabilities	**424,127**	472,281
Equity		
Capital and reserves (Note 20)		
Issued capital	**2,321,498**	2,318,252
Share option reserve	**22,573**	22,463
Investment revaluation reserve	**208**	1,605
Deficit	**(836,067)**	(825,470)
Total Equity attributable to equity holders of the Company	**1,508,212**	1,516,850
Non-controlling interests	**5,137**	4,201
Total Equity	**1,513,349**	1,521,051
Total Liabilities and Equity	**$ 1,937,476**	$ 1,993,332

Commitments and contingencies (Notes 8, 29); subsequent events (Note 31)
See accompanying notes to the consolidated financial statements
APPROVED BY THE BOARD ON MARCH 12, 2019

"signed" Ross Beaty, Director *"signed" Michael Steinmann, Director*

(in thousands of U.S. dollars except per share amounts)

	2018	2017
Revenue (Note 26)	**$ 784,495**	$ 816,828
Cost of sales		
Production costs (Note 21)	**(515,636)**	(500,670)
Depreciation and amortization (Note 11)	**(147,289)**	(122,888)
Royalties	**(20,673)**	(24,510)
	(683,598)	(648,068)
Mine operating earnings	**100,897**	168,760
General and administrative	**(22,649)**	(21,397)
Exploration and project development	**(11,138)**	(19,755)
Foreign exchange (losses) gains	**(9,326)**	1,823
Impairment (charges) reversals (Note 12)	**(27,789)**	61,554
Gains on commodity and foreign currency contracts (Note 8)	**4,930**	606
Gains on sale of mineral properties, plant and equipment (Note 11)	**7,973**	191
Share of income from associate and dilution gain (Note 13)	**13,679**	2,052
Transaction costs(1)	**(10,229)**	—
Other expense	**(3,659)**	(5,505)
Earnings from operations	**42,689**	188,329
(Loss) gain on derivatives (Note 8)	**(1,078)**	64
investment (loss) income	**(284)**	1,277
Interest and finance expense (Note 23)	**(8,139)**	(7,185)
Earnings before income taxes	**33,188**	182,485
Income tax expense (Note 28)	**(21,147)**	(59,034)
Net earnings for the year	**$ 12,041**	$ 123,451
Attributable to:		
Equity holders of the Company	**10,294**	120,991
Non-controlling interests	**1,747**	2,460
	$ 12,041	$ 123,451
Earnings per share attributable to common shareholders (Note 24)		
Basic earnings per share	**$ 0.07**	$ 0.79
Diluted earnings per share	**$ 0.07**	$ 0.79
Weighted average shares outstanding (in 000's) Basic	**153,315**	153,070
Weighted average shares outstanding (in 000's) Diluted	**153,522**	153,353

See accompanying notes to the consolidated financial statements.

(1) Transaction costs incurred as part of the acquisition of Tahoe Resources Inc. described in Note 31.

(in thousands of U.S. dollars)

	2018	2017
Net earnings for the year	$ 12,041	$ 123,451
Items that may be reclassified subsequently to net earnings:		
Unrealized net gains on short-term investments (net of $nil tax in 2018 and 2017)	993	810
Reclassification adjustment for realized (gains) losses on short-term investments to earnings	(788)	361
Total comprehensive earnings for the year	$ 12,246	$ 124,622
Total comprehensive earnings attributable to:		
Equity holders of the Company	$ 10,499	$ 122,162
Non-controlling interests	1,747	2,460
	$ 12,246	$ 124,622

See accompanying notes to the consolidated financial statements.

(in thousands of U.S. dollars)

		2018		2017
Cash flow from operating activities				
Net earnings for the period	**$**	**12,041**	$	123,451
Current income tax expense (Note 28)		**53,901**		62,877
Deferred income tax recovery (Note 28)		**(32,754)**		(3,843)
Interest recovery (Note 23)		**(678)**		(1,179)
Depreciation and amortization (Note 11)		**147,289**		122,888
Impairment charges (reversals) (Note 12)		**27,789**		(61,554)
Accretion on closure and decommissioning provision (Note 17)		**6,524**		5,973
Unrealized foreign exchange losses (gains)		**10,337**		(383)
Gain on sale of mineral properties, plant and equipment		**(7,973)**		(191)
Project development write-down		**—**		1,898
Other operating activities (Note 25)		**17,724**		12,663
Changes in non-cash operating working capital (Note 25)		**(4,261)**		11,709
Operating cash flows before interest and income taxes	**$**	**229,939**	$	274,309
Interest paid		**(1,684)**		(2,367)
Interest received		**1,944**		1,462
Income taxes paid		**(75,221)**		(48,845)
Net cash generated from operating activities	**$**	**154,978**	$	224,559
Cash flow from investing activities				
Payments for mineral properties, plant and equipment	**$**	**(144,348)**	$	(142,232)
Acquisition of mineral interests		**(7,500)**		(20,219)
Net purchase of short-term investments		**(25,554)**		(14,267)
Proceeds from sale of mineral properties, plant and equipment		**15,781**		1,674
Purchase of shares in associate (Note 13)		**—**		(2,473)
Net proceeds (payments) from commodity, diesel fuel swaps, and foreign currency contracts		**2,449**		(304)
Net cash used in investing activities	**$**	**(159,172)**	$	(177,821)
Cash flow from financing activities				
Proceeds from issue of equity shares	**$**	**1,081**	$	2,606
Distributions to non-controlling interests		**(2,020)**		(1,052)
Dividends paid		**(21,284)**		(15,314)
Repayment of credit facility		**—**		(36,200)
(Repayment of) proceeds from short-term loans (Note 16)		**(3,000)**		3,000
Payment of equipment leases		**(7,911)**		(4,542)
Net cash used in financing activities	**$**	**(33,134)**	$	(51,502)
Effects of exchange rate changes on cash and cash equivalents		**(115)**		(164)
Net decrease in cash and cash equivalents		**(37,443)**		(4,928)
Cash and cash equivalents at the beginning of the year		**175,953**		180,881
Cash and cash equivalents at the end of the year	**$**	**138,510**	$	175,953

Supplemental cash flow information (Note 25).
See accompanying notes to the consolidated financial statements.

(in thousands of U.S. dollars, except for number of shares)

	Attributable to equity holders of the Company							
	Issued shares	Issued capital	Share option reserve	Investment revaluation reserve	Deficit	Total	Non-controlling interests	Total equity
Balance, December 31, 2016	**152,334,652**	**$ 2,303,978**	**$ 22,946**	**$ 434**	**$ (931,060)**	**$ 1,396,298**	**$ 2,706**	**$ 1,399,004**
Total comprehensive earnings								
Net earnings for the year	—	—	—	—	120,991	120,991	2,460	123,451
Other comprehensive income	—	—	—	1,171	—	1,171	—	1,171
	—	—	—	1,171	120,991	122,162	2,460	124,622
Shares issued on the exercise of stock options	307,266	3,604	(998)	—	—	2,606	—	2,606
Shares issued as compensation (Note 25)	135,404	2,020	—	—	—	2,020	—	2,020
Share-based compensation on option grants	—	—	515	—	—	515	—	515
Acquisition of mineral interests	525,654	8,650	—	—	—	8,650	—	8,650
Distributions by subsidiaries to non-controlling interests	—	—	—	—	(87)	(87)	(965)	(1,052)
Dividends paid	—	—	—	—	(15,314)	(15,314)	—	(15,314)
Balance, December 31, 2017	**153,302,976**	**$ 2,318,252**	**$ 22,463**	**$ 1,605**	**$ (825,470)**	**$ 1,516,850**	**$ 4,201**	**$ 1,521,051**
Impact of adopting IFRS 9[(1)]	—	—	—	(1,602)	1,602	—	$ —	—
Balance, January 1, 2018 (restated)	**153,302,976**	**$ 2,318,252**	**$ 22,463**	**$ 3**	**$ (823,868)**	**$ 1,516,850**	**$ 4,201**	**$ 1,521,051**
Total comprehensive earnings								
Net earnings for the year	—	—	—	—	10,294	10,294	1,747	12,041
Other comprehensive income	—	—	—	205	—	205	—	205
	—	—	—	205	10,294	10,499	1,747	12,246
Cancellation of expired shares	(120,339)	—	—	—	178	178	—	178
Shares issued on the exercise of stock options	125,762	1,367	(286)	—	—	1,081	—	1,081
Shares issued as compensation (Note 25)	139,957	1,879	—	—	—	1,879	—	1,879
Share-based compensation on option grants	—	—	396	—	—	396	—	396
Distributions by subsidiaries to non-controlling interests	—	—	—	—	(1,209)	(1,209)	(811)	(2,020)
Dividends paid	—	—	—	—	(21,462)	(21,462)	—	(21,462)
Balance, December 31, 2018	**153,448,356**	**$ 2,321,498**	**$ 22,573**	**$ 208**	**$ (836,067)**	**$ 1,508,212**	**$ 5,137**	**$ 1,513,349**

See accompanying notes to the consolidated financial statements.

(1) Adjustment upon the adoption of IFRS 16 for investments in equity securities described in Note 4.

1. NATURE OF OPERATIONS

Pan American Silver Corp. is the ultimate parent company of its subsidiary group (collectively, the "Company", or "Pan American"). Pan American is incorporated and domiciled in Canada, and its office is at Suite 1500 – 625 Howe Street, Vancouver, British Columbia, V6C 2T6.

The Company is engaged in the production and sale of silver, gold, zinc, lead and copper as well as other related activities, including exploration, extraction, processing, refining and reclamation. The Company's major products produced from mines in Peru, Mexico, Argentina and Bolivia. Additionally, the Company has project development activities in Peru, Mexico and Argentina, and exploration activities throughout South America and Mexico.

2. BASIS OF PREPARATION

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). IFRS comprises IFRSs, International Accounting Standards ("IAS"), and interpretations issued by the IFRS Interpretations Committee ("IFRICs") and the former Standing Interpretations Committee ("SIC").

These consolidated financial statements were approved for issuance by the Board of Directors on March 12, 2019.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies used in the preparation of these consolidated financial statements are as follows:

a) Presentation currency

The consolidated financial statements are presented in United States dollars ("USD"), which is the Company's and each of the subsidiaries' functional and presentation currency, and all values are rounded to the nearest thousand except where otherwise indicated.

b) Basis of measurement

These consolidated financial statements have been prepared on an historical cost basis, except for those assets and liabilities that are measured at revalued amounts or fair values at the end of each reporting period.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

c) Basis of consolidation

The accounts of the Company and its subsidiaries, which are controlled by the Company, have been included in these consolidated financial statements. Control is achieved when the Company is exposed, or has rights, to variable returns from the investee and when the Company has the ability to affect those returns through its power over the investee. Subsidiaries are included in the consolidated financial results of the Company from the effective date of acquisition up to the effective date of disposition or loss of control. The principal subsidiaries of the Company and their geographic locations at December 31, 2018 were as follows:

Subsidiary	Location	Ownership Interest	Accounting	Operations and Development Projects Owned
Pan American Silver Huaron S.A.	Peru	100%	Consolidated	Huaron mine
Compañía Minera Argentum S.A.	Peru	92%	Consolidated	Morococha mine
Minera Corner Bay S.A. de C.V.	Mexico	100%	Consolidated	Alamo Dorado mine
Plata Panamericana S.A. de C.V.	Mexico	100%	Consolidated	La Colorada mine
Compañía Minera Dolores S.A. de C.V.	Mexico	100%	Consolidated	Dolores mine
Minera Tritón Argentina S.A.	Argentina	100%	Consolidated	Manantial Espejo mine & Cap-Oeste Sur Este ("COSE") project
Minera Joaquin S.R.L.	Argentina	100%	Consolidated	Joaquin project
Pan American Silver (Bolivia) S.A.	Bolivia	95%	Consolidated	San Vicente mine
Minera Argenta S.A.	Argentina	100%	Consolidated	Navidad Project

d) Investments in associates

An associate is an entity over which the investor has significant influence but not control and that is neither a subsidiary nor an interest in a joint venture. Significant influence is presumed to exist where the Company has between 20% and 50% of the voting rights, but can also arise where the Company has less than 20%, if the Company has the power to participate in the financial and operating policy decisions affecting the entity. The Company's share of the net assets and net earnings or loss is accounted for in the consolidated financial statements using the equity method of accounting.

e) Business combinations

Upon the acquisition of a business, the acquisition method of accounting is used, whereby the purchase consideration is allocated to the identifiable assets, liabilities and contingent liabilities (identifiable net assets) acquired on the basis of fair value at the date of acquisition. When the cost of the acquisition exceeds the fair value attributable to the Company's share of the identifiable net assets, the difference is treated as goodwill, which is not amortized and is reviewed for impairment annually or more frequently when there is an indication of impairment. If the fair value attributable to the Company's share of the identifiable net assets exceeds the cost of acquisition, the difference is immediately recognized in the consolidated income statement. Acquisition related costs, other than costs to issue debt or equity securities of the acquirer, including investment banking fees, legal fees, accounting fees, valuation fees, and other professional or consulting fees are expensed as incurred. The costs to issue equity securities of the Company as consideration for the acquisition are reduced from share capital as share issuance costs. The costs to issue debt securities are capitalized and amortized using the effective interest method.

Non-controlling interests are measured either at fair value or at the non-controlling interests' proportionate share of the recognized amounts of the acquirers' identifiable net assets as at the date of acquisition. The choice of measurement basis is made on a transaction by transaction basis.

Control of a business may be achieved in stages. Upon the acquisition of control, any previously held interest is re-measured to fair value at the date control is obtained resulting in a gain or loss upon the acquisition of control.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Company reports provisional amounts for the items for which the accounting is incomplete. These provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

f) Revenue recognition

Policy applicable from January 1, 2018

Revenue associated with the sale of commodities is recognized when control of the asset sold is transferred to the customer. Indicators of control transferring include an unconditional obligation to pay, legal title, physical possession, transfer of risk and rewards and customer acceptance. This generally occurs when the goods are delivered to a loading port, warehouse, vessel or metal account as contractually agreed with the buyer; at which point the buyer controls the goods. In cases where the Company is responsible for the cost of shipping and certain other services after the date on which control of the goods transfers to the customer, these other services are considered separate performance obligations and thus a portion of revenue earned under the contract is allocated and recognized as these performance obligations are satisfied.

The Company's concentrate sales contracts with third-party buyers, in general, provide for a provisional payment based upon provisional assays and quoted metal prices. Final settlement is based on applicable commodity prices set on specified quotational periods, typically ranging from one month prior to shipment, and can extend to three months after the shipment arrives at the smelter and is based on average market metal prices. For this purpose, the transaction price can be measured reliably for those products, such as silver, gold, zinc, lead and copper, for which there exists an active and freely traded commodity market such as the London Metals Exchange and the value of product sold by the Company is directly linked to the form in which it is traded on that market.

Sales revenue is commonly subject to adjustments based on an inspection of the product by the customer. In such cases, sales revenue is initially recognized on a provisional basis using the Company's best estimate of contained metal, and adjusted subsequently. Revenues are recorded under these contracts at the time control passes to the buyer based on the expected settlement period. Revenue on provisionally priced sales is recognized based on estimates of the fair value of the consideration receivable based on forward market prices and estimated quantities. At each reporting date provisionally priced metal is marked to market based on the forward selling price for the quotational period stipulated in the contract. Variations between the price recorded at the date when control is transferred to the buyer and the actual final price set under the smelting contracts are caused by changes in metal prices resulting in the receivable being recorded at fair value through profit or loss ("FVTPL").

IFRS 15 - *Revenue from Contracts with Customers* ("IFRS 15") requires that variable consideration should only be recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur. The Company concluded that the adjustments relating to the final assay results for the quantity and quality of concentrate sold are not significant and do not constrain the recognition of revenue.

Refining and treatment charges under the sales contracts are netted against revenue for sales of metal concentrate.

The Company recognizes deferred revenue in the event it receives payments from customers in consideration for future commitments to deliver metals and before such sale meets the criteria for revenue recognition. The Company recognizes amounts in revenue as the metals are delivered to the customer. Specifically, for the metal agreements entered into with Maverix Metals Inc. ("Maverix"), the Company determines the amortization of deferred revenue to the Consolidated Income Statement on a per unit basis using the estimated total quantity of metal expected to be delivered to Maverix over the terms of the contract. The Company estimates the current portion of deferred revenue based on quantities anticipated to be delivered over the next twelve months

Policy applicable before January 1, 2018

Revenue associated with the sale of commodities is recognized when all significant risks and rewards of ownership of the asset sold are transferred to the customer, usually when insurance risk and title has passed to the customer and the commodity has been delivered to the shipping agent. At this point the Company retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the commodities and the costs incurred, or to be incurred, in respect of the sale, can be reliably measured. Revenue is recognized at the fair value of the consideration receivable, to the extent that it is probable that economic benefits will flow to the Company and the revenue can be reliably measured. Sales revenue is recognized at the fair value of consideration received, which in most cases is based on invoiced amounts.

The Company's concentrate sales contracts with third-party smelters, in general, provide for a provisional payment based upon provisional assays and quoted metal prices. Final settlement is based on applicable commodity prices set on specified quotational periods, typically ranging from one month prior to shipment, and can extend to three months after the shipment arrives at the smelter and is based on average market metal prices. For this purpose, the selling price can be measured reliably for those products, such as silver, gold, zinc, lead and copper, for which there exists an active and freely traded commodity market such as the London Metals Exchange and the value of product sold by the Company is directly linked to the form in which it is traded on that market.

Sales revenue is commonly subject to adjustments based on an inspection of the product by the customer. In such cases, sales revenue is initially recognized on a provisional basis using the Company's best estimate of contained metal, and adjusted subsequently. Revenues are recorded under these contracts at the time title passes to the buyer based on the expected settlement period. Revenue on provisionally priced sales is recognized based on estimates of the fair value of the consideration receivable based on forward market prices. At each reporting date provisionally priced metal is marked to market based on the forward selling price for the quotational period stipulated in the contract. Variations between the price recorded at the shipment date and the actual final price set under the smelting contracts are caused by changes in metal prices and result in an embedded derivative in the accounts receivable. The embedded derivative is recorded at fair value each period until final settlement occurs, with the fair value adjustments recognized in revenue.

Refining and treatment charges under the sales contract with third-party smelters are netted against revenue for sales of metal concentrate.

The Company recognizes deferred revenue in the event it receives payments from customers in consideration for future commitments to deliver metals and before such sale meets the criteria for revenue recognition. The Company recognizes amounts in revenue as the metals are delivered to the customer. Specifically, for the metal agreements entered into with Maverix, the Company determines the amortization of deferred revenue to the Consolidated Income Statement on a per unit basis using the estimated total quantity of metal expected to be delivered to Maverix over the terms of the contract. The Company estimates the current portion of deferred revenue based on quantities anticipated to be delivered over the next twelve months

g) Financial instruments

Policy applicable from January 1, 2018

Measurement – initial recognition

Financial assets and financial liabilities are recognized in the Company's statement of financial position when the Company becomes a party to the contractual provisions of the instrument. On initial recognition, all financial assets and financial liabilities are recorded at fair value, net of attributable transaction costs, except for financial assets and liabilities classified as at FVTPL. Transaction costs of financial assets and liabilities classified as at FVTPL are expensed in the period in which they are incurred.

Subsequent measurement of financial assets and liabilities depends on the classifications of such assets and liabilities.

Classification of financial assets

Amortized cost:

Financial assets that meet the following conditions are measured subsequently at amortized cost:

(i) The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows, and

(ii) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition minus the principal repayments, plus the cumulative amortization using effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. Interest income is recognized using the effective interest method. Interest income is recognized in Investment (loss) income in the Consolidated Income Statements.

The Company's financial assets at amortized cost primarily include cash and cash equivalents, receivables not arising from sale of metal concentrates included in Trade and other receivables in the Consolidated Statement of Financial Position (Note 8(a)).

Fair value through other comprehensive income ("FVTOCI"):

Financial assets that meet the following conditions are measured at FVTOCI:

(i) The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, and

(ii) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Company's short-term investments in other than equity securities are measured at FVTOCI (Note 8(c)).

FVTPL:

By default, all other financial assets are measured subsequently at FVTPL.

The Company, at initial recognition, may also irrevocably designate a financial asset as measured at FVTPL if doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

Financial assets measured at FVTPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship. Fair value is determined in the manner described in Note 8(e)(ii). The Company's financial assets at FVTPL include its trade receivables from provisional concentrate sales, short-term investments in equity securities, and derivative assets not designated as hedging instruments.

Financial liabilities and equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

An equity instrument is any contract that evidences a residual interest in the assets of the Company after deducting all its liabilities. Equity instruments issued by the Company are recognized at the proceeds received, net of direct issue costs. Repurchase of the Company’s own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Company’s own equity instruments.

Classification of financial liabilities

Financial liabilities that are not contingent consideration of an acquirer in a business combination, held for trading or designated as at FVTPL, are measured at amortized cost using effective interest method.

Derivatives

When the Company enters into derivative contracts, these transactions are designed to reduce exposures related to assets and liabilities, firm commitments or anticipated transactions. The Company does not have derivative instruments that qualify as cash flow hedges and consequently all derivatives are recorded at fair value with changes in fair value recognized in net earnings.

The following table summarizes the classification and measurement of the Company's financial assets prior to January 1, 2018 in accordance with IAS 39, compared to the new classification as of January 1, 2018, in accordance with IFRS 9:

Financial Asset	IAS 39 Classification / Measurement	IFRS 9 Classification and Measurement
Cash and cash equivalents	Loans and receivables / Amortized cost	Amortized cost
Short-term investments - equity securities	Available-for-sale / FVTOCI	FVTPL
Short-term investments - other than equity securities	Available-for-sale / FVTOCI	FVTOCI
Trade receivables from provisional concentrates sales	FVTPL	FVTPL
Receivable not arising from sale of metal concentrates	Loans and receivables / Amortized cost	Amortized cost
Derivative financial assets	Held-for-trading / FVTPL	FVTPL

Additional disclosures have been presented in Note 8 as a result of adopting IFRS 9.

Policy applicable before January 1, 2018

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

(i) Financial assets

The Company classifies its financial assets in the following categories: at fair value through profit or loss, loans and receivables, available-for-sale and held-to-maturity investments. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of financial assets at initial recognition.

a. Financial assets at fair value through profit or loss

Financial assets are classified as at fair value through profit or loss when the financial asset is either held for trading or it is designated as at fair value through profit and loss. Derivatives are included in this category and are classified as current assets or non-current assets based on their maturity date. The Company does not acquire financial assets for the purpose of selling in the short term. Financial assets carried at fair value through profit or loss are initially recognized at fair value. The directly attributable transaction costs are expensed in the income statement in the period in which they are incurred. Subsequent changes in fair value are recognized in net earnings.

b. Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Loans and receivables comprise 'trade and other receivables', 'other assets' and 'cash and cash equivalents' in the statement of financial position. Loans and receivables are carried at amortized cost less any impairment.

c. Available-for-sale financial assets

Available-for-sale financial assets are non-derivatives that are either specifically designated as available-for- sale or not classified in any of the other categories. They are included in current assets. Changes in the fair value of available-for-sale financial assets denominated in a currency other than the functional currency of the holder, other than equity investments, are analyzed between translation differences and other changes in the carrying amount of the securities. The translation differences are recognized in the consolidated income statement. Any impairment charges are also recognized in the consolidated income statement, while other changes in fair value are recognized in the investment revaluation reserve. When financial assets classified as available-for-sale are sold, the accumulated fair value adjustments previously recognized in the investment revaluation reserve are reclassified to the consolidated income statement. Dividends on available-for-sale equity instruments are also recognized in the consolidated income statement within investment income when the Company's right to receive payments is established.

d. Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturity are classified as held-to-maturity when the Company has the positive intention and ability to hold to maturity. Other long-term investments that are intended to be held-to-maturity, such as bonds, are measured at amortized cost. This cost is computed as the amount initially recognized minus principal repayments, plus or minus the cumulative amortization using the effective interest method of any difference between the initially recognized amount and the maturity amount. This calculation includes all fees paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums and discounts. For investments carried at amortized cost, gains and losses are recognized in income when the investments are derecognized or impaired, as well as through the amortization process.

(ii) Financial liabilities

Borrowings and other financial liabilities are classified as other financial liabilities and are recognized initially at fair value, net of transaction costs incurred and are subsequently stated at amortized cost. Any difference between the amounts originally received (net of transaction costs) and the redemption value is recognized in the income statement over the period to maturity using the effective interest method.

Borrowings and other financial liabilities are classified as current liabilities unless the Company has an unconditional right to defer settlement of the liability for at least 12 months after the statement of financial position date.

(iii) Derivative financial instruments

When the Company enters into derivative contracts, these transactions are designed to reduce exposures related to assets and liabilities, firm commitments or anticipated transactions. All derivatives are initially recognized at their fair value on the date the derivative contract is entered into and are subsequently re-measured at their fair value at each statement of financial position date.

Embedded derivatives: Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to their host contracts.

(iv) Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Where quoted market prices are available, these are used to determine fair values. In other cases, fair values are calculated using quotations from independent financial institutions, or by using valuation techniques consistent with general market practice applicable to the instrument.

- The fair values of cash and short term borrowings approximate their carrying values as a result of their short maturity or because they carry floating rates of interest.
- Derivative financial assets and liabilities are measured at fair value.

(v) Impairment of financial assets

Available-for-sale financial assets

The Company assesses at each statement of financial position date whether there is objective evidence that a financial asset or a group of financial assets is impaired. In the case of equity securities classified as available for sale, an evaluation is made as to whether a decline in fair value is 'significant' or 'prolonged' based on an analysis of indicators such as significant adverse changes in the technological, market, economic or legal environment in which the investee operates.

If an available-for-sale financial asset is impaired, an amount comprising the difference between its cost (net of any principal payment and amortization) and its current fair value, less any impairment loss previously recognized in the consolidated income statement is transferred from the investment revaluation reserve to the consolidated income statement. Reversals in respect of equity instruments classified as available-for-sale are not recognized in the consolidated income statement. Reversals of impairment losses on debt instruments are reversed through the consolidated income statement if the increase in fair value of the instrument can be objectively related to an event occurring after the impairment loss was recognized.

(vi) Derecognition of financial assets and liabilities

Financial assets

A financial asset is derecognized when its contractual rights to the cash flows that comprise the financial asset expire or substantially all the risks and rewards of the asset are transferred.

Financial liabilities

Gains and losses on discharge, cancellation or expiry of a financial liability are recognized within finance income and finance costs, respectively.

Where an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a settlement of the original liability and the recognition of a new liability, and any difference in the respective carrying amounts is recognized in the income statement.

(vii) Trade receivables

Trade receivables are recognized initially at fair value and are subsequently measured at amortized cost reduced by any provision for impairment. A provision for impairment of trade receivables is established when there is objective evidence that the Company will not be able to collect all amounts due. Indicators of impairment would include financial difficulties of the debtor, likelihood of the debtor's insolvency, default in payment or a significant deterioration in credit worthiness. Any impairment is recognized in the income statement within 'doubtful accounts provision'. When a trade receivable is uncollectable, it is written off against the provision for impairment. Subsequent recoveries of amounts previously written off are credited against 'doubtful accounts provision' in the income statement.

(viii) Accounts payable and accrued liabilities

Accounts payable and accrued liabilities are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method.

(ix) Share purchase warrant liabilities

Share purchase warrant liabilities are recognized initially at fair value and subsequently measured at amortized cost using the effective interest rate method.

h) Derivative Financial Instruments

The Company utilizes metals and currency contracts, including forward contracts to manage exposure to fluctuations in metal prices and foreign currency exchange rates. For metals production, these contracts are intended to reduce the risk of falling prices on the Company's future sales. Foreign currency derivative financial instruments, such as forward contracts are used to manage the effects of exchange rate changes on foreign currency cost exposures. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently re-measured at fair value. Derivatives are carried as assets when the fair value is positive and as liabilities when the fair value is negative and any gains or losses arising from changes in fair value on derivatives are taken directly to earnings for the year. The fair value of forward currency and commodity contracts is calculated by reference to current forward exchange rates and prices for contracts with similar maturity profiles.

Derivatives, including certain conversion options and warrants with exercise prices in a currency other than the functional currency, are recognized at fair value with changes in fair value recognized in profit or loss.

i) Cash and cash equivalents

Cash and cash equivalents include cash on hand and cash in banks. It also includes short-term money market investments that are readily convertible to cash with original terms of three months or less. Cash and cash equivalents are classified as loans and receivables and therefore are stated at amortized cost, less any impairment.

j) Short-term investments

Short-term investments are classified as "available-for-sale", and consist of highly-liquid debt securities with original maturities in excess of three months and equity securities. These debt and equity securities are initially recorded at fair value, which upon their initial measurement is equal to their cost. Subsequent measurements and changes in the market value of these debt and equity securities are recorded as changes to other comprehensive income. Investments are assessed quarterly for potential impairment.

k) Inventories

Inventories include work in progress, concentrate ore, doré, processed silver and gold, heap leach inventory, and operating materials and supplies. Work in progress inventory includes ore stockpiles and other partly processed material. Stockpiles represent ore that has been extracted and is available for further processing. The classification of inventory is determined by the stage at which the ore is in the production process. Inventories of ore are sampled for metal content and are valued based on the lower of cost or estimated net realizable value ("NRV") based upon the period ending prices of contained metal. Cost is determined on a weighted average basis or using a first-in-first-out basis and includes all costs incurred in the normal course of business including direct material and direct labour costs and an allocation of production overheads, depreciation and amortization, and other costs, based on normal production capacity, incurred in bringing each product to its present location and condition. Material that does not contain a minimum quantity of metal to cover estimated processing expenses to recover the contained metal is not classified as inventory and is assigned no value. The work in progress inventory is considered part of the operating cycle which the Company classifies as current inventory and hence heap leach and stockpiles are included in current inventory. Quantities are assessed primarily through surveys and assays.

The costs incurred in the construction of the heap leach pad are capitalized. Heap leach inventory represents silver and gold contained in ore that has been placed on the leach pad for cyanide irrigation. The heap leach process is a process of extracting silver and gold by placing ore on an impermeable pad and applying a diluted cyanide solution that dissolves a portion of the contained silver and gold, which is then recovered during the metallurgical process. When the ore is placed on the pad, an estimate of the recoverable ounces is made based on tonnage, ore grade and estimated recoveries of the ore type placed on the pad. The estimated recoverable ounces on the pad are used to compile the inventory cost.

The Company uses several integrated steps to scientifically measure the metal content of the ore placed on the leach pads. The tonnage, grade, and ore type to be mined in a period was first estimated using the Mineral Reserve model. As the ore body is drilled in preparation for the blasting process, samples are taken of the drill residue which is assayed to determine their metal content and quantities of contained metal. The estimated recoverable ounces carried in the leach pad inventory are adjusted based on actual recoveries being experienced. Actual and estimated recoveries achieved are measured to the extent possible using various indicators including, but not limited to, individual cell recoveries, the use of leach curve recovery and trends in the levels of carried ounces depending on the circumstances or cumulative pad recoveries.

The Company then processes the ore through the crushing facility where the output is again weighed and sampled for assaying. A metallurgical reconciliation with the data collected from the mining operation is completed with appropriate adjustments made to previous estimates. The crushed ore is then transported to the leach pad for application of the leaching solution. The samples from the automated sampler are assayed each shift and used for process control. The quantity of leach solution is measured by flow meters throughout the leaching and precipitation process. The pregnant solution from the heap leach is collected and passed through the processing circuit to produce precipitate which is retorted and then smelted to produce doré bars.

The Company allocates direct and indirect production costs to by-products on a systematic and rational basis. With respect to concentrate and doré inventory, production costs are allocated based on the silver equivalent ounces contained within the respective concentrate and doré.

The inventory is stated at lower of cost or NRV, with cost being determined using a weighted average cost method. The ending inventory value of ounces associated with the leach pad is equal to opening recoverable ounces plus recoverable ounces placed less ounces produced plus or minus ounce adjustments.

The estimate of both the ultimate recovery expected over time and the quantity of metal that may be extracted relative to the time the leach process occurs requires the use of estimates which rely upon laboratory test work and estimated models of the leaching kinetics in the heap leach pads. Test work consists of leach columns of up to 400 days duration with 150 days being the average, from which the Company projects metal recoveries up to three years in the future. The quantities of metal contained in the ore are based upon actual weights and assay analysis. The rate at which the leach process extracts gold and silver from the crushed ore is based upon laboratory column tests and actual experience. The assumptions used by the Company to measure metal content during each stage of the inventory conversion process include estimated recovery rates based on laboratory testing and assaying. The Company periodically reviews its estimates compared to actual experience and revises its estimates when appropriate. The ultimate recovery will not be known until the leaching operations cease.

Supplies inventories are valued at the lower of average cost and NRV using replacement cost plus cost to dispose, net of obsolescence. Concentrate and doré inventory includes product at the mine site, the port warehouse and product held by refineries. At times, the Company has a limited amount of finished silver at a minting operation where coins depicting Pan American's emblem are stamped.

l) Mineral properties, plant and equipment

On initial acquisition, mineral properties, plant and equipment are valued at cost, being the purchase price and the directly attributable costs of acquisition or construction required to bring the asset to the location and condition necessary for the asset to be capable of operating in the manner intended by management. When provisions for closure and decommissioning are recognized, the corresponding cost is capitalized as part of the cost of the related assets, representing part of the cost of acquiring the future economic benefits of the operation. The capitalized cost of closure and decommissioning activities is recognized in mineral property, plant and equipment and depreciated accordingly.

In subsequent periods, buildings, plant and equipment are stated at cost less accumulated depreciation and any impairment in value, whilst land is stated at cost less any impairment in value and is not depreciated.

Each asset's or part's estimated useful life has due regard to both its own physical life limitations and the present assessment of economically recoverable reserves of the mine property at which the item is located, and to possible future variations in those assessments. Estimates of remaining useful lives and residual values are reviewed annually. Changes in estimates are accounted for prospectively.

The expected useful lives are included below in the accounting policy for depreciation of property, plant, and equipment. The net carrying amounts of mineral property, land, buildings, plant and equipment are reviewed for impairment either individually or at the cash-generating unit level when events and changes in circumstances indicate that the carrying amounts may not be recoverable. To the extent that these values exceed their recoverable amounts, that excess is recorded as an impairment provision in the financial year in which this is determined.

In countries where the Company paid Value Added Tax ("VAT") and where there is uncertainty of its recoverability, the VAT payments have either been deferred with mineral property costs relating to the property or expensed if it relates to mineral exploration. If the Company ultimately recovers previously deferred amounts, the amount received will be applied to reduce mineral property costs or taken as a credit against current expenses depending on the prior treatment.

Expenditure on major maintenance or repairs includes the cost of the replacement of parts of assets and overhaul costs. Where an asset or part of an asset is replaced and it is probable that future economic benefits associated with the item will be available to the Company, the expenditure is capitalized and the carrying amount of the item replaced derecognized. Similarly, overhaul costs associated with major maintenance are capitalized and depreciated over their useful lives where it is probable that future economic benefits will be available and any remaining carrying amounts of the cost of previous overhauls are derecognized. All other costs are expensed as incurred.

Where an item of mineral property, plant and equipment is disposed of, it is derecognized and the difference between its carrying value and net sales proceeds is disclosed as earnings or loss on disposal in the income statement. Any items of mineral property, plant or equipment that cease to have future economic benefits are derecognized with any gain or loss included in the financial year in which the item is derecognized.

m) Operational mining properties and mine development

When it has been determined that a mineral property can be economically developed as a result of establishing proven and probable reserves (which occurs upon completion of a positive economic analysis of the mineral deposit), the costs incurred to develop such property including costs to further delineate the ore body and remove overburden to initially expose the ore body prior to the start of mining operations, are also capitalized. Such costs are amortized using the units-of-production method over the estimated life of the ore body based on proven and probable reserves.

Costs associated with commissioning activities on constructed plants are deferred from the date of mechanical completion of the facilities until the date the Company is ready to commence commercial production. Any revenues earned during this period are recorded as a reduction in deferred commissioning costs. These costs are amortized using the units-of-production method (described below) over the life of the mine, commencing on the date of commercial production.

Acquisition costs related to the acquisition of land and mineral rights are capitalized as incurred. Prior to acquiring such land or mineral rights, the Company makes a preliminary evaluation to determine that the property has significant potential to economically develop the deposit. The time between initial acquisition and full evaluation of a property's potential is dependent on many factors including: location relative to existing infrastructure, the property's stage of development, geological controls and metal prices. If a mineable deposit is discovered, such costs are amortized when production begins. If no mineable deposit is discovered, such costs are expensed in the period in which it is determined the property has no future economic value. In countries where the Company has paid VAT and where there is uncertainty of its recoverability, the VAT payments have either been deferred with mineral property costs relating to the property or expensed if it relates to mineral exploration. If the Company ultimately makes recoveries of the VAT, the amount received will be applied to reduce mineral property costs or taken as a credit against current expenses depending on the prior treatment.

Major development expenditures on producing properties incurred to increase production or extend the life of the mine are capitalized while ongoing mining expenditures on producing properties are charged against earnings as incurred. Gains or losses from sales or retirements of assets are included in gain or loss on sale of assets.

n) Depreciation of mineral property, plant and equipment

The carrying amounts of mineral property, plant and equipment (including initial and any subsequent capital expenditure) are depreciated to their estimated residual value over the estimated useful lives of the specific assets concerned, or the estimated life of the associated mine or mineral lease, if shorter. Estimates of residual values and useful lives are reviewed annually and any change in estimate is taken into account in the determination of remaining depreciation charges, and adjusted if appropriate, at each statement of financial position date. Changes to the estimated residual values or useful lives are accounted for prospectively. Depreciation commences on the date when the asset is available for use as intended by management.

i) Units of production basis

For mining properties and leases and certain mining equipment, the economic benefits from the asset are consumed in a pattern which is linked to the production level. Except as noted below, such assets are depreciated on a units of production basis.

In applying the units of production method, depreciation is normally calculated using the quantity of material extracted from the mine in the period as a percentage of the total quantity of material to be extracted in current and future periods based on proven and probable reserves.

ii) Straight line basis

Assets within operations for which production is not expected to fluctuate significantly from one year to another or which have a physical life shorter than the related mine are depreciated on a straight line basis.

Mineral properties, plant and equipment are depreciated over their useful life, or over the remaining life of the mine if shorter. The major categories of property, plant and equipment are depreciated on a unit of production and/or straight-line basis as follows:

- Land – not depreciated
- Mobile equipment – 3 to 7 years
- Buildings and plant facilities – 25 to 50 years
- Mining properties and leases including capitalized evaluation and development expenditures – based on applicable reserves on a unit of production basis.
- Exploration and evaluation – not depreciated until mine goes into production
- Assets under construction – not depreciated until assets are ready for their intended use

o) Exploration and evaluation expenditure

Relates to costs incurred on the exploration and evaluation of potential mineral reserves and resources and includes costs such as exploratory drilling and sample testing and the costs of pre-feasibility studies. Exploration expenditures relates to the initial search for deposits with economic potential. Evaluation expenditures arise from a detailed assessment of deposits or other projects that have been identified as having economic potential.

Expenditures on exploration activity are not capitalized.

Capitalization of evaluation expenditures commences when there is a high degree of confidence in the project's viability and hence it is probable that future economic benefits will flow to the Company.

Evaluation expenditures, other than that acquired from the purchase of another mining company, is carried forward as an asset provided that such costs are expected to be recovered in full through successful development and exploration of the area of interest or alternatively, by its sale.

Purchased exploration and evaluation assets are recognized as assets at their cost of acquisition or at fair value if purchased as part of a business combination.

In the case of undeveloped projects there may be only inferred resources to form a basis for the impairment review. The review is based on a status report regarding the Company's intentions for the development of the undeveloped project. In some cases, the undeveloped projects are regarded as successors to ore bodies, smelters or refineries currently in production. Where this is the case, it is intended that these will be developed and go into production when the current source of ore is exhausted or to replace the reduced output, which results where existing smelters and/or refineries are closed. It is often the case that technological and other improvements will allow successor smelters and/or refineries to more than replace the capacity of their predecessors. Subsequent recovery of the resulting carrying value depends on successful development or sale of the undeveloped project. If a project does not prove viable, all unrecoverable costs associated with the project, net of any related impairment provisions, are written off.

An impairment review is performed, either individually or at the cash generating unit ("CGU") level, when there are indicators that the carrying amount of the assets may exceed their recoverable amounts. A reversal of impairment test is performed whenever there is an indication that impairment may have reversed. When an impairment loss reverses in a subsequent period, the revised carrying amount shall not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset previously, less subsequent depreciation and depletion. Impairments and reversals of impairment are recognized in net earnings in the period in which they occur. Capitalized exploration and evaluation assets are reassessed on a regular basis and these costs are carried forward provided that the conditions discussed above for expenditure on exploration activity and evaluation expenditures are met.

Expenditures are transferred to mining properties and leases or assets under construction once the technical feasibility and commercial viability of extracting a mineral resource are demonstrable and the work completed to date supports the future development of the property. In order to demonstrate technical feasibility and commercial viability, the Company evaluates the individual project and its established mineral reserves, assesses the relevant findings and conclusions from the Company's activities and in applicable technical or other studies relating to the project, and considers whether and how any additional factors and circumstances might impact the project, particularly in light of the Company's capabilities, risk tolerance and desired economic returns. The Company conducts its managerial evaluation for commercial viability by assessing the factors it considers relevant to the commercial development of the project, taking into consideration the exploration and technical evaluation activities and work undertaken in relation to the project. If the asset demonstrates technical feasibility and commercial viability, the asset is reclassified to mineral properties, plant and equipment. Assessment for impairment is conducted before reclassification.

p) Deferred stripping costs

In open pit mining operations, it is necessary to remove overburden and other waste in order to access the ore body. During the preproduction phase, these costs are capitalized as part of the cost of the mine property and subsequently amortized over the life of the mine (or pit) on a units of production basis.

The costs of removal of the waste material during a mine's production phase are deferred where they give rise to future benefits. These capitalized costs are subsequently amortized on a unit of production basis over the reserves that directly benefit from the specific stripping activity.

q) Asset impairment

Management reviews and evaluates its assets for impairment, or reversals of impairment, when events or changes in circumstances indicate that the related carrying amounts may not be recoverable or when there is an indication that impairment may have reversed. Impairment is normally assessed at the level of cash-generating units which are identified as the smallest identifiable group of assets that generate cash inflows that are largely independent of the cash inflows from other assets. In addition, an impairment loss is recognized for any excess of carrying amount over the fair value less costs to sell ("FVLCTS") of a non-current asset or disposal group held for sale. When an impairment review is undertaken, recoverable amount is assessed by reference to the higher of value in use (being the net present value of expected future cash flows of the relevant CGU) and FVLCTS. The best evidence of FVLCTS is the value obtained from an active market or binding sale agreement. Where neither exists, FVLCTS is based on the best information available to reflect the amount the Company could receive for the CGU in an arm's length transaction. This is often estimated using discounted cash flow techniques.

Where the recoverable amount is assessed using discounted cash flow techniques, the resulting estimates are based on detailed mine and/or production plans. For value in use, recent cost levels are considered, together with expected changes in costs that are compatible with the current condition of the business and which meet the requirements of IAS 36 "Impairment of Assets." The cash flow forecasts are based on best estimates of expected future revenues and costs, including the future cash costs of production, capital expenditure, close down, restoration and environmental clean-up. These may include net cash flows expected to be realized from extraction, processing and sale of mineral resources that do not currently qualify for inclusion in proven or probable ore reserves. Such non-reserve material is included where there is a high degree of confidence in its economic extraction. This expectation is usually based on preliminary drilling and sampling of areas of mineralization that are contiguous with existing reserves. Typically, the additional evaluation to achieve reserve status for such material has not yet been done because this would involve incurring costs earlier than is required for the efficient planning and operation of the mine.

Where the recoverable amount of a CGU is dependent on the life of its associated ore, expected future cash flows reflect long term mine plans, which are based on detailed research, analysis and iterative modeling to optimize the level of return from investment, output and sequence of extraction. The mine plan takes account of all relevant characteristics of the ore, including waste to ore ratios, ore grades, haul distances, chemical and metallurgical properties of the ore affecting process recoveries and capacities of processing equipment that can be used. The mine plan is therefore the basis for forecasting production output in each future year and for forecasting production costs.

The Company's cash flow forecasts are based on estimates of future commodity prices, which assume market prices will revert to the Company's assessment of the long-term average price, generally over a period of three to five years. These assessments often differ from current price levels and are updated periodically.

The discount rates applied to the future cash flow forecasts represent an estimate of the rate the market would apply having regard to the time value of money and the risks specific to the asset for which the future cash flow estimates have not been adjusted, including appropriate adjustments for the risk profile of the countries in which the individual CGU operate. The great majority of the Company's sales are based on prices denominated in USD. To the extent that the currencies of countries in which the Company produces commodities strengthen against the USD without commodity price offset, cash flows and, therefore, net present values are reduced. Non-financial assets other than goodwill that have suffered impairment are tested for possible reversal of the impairment whenever events or changes in circumstances indicate that the impairment may have reversed.

r) Closure and decommissioning costs

The mining, extraction and processing activities of the Company normally give rise to obligations for site closure or rehabilitation. Closure and decommissioning works can include facility decommissioning and dismantling; removal or treatment of waste materials; site and land rehabilitation. The extent of work required and the associated costs are dependent on the requirements of relevant authorities and the Company's environmental policies. Provisions for the cost of each closure and rehabilitation program are recognized at the time that environmental disturbance occurs. When the extent of disturbance increases over the life of an operation, the provision is increased accordingly. Costs included in the provision encompass all closure and decommissioning activity expected to occur progressively over the life of the operation and at the time of closure in connection with disturbances at the reporting date. Routine operating costs that may impact the ultimate closure and decommissioning activities, such as waste material handling conducted as an integral part of a mining or production process, are not included in the provision. Costs arising from unforeseen circumstances, such as the contamination caused by unplanned discharges, are recognized as an expense and liability when the event gives rise to an obligation which is probable and capable of reliable estimation. The timing of the actual closure and decommissioning expenditure is dependent upon a number of factors such as the life and nature of the asset, the operating license conditions, and the environment in which the mine operates. Expenditures may occur before and after closure and can continue for an extended period of time dependent on closure and decommissioning requirements. Closure and decommissioning provisions are measured at the expected value of future cash flows, discounted to their present value and determined according to the probability of alternative estimates of cash flows occurring for each operation. Discount rates used are specific to the underlying obligation. Significant judgements and estimates are involved in forming expectations of future activities and the amount and timing of the associated cash flows. Those expectations are formed based on existing environmental and regulatory requirements which give rise to a constructive or legal obligation.

When provisions for closure and decommissioning are initially recognized, the corresponding cost is capitalized as a component of the cost of the related asset, representing part of the cost of acquiring the future economic benefits of the operation. The capitalized cost of closure and decommissioning activities is recognized in Property, plant and equipment and depreciated accordingly. The value of the provision is progressively increased over time as the effect of discounting unwinds, creating an expense recognized in finance expenses. Closure and decommissioning provisions are also adjusted for changes in estimates. Those adjustments are accounted for as a change in the corresponding capitalized cost, except where a reduction in the provision is greater than the un-depreciated capitalized cost of the related assets, in which case the capitalized cost is reduced to nil and the remaining adjustment is recognized in the income statement. In the case of closed sites, changes to estimated costs are recognized immediately in the income statement. Changes to the capitalized cost result in an adjustment to future depreciation and finance charges. Adjustments to the estimated amount and timing of future closure and decommissioning cash flows are a normal occurrence in light of the significant judgements and estimates involved.

The provision is reviewed at the end of each reporting period for changes to obligations, legislation or discount rates that impact estimated costs or lives of operations and adjusted to reflect current best estimate. The cost of the related asset is adjusted for changes in the provision resulting from changes in the estimated cash flows or discount rate and the adjusted cost of the asset is depreciated prospectively.

s) Foreign currency translation

The Company's functional currency and that of its subsidiaries is the USD as this is the principal currency of the economic environments in which they operate. Transaction amounts denominated in foreign currencies (currencies other than USD) are translated into USD at exchange rates prevailing at the transaction dates. Carrying values of foreign currency monetary assets and liabilities are re-translated at each statement of financial position date to reflect the U.S. exchange rate prevailing at that date.

Gains and losses arising from translation of foreign currency monetary assets and liabilities at each period end are included in earnings except for differences arising on decommissioning provisions which are capitalized for operating mines.

t) Share-based payments

The Company makes share-based awards, including restricted share units ("RSUs), performance share units ("PSUs"), shares and options, to certain employees.

For equity-settled awards, the fair value is charged to the income statement and credited to equity, on a straight-line basis over the vesting period, after adjusting for the estimated number of awards that are expected to vest. The fair value of the equity-settled awards is determined at the date of grant. Non-vesting conditions and market conditions, such as target share price upon which vesting is conditioned, are factored into the determination of fair value at the date of grant. All other vesting conditions are excluded from the determination of fair value and included in management's estimate of the number of awards ultimately expected to vest.

The fair value is determined by using option pricing models. At each statement of financial position date prior to vesting, the cumulative expense representing the extent to which the vesting period has expired and management's best estimate of the awards that are ultimately expected to vest is computed (after adjusting for non-market performance conditions). The movement in cumulative expense is recognized in the income statement with a corresponding entry within equity. No expense is recognized for awards that do not ultimately vest, except for awards where vesting is conditional upon a market condition, which are treated as vested irrespective of whether or not the market condition is satisfied, provided that all other performance conditions are satisfied.

Where the terms of an equity-settled award are modified, as a minimum an expense is recognized as if the terms had not been modified over the original vesting period. In addition, an expense is recognized for any modification, which increases the total fair value of the share-based payment arrangement, or is otherwise beneficial to the employee as measured at the date of modification, over the remainder of the new vesting period.

Where an equity-settled award is cancelled, it is treated as if it had vested on the date of cancellation, and any expense not yet recognized for the award is recognized immediately. Any compensation paid up to the fair value of the awards at the cancellation or settlement date is deducted from equity, with any excess over fair value being treated as an expense in the income statement. However, if a new award is substituted for the cancelled award, and designated as a replacement award on the date that it is granted, the new awards are treated as if they are a modification of the original award, as described in the previous paragraph.

u) Leases

The determination of whether an arrangement is, or contains a lease is based in the substance of the arrangement at the inception date, including whether the fulfillment of the arrangement is dependent on the use of a specific asset or assets or whether the arrangement conveys a right to use the asset. A reassessment after inception is only made in specific circumstances.

Assets held under finance leases, where substantially all the risks and rewards of ownership of the asset have passed to the Company, are capitalized in the statement of financial position at the lower of the fair value of the leased property or the present value of the minimum lease payments during the lease term calculated using the interest rate implicit in the lease agreement. These amounts are determined at the inception of the lease and are depreciated over the shorter of their estimated useful lives or the lease term. The capital elements of future obligations under leases and hire purchase contracts are included as liabilities in the statement of financial position. The interest elements of the lease or hire purchase obligations are charged to the income statement over the periods of the leases and hire purchase contracts and represent a constant proportion of the balance of capital repayments outstanding.

Leases where substantially all the risks and rewards of ownership have not passed to the Company are classified as operating leases. Rentals payable under operating leases are charged to the income statement on a straight-line basis over the lease term. The Company will apply the new lease accounting standard, IFRS 16 - *Leases* ("IFRS 16"), on its effective date of January 1, 2019 (Note 4).

v) Income taxes

Taxation on the earnings or loss for the year comprises current and deferred tax. Taxation is recognized in the income statement except to the extent that it relates to items recognized in other comprehensive income or directly in equity, in which case the tax is recognized in other comprehensive income or equity.

Current tax is the expected tax payable on the taxable income for the year using rates enacted or substantively enacted at the year end, and includes any adjustment to tax payable in respect of previous years.

Deferred tax is provided using the statement of financial position liability method, providing for the tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax assessment or deduction purposes. Where an asset has no deductible or depreciable amount for income tax purposes, but has a deductible amount on sale or abandonment for capital gains tax purposes, that amount is included in the determination of temporary differences.

The tax effect of certain temporary differences is not recognized, principally with respect to goodwill; temporary differences arising on the initial recognition of assets or liabilities (other than those arising in a business combination or in a manner that initially impacted accounting or taxable earnings); and temporary differences relating to investments in subsidiaries, jointly controlled entities and associates to the extent that the Company is able to control the reversal of the temporary difference and the temporary difference is not expected to reverse in the foreseeable future. The amount of deferred tax recognized is based on the expected manner and timing of realization or settlement of the carrying amount of assets and liabilities, with the exception of items that have a tax base solely derived under capital gains tax legislation, using tax rates enacted or substantively enacted at period end. To the extent that an item's tax base is solely derived from the amount deductible under capital gains tax legislation, deferred tax is determined as if such amounts are deductible in determining future assessable income.

The carrying amount of deferred income tax assets is reviewed at each statement of financial position date and reduced to the extent that it is no longer probable that sufficient taxable earnings will be available to allow all or part of the deferred income tax asset to be utilized. To the extent that an asset not previously recognized fulfils the criteria for recognition, a deferred income tax asset is recorded.

Deferred tax is measured on an undiscounted basis at the tax rates that are expected to apply in the periods in which the asset is realized or the liability is settled, based on tax rates and tax laws enacted or substantively enacted at the statement of financial position date.

Current and deferred taxes relating to items recognized in other comprehensive income or directly in equity are recognized in other comprehensive income or equity and not in the income statement. Mining taxes and royalties are treated and disclosed as current and deferred taxes if they have the characteristics of an income tax. Judgements are required about the application of income tax legislation. These judgements and assumptions are subject to risk and uncertainty, hence there is a possibility that changes in circumstances will alter expectations, which may impact the amount of deferred tax assets and deferred tax liabilities recognized on the statement of financial position and the amount of other tax losses and temporary differences not yet recognized. In such circumstances, some or the entire carrying amount of recognized deferred tax assets and liabilities may require adjustment, resulting in a corresponding credit or charge to the income statement.

Deferred tax assets, including those arising from tax losses, capital losses and temporary differences, are recognized only where it is probable that taxable earnings will be available against which the losses or deductible temporary differences can be utilized. Assumptions about the generation of future taxable earnings and repatriation of retained earnings depend on management's estimates of future cash flows. These depend on estimates of future production and sales volumes, commodity prices, reserves, operating costs, closure and decommissioning costs, capital expenditures, dividends and other capital management transactions.

w) Earnings (loss) per share

Basic earnings (loss) per share is calculated by dividing earnings attributable to ordinary equity holders of the parent entity by the weighted average number of ordinary shares outstanding during the period.

The diluted earnings per share calculation is based on the earnings attributable to ordinary equity holders and the weighted average number of shares outstanding after adjusting for the effects of all potential ordinary shares. This method requires that the number of shares used in the calculation be the weighted average number of shares that would be issued on the conversion of all the dilutive potential ordinary shares into ordinary shares. This method assumes that the potential ordinary shares converted into ordinary shares at the beginning of the period (or at the time of issuance, if not in existence at beginning of the period). The number of dilutive potential ordinary shares is determined independently for each period presented.

For convertible securities that may be settled in cash or shares at the holder's option, returns to preference shareholders and income charges are added back to net earnings used for basic EPS and the maximum number of ordinary shares that could be issued on conversion is used in computing diluted earnings per share.

x) Borrowing costs and upfront costs

Borrowing costs that are directly attributable to the acquisition, construction or production of qualifying assets are capitalized. Qualifying assets are assets that require a substantial amount of time to prepare for their intended use, including mineral properties in the evaluation stage where there is a high likelihood of commercial exploitation. Qualifying assets also include significant expansion projects at the operating mines. Borrowing costs are considered an element of the historical cost of the qualifying asset. Capitalization ceases when the asset is substantially complete or if construction is interrupted for an extended period. Where the funds used to finance a qualifying asset form part of general borrowings, the amount capitalized is calculated using a weighted average of rates applicable to the relevant borrowings during the period. Where funds borrowed are directly attributable to a qualifying asset, the amount capitalized represents the borrowing costs specific to those borrowings. Where surplus funds available out of money borrowed specifically to finance a project are temporarily invested, the total borrowing cost is reduced by income generated from short-term investments of such funds.

Upfront costs incurred in connection with entering new credit facilities are recorded as Other assets and are amortized over the life of the respective credit facilities.

4. CHANGES IN ACCOUNTING STANDARDS

New and amended IFRS standards that are effective for the current year

Financial Instruments

On January 1, 2018, the Company adopted, retrospectively without restatement, IFRS 9 - *Financial Instruments* ("IFRS 9") which replaced IAS 39 - *Financial Instruments: Recognition and Measurement* ("IAS 39"). IFRS 9 provides a revised model for recognition and measurement of financial instruments with a single, forward-looking 'expected loss' impairment model and significant changes to hedge accounting. The standard is effective for annual periods beginning on or after January 1, 2018. There was no impact from IFRS 9 on the Company's classification and measurement of financial assets and liabilities except for equity securities as described below.

Under IFRS 9, subsequent to initial recognition, financial assets are classified and measured at either: amortized cost, FVTOCI or at FVTPL. The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of the financial assets.

IFRS 9 introduced a single expected credit loss impairment model for financial assets measured at amortized cost and for debt instruments at FVTOCI, which is based on changes in credit quality since initial recognition. The adoption of the expected credit loss impairment model did not have a significant impact on the Company's financial statements.

IFRS 9 changed the requirements for hedge effectiveness and consequently for the application of hedge accounting which did not impact the Company. As the Company does not apply hedge accounting, either under IAS 39 or IFRS 9, the adoption of IFRS 9 with regards to hedge accounting did not impact the Company or its accounting policies.

The Company has not restated comparative 2017 information for financial instruments in the scope of IFRS 9. Therefore, the comparative 2017 information is reported under IAS 39 and is not comparable to the information presented for 2018. Differences arising from the adoption of IFRS 9 have been recognized directly in retained earnings as of January 1, 2018. The adoption of IFRS 9 did not result in a change in carrying value of any of our financial instruments on the transition date. The main area of change was the accounting for equity securities previously classified as available for sale.

In accordance with IFRS 9 guidance, investments in equity securities that are neither subsidiaries nor associates ("equity securities") are categorized as FVTPL unless they are designated as FVTOCI. Further, investments in equity securities, previously classified as available for sale, are now classified at FVTPL. As of January 1, 2018 equity securities are measured at FVTPL, prior to this and under IAS 39 these assets were initially recorded at fair value with subsequent measurements recorded at FVTOCI. The Company continued to designate its short term investments other than equity securities as financial assets at FVTOCI. This change in measurement classification resulted in an adjustment to opening retained earnings on January 1, 2018 for the historical unrealized gains and losses on the Company's existing equity securities investments. The adjustment was $1.6 million with a corresponding adjustment to accumulated other comprehensive income.

The Company's financial instrument policy in accordance with IFRS 9 is disclosed in Note 3(g).

Revenue Recognition

The Company adopted IFRS 15 which replaced IAS 11 - Construction Contracts; IAS 18 - Revenue, and other revenue interpretations.

IFRS 15 requires either a full retrospective application, whereby comparative information is restated in accordance with IFRS 15, or a modified retrospective application, whereby the cumulative impact of adoption is recognized in opening retained earnings, as of January 1, 2018, and comparative period balances are not restated. The Company elected to apply the modified retrospective approach, though the new standard had no cumulative impact as at January 1, 2018.

IFRS 15 establishes a single five-step model framework for determining the nature, amount, timing and uncertainty of revenue and cash flows arising from a contract with a customer, and introduces a revenue recognition model under which an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This new framework did not result in a change in the way the Company recognizes or measures revenue but additional disclosures have been presented in Note 3(f) as a result of adopting IFRS 15. Further, the standard introduces the concept of performance obligations that are defined as 'distinct' promised goods or services, and requires entities to apportion revenue earned to the distinct performance obligations on a relative stand-alone selling price basis. The Company may from time to time enter into concentrate contracts where the Company is responsible for shipping and insurance costs necessary to bring the goods to a named destination after the date on which control of the goods is transferred to the customer. Accordingly, under IFRS 15, a portion of the revenue earned under such contracts, representing the obligation to fulfill the shipping and insurance services, will be deferred and recognized over the time the obligations are fulfilled. There were no such contracts in 2017, nor in 2018.

The Company's revenue recognition policy in accordance with IFRS 15 is disclosed in Note 3(f).

Other Narrow Scope Amendments

The Company has adopted IFRIC interpretation 22 - *Foreign Currency Transactions and Advanced Consideration*, and narrow scope amendments to IFRS 2 - *Share-based Payment,* which did not have a material impact on the Company's consolidated financial statements.

New and amended IFRS standards not yet effective

The Company has not early adopted any amendment, standard or interpretation that has been issued by the IASB but is not yet effective.

Leases

In January 2016, the IASB issued IFRS 16 which replaces IAS 17 - *Leases* and its associated interpretative guidance, including IFRIC 4 and SIC 15. IFRS 16 applies a control model to the identification of leases, distinguishing between a lease and a non-lease component on the basis of whether the customer controls the specific asset. For those contracts that are or contain a lease, IFRS 16 introduces significant changes for lessees to the accounting for contracts that are or contain a lease, introducing a single, on-balance sheet accounting model that is similar to current finance lease accounting, with limited exceptions for short-term leases less than 12 months in duration or leases of low value assets. Lessor accounting remains similar to current accounting practice. The standard is effective for annual periods beginning on or after January 1, 2019, with early application permitted for entities that apply IFRS 15.

The Company plans to apply IFRS 16 at the date it becomes effective and has selected the modified retrospective transition approach, which does not require restatement of comparative periods; instead, the cumulative impact of applying IFRS 16 will be accounted for as an adjustment to equity at the start of the accounting period in which it is first applied. The Company does not intend to bring short-term leases (contracts with terms that end within 12 months of the mandatory transition date) or low value leases on balance sheet. Costs for these items will continue to be expensed directly to the Consolidated Income Statements.

The Company is close to finalizing its implementation project. It is expected that the Company will record a material balance of lease assets and associated lease liabilities on the Consolidated Statements of Financial Position at January 1, 2019. IFRS 16 will further result in increased depreciation and amortization on these lease assets and increased interest on these additional lease liabilities. These lease payments will be recorded as financing outflows in the Consolidated Statements of Cash Flows.

Uncertainty Over Income Tax Treatments

IFRIC 23, *Uncertainty over Income Tax Treatments* ("IFRIC 23") provides guidance regarding the application of the *IAS 12 Income Taxes* recognition and measurement requirements where there is uncertainty surrounding income tax treatment of a tax position. To apply IFRIC 23, the Company must determine whether it is probable that the relevant tax authorities will accept an uncertain tax treatment used, or proposed to be used, in its income tax filings. If it determined that the tax authorities will accept the tax treatment, the Company should account for the impact consistent with that tax treatment. If it is determined that the tax authorities are not likely to accept the tax treatment, the Company should account for the impact of the uncertainty in the period in which this determination is made. IFRIC 23 is effective for annual periods beginning on or after January 1, 2019 and can be applied with either full retrospective application or modified retrospective application without restatement of comparatives retrospectively or prospectively. The Company does not expect the application of IFRIC 23 will have a significant impact on the Company's consolidated financial statements.

Annual Improvements 2015-2017 Cycle

In December 2017, the IASB issued the Annual Improvements 2015-2017 cycle, containing amendments to IFRS 3 - Business Combinations ("IFRS 3"), IFRS 11 - Joint Arrangements, IAS 12 - Income Taxes and IAS 23 - Borrowing Costs. These amendments are effective for annual periods beginning on or after January 1, 2019 and are not expected to have a significant impact on the Company's consolidated financial statements.

5. SIGNIFICANT JUDGEMENTS IN APPLYING ACCOUNTING POLICIES

Judgements that have the most significant effect on the amounts recognized in the Company's consolidated financial statements are as follows:

a) Capitalization of evaluation costs

The Company has determined that evaluation costs capitalized during the year relating to the operating mines and certain other exploration interests have potential future economic benefits and are potentially economically recoverable, subject to the impairment analysis as discussed in Note 12. In making this judgement, the Company has assessed various sources of information including but not limited to the geologic and metallurgic information, history of conversion of mineral deposits to proven and probable mineral reserves, scoping and feasibility studies, proximity to existing ore bodies, operating management expertise and required environmental, operating and other permits.

b) Commencement of commercial production

During the determination of whether a mine has reached an operating level that is consistent with the use intended by management, costs incurred are capitalized as mineral property, plant and equipment and any consideration from commissioning sales are offset against costs capitalized. The Company defines commencement of commercial production as the date that a mine has achieved a sustainable level of production based on a percentage of design capacity along with various qualitative factors including but not limited to the achievement of mechanical completion, continuous nominated level of production, the working effectiveness of the plant and equipment at or near expected levels and whether there is a sustainable level of production input available including power, water and diesel.

c) Assets' carrying values and impairment charges

In determining carrying values and impairment charges the Company looks at recoverable amounts, defined as the higher of value in use or FVLCTS in the case of non-financial assets, and at objective evidence that identifies significant or prolonged decline of fair value on financial assets classified as available-for-sale indicating impairment. These determinations and their individual assumptions require that management make a decision based on the best available information at each reporting period.

d) Functional currency

The functional currency for the Company and its subsidiaries is the currency of the primary economic environment in which each operates. The Company has determined that its functional currency and that of its subsidiaries is the USD. The determination of functional currency may require certain judgements to determine the primary economic environment. The Company reconsiders the functional currency used when there is a change in events and conditions which determined the primary economic environment.

e) Business combinations

Determination of whether a set of assets acquired and liabilities assumed constitute a business may require the Company to make certain judgments, taking into account all facts and circumstances. A business consists of inputs, including non-current assets and processes, including operational processes, that when applied to those inputs have the ability to create outputs that provide a return to the Company and its shareholders.

f) Determination of control of subsidiaries and joint arrangements

Determination of whether the Company has control of subsidiaries or joint control of joint arrangements requires an assessment of the activities of the investee that significantly affect the investee's returns, including strategic, operational and financing decision-making, appointment, remuneration and termination of the key management personnel and when decisions related to those activities are under the control of the Company or require unanimous consent from the investors. Based on assessment of the relevant facts and circumstances, primarily, the Company's limited board representation and restricted influence over operating, strategic and financing decisions, the Company concluded that it does not control Maverix and as a result classified it as an investment in associate subject to significant influence (Note 13).

g) Deferral of stripping costs

In determining whether stripping costs incurred during the production phase of a mining property relate to mineral reserves that will be mined in a future period and therefore should be capitalized, the Company treats the costs of removal of the waste material during a mine’s production phase as deferred, where it gives rise to future benefits. These capitalized costs are subsequently amortized on a unit of production basis over the reserves that directly benefit from the specific stripping activity. As at December 31, 2018, the carrying amount of stripping costs capitalized was $57.0 million comprised entirely of Dolores (December 31, 2017 - $47.7 million was capitalized comprised entirely of Dolores).

h) Replacement convertible debenture

As part of the 2009 Aquiline transaction, the Company issued a replacement convertible debenture that allowed the holder to convert the debenture into either 363,854 Pan American shares ("Common Shares") or a silver stream contract with Aquiline Resources Inc., a wholly owned subsidiary of the Company. The holder subsequently selected the silver stream contract related to certain production from the Navidad project. The silver stream contract is classified and accounted for as a deferred credit. In determining the appropriate classification of the silver stream contract as a deferred credit, the Company evaluated the economics underlying the contract as of the date the Company assumed the obligation. As at December 31, 2018, the carrying amount of the deferred credit arising from the Aquiline acquisition was $20.8 million (2017 - $20.8 million).

6. KEY SOURCES OF ESTIMATION UNCERTAINTY IN THE APPLICATION OF ACCOUNTING POLICIES

Key sources of estimation uncertainty that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities are:

- *Revenue recognition:* Revenue from the sale of concentrate to independent smelters is recognized when control of the asset sold is transferred to the customer. The Company's concentrate sales contracts with third-party buyers, in general, provide for a provisional payment based upon provisional assays and quoted metal prices. Final settlement is based on applicable commodity prices set on specified quotational periods, typically ranging from one month prior to shipment, and can extend to three months after the shipment arrives at the smelter and is based on average market metal prices. Sales revenue is commonly subject to adjustments based on an inspection of the product by the customer. In such cases, sales revenue is initially recognized on a provisional basis using the Company’s best estimate of contained metal, and adjusted subsequently. Revenues are recorded under these contracts at the time control passes to the buyer based on the expected settlement period. Revenue on provisionally priced sales is recognized based on estimates of the fair value of the consideration receivable based on forward market prices and estimated quantities. At each reporting date provisionally priced metal is marked to market based on the forward selling price for the quotational period stipulated in the contract. Variations between the price recorded at the date when control is transferred to the buyer and the actual final price set under the smelting contracts are caused by changes in metal prices resulting in the receivable being recorded at FVTPL. In a period of high price volatility, as experienced under current economic conditions, the effect of mark-to-market price adjustments related to the quantity of metal which remains to be settled with independent smelters could be significant. For changes in metal quantities upon receipt of new information and assay, the provisional sales quantities are adjusted.

- *Estimated recoverable ounces:* The carrying amounts of the Company's mining properties are depleted based on recoverable ounces. Changes to estimates of recoverable ounces and depletable costs including changes resulting from revisions to the Company's mine plans and changes in metal price forecasts can result in a change to future depletion rates.

- *Mineral reserve estimates:* The figures for mineral reserves and mineral resources are disclosed in accordance with National Instrument 43-101, "Standards of Disclosure for Mineral Projects", issued by the Canadian Securities Administrators and in accordance with "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines – adopted November 23, 2003", prepared by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standing Committee on Reserve Definitions. There are numerous uncertainties inherent in estimating mineral reserves and mineral resources, including many factors beyond the Company's control. Such estimation is a subjective process, and the accuracy of any mineral reserve or mineral resource estimate is a function of the quantity and quality of available data and of the assumptions made and judgments used in engineering and geological interpretation. Differences between management's assumptions including economic assumptions such as metal prices and market conditions could have a material effect in the future on the Company's financial position and results of operation.

- *Valuation of Inventory:* In determining mine production costs recognized in the consolidated income statement, the Company makes estimates of quantities of ore stacked in stockpiles, placed on the heap leach pad and in process and the recoverable silver in this material to determine the average costs of finished goods sold during the period. Changes in these estimates can result in a change in mine operating costs of future periods and carrying amounts of inventories. Refer to Note 10 for details.

- *Depreciation and amortization rates for mineral properties, plant and equipment and mineral interests:* Depreciation and amortization expenses are allocated based on assumed asset lives and depreciation and amortization rates. Should the asset life or depreciation rate differ from the initial estimate, an adjustment would be made in the consolidated income statement prospectively. A change in the mineral reserve estimate for assets depreciated using the units of production method would impact depreciation expense prospectively.

- *Impairment, or impairment reversal, of mining interests:* While assessing whether any indications of impairment, or impairment reversal, exist for mining interests, consideration is given to both external and internal sources of information. Information the Company considers include changes in the market, economic and legal environment in which the Company operates that are not within its control that affect the recoverable amount of mining interests. Internal sources of information include the manner in which mineral property, plant and equipment are being used or are expected to be used and indications of the economic performance of the assets. Estimates include but are not limited to estimates of the discounted future after-tax cash flows expected to be derived from the Company's mining properties, costs to sell the mining properties and the appropriate discount rate. Changes in metal price forecasts, increases or decreases in estimated future costs of production, increases or decreases in estimated future capital costs, reductions or increases in the amount of recoverable mineral reserves and mineral resources and/or adverse or favorable current economics can result in a write-down or write-up of the carrying amounts of the Company's mining interests. Impairments and impairment reversals of mining interests are discussed in Note 12.

- *Estimation of decommissioning and reclamation costs and the timing of expenditures:* The cost estimates are updated annually during the life of a mine to reflect known developments, (e.g. revisions to cost estimates and to the estimated lives of operations), and are subject to review at regular intervals. Decommissioning, restoration and similar liabilities are estimated based on the Company's interpretation of current regulatory requirements, constructive obligations and are measured at the best estimate of expenditures required to settle the present obligation of decommissioning, restoration or similar liabilities that may occur upon decommissioning of the mine at the end of its productive life. The carrying amount is determined based on the net present value of estimated future cash expenditures for the settlement of decommissioning, restoration or similar liabilities that may occur upon decommissioning of the mine. Such estimates are subject to change based on changes in laws and regulations and negotiations with regulatory authorities. Refer to Note 17 for details on decommissioning and restoration costs.

- *Income taxes and recoverability of deferred tax assets:* In assessing the probability of realizing income tax assets recognized, the Company makes estimates related to expectations of future taxable income, applicable tax planning opportunities, expected timing of reversals of existing temporary differences and the likelihood that tax positions taken will be sustained upon examination by applicable tax authorities. In making its assessments, the Company gives additional weight to positive and negative evidence that can be objectively verified. Estimates of future taxable income are based on forecasted cash flows from operations and the application of existing tax laws in each jurisdiction. The Company considers relevant tax planning opportunities that are within the Company's control, are feasible and within management's ability to implement. Examination by applicable tax authorities is supported based on individual facts and circumstances of the relevant tax position examined in light of all available evidence. Where applicable tax laws and regulations are either unclear or subject to ongoing varying interpretations, it is reasonably possible that changes in these estimates can occur that materially affect the amounts of income tax assets recognized. Also, future changes in tax laws could limit the Company from realizing the tax benefits from the deferred tax assets. The Company reassesses unrecognized income tax assets at each reporting period.

- *Accounting for acquisitions:* The provisional fair value of assets acquired and liabilities assumed and the resulting goodwill, if any, requires that management make certain judgments and estimates taking into account information available at the time of acquisition about future events, including, but not restricted to, estimates of mineral reserves and resources acquired, exploration potential, future operating costs and capital expenditures, future metal prices, long-term foreign exchange rates and discount rates. Changes to the provisional values of assets acquired and liabilities assumed, deferred income taxes and resulting goodwill, if any, are retrospectively adjusted when the final measurements are determined if related to conditions existing at the date of acquisition (within one year of the acquisition date).

- *Provisions and contingencies:* Due to the size, complexity and nature of the Company's operations, various legal and tax matters are outstanding from time to time. In the event the Company's estimates of the future resolution of these matters change, the Company will recognize the effects of the changes in its consolidated financial statements on the date such changes occur. Refer to Note 29 for further discussion on contingencies.

7. MANAGEMENT OF CAPITAL

The Company's objective when managing its capital is to maintain its ability to continue as a going concern while at the same time maximizing the growth of its business and providing returns to its shareholders. The Company's capital structure consists of shareholders' equity (comprising issued capital plus share option reserve plus deficit, plus investment revaluation reserve) with a balance of $1.5 billion as at December 31, 2018 (December 31, 2017 - $1.5 billion). The Company manages its capital structure and makes adjustments based on changes to its economic environment and the risk characteristics of the Company's assets. The Company's capital requirements are effectively managed based on the Company having a thorough reporting, planning and forecasting process to help identify the funds required to ensure the Company is able to meet its operating and growth objectives.

The Company is not subject to externally imposed capital requirements and the Company's overall strategy with respect to capital risk management remains unchanged from the year ended December 31, 2017.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

8. FINANCIAL INSTRUMENTS

a) Financial assets and liabilities by categories

December 31, 2018 (1)	Amortized cost	FVTPL	FVTOCI	Total
Financial Assets:				
Cash and cash equivalents	**$ 138,510**	**$ —**	**$ —**	**$ 138,510**
Trade receivables from provisional concentrates sales(2)	**—**	**40,803**	**—**	**40,803**
Receivable not arising from sale of metal concentrates(2)	**40,918**	**—**	**—**	**40,918**
Short-term investments, equity securities	**—**	**19,178**	**—**	**19,178**
Short-term investments, other than equity securities	**—**	**—**	**54,826**	**54,826**
Derivative financial assets	**—**	**640**	**—**	**640**
	$ 179,428	**$ 60,621**	**$ 54,826**	**$ 294,875**
Financial Liabilities:				
Derivative financial liabilities	**$ —**	**$ 51**	**$ —**	**$ 51**
	$ —	**$ 51**	**$ —**	**$ 51**

(1) Financial assets and liabilities by categories presented in accordance with IFRS 9 (see Note 4)
(2) Included in Trade and other receivables.

December 31, 2017 (1)	Loans and receivables	FVTPL	Available for sale	Total
Financial Assets:				
Cash and cash equivalents	$ 175,953	$ —	$ —	$ 175,953
Trade receivables from provisional concentrates sales(2)	—	51,952	—	51,952
Receivable not arising from sale of metal concentrates(2)	43,467	—	—	43,467
Short-term investments, equity securities	—	—	22,971	22,971
Short-term investments, other than equity securities	—	—	28,619	28,619
Derivative financial assets	—	1,092	—	1,092
	$ 219,420	$ 53,044	$ 51,590	$ 324,054
Financial Liabilities:				
Derivative financial liabilities	$ —	$ 1,906	$ —	$ 1,906
	$ —	$ 1,906	$ —	$ 1,906

(1) Financial assets and liabilities by categories presented in accordance with IAS 39.
(2) Included in Trade and other receivables.

b) Short-term investments in equity securities recorded at FVTPL

The Company's short-term investments in equity securities are recorded at FVTPL for the year ended December 31, 2018 but were recorded at FVTOCI for the year ended December 31, 2017. Net losses on short-term investments recorded at FVTPL were as follows:

	2018	2017
Unrealized net losses on short-term investments, equity securities (1)	**$ (3,298)**	$ —
Realized net losses on short-term investments, equity securities (1)	**(49)**	—
	$ (3,347)	**$ —**

(1) Short-term investments in equity securities, previously classified as available for sale with fair value changes recorded through other comprehensive income, as of January 1, 2018, have been reclassified and measured as FVTPL.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

c) Financial assets recorded at FVTOCI

The Company's short-term investments other than equity securities are recorded at FVTOCI. The unrealized (losses) gains from short-term investments other than equity securities for the year ended December 31, 2018 and 2017 were as follows:

	2018	2017
Unrealized net gains on short-term investments, other than equity securities	$ 993	$ 810
Reclassification adjustment for realized (gains) losses on short-term investments, other than equity securities	(788)	361
	$ 205	$ 1,171

d) Derivative instruments

The Company's derivative financial instruments are comprised of foreign currency and commodity contracts. The net gains (losses) on derivatives for the year ended December 31, 2018 and 2017 were comprised of the following:

	2018	2017
Gains on foreign currency and commodity contracts:		
Realized gains (losses) on foreign currency and commodity contracts	$ 2,449	$ (304)
Unrealized gains on foreign currency and commodity contracts	2,481	910
	$ 4,930	$ 606
(Loss) gain on derivatives:		
(Loss) gain on warrants	$ (1,078)	$ 64
	$ (1,078)	$ 64

e) Fair value information

i) Fair Value Measurement

The categories of the fair value hierarchy that reflect the inputs to valuation techniques used to measure fair value are as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities;

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and

Level 3: Inputs for the asset or liability based on unobservable market data

The levels in the fair value hierarchy into which the Company's financial assets and liabilities that are measured and recognized on the Consolidated Statements of Financial Position at fair value on a recurring basis were categorized as follows:

	At December 31, 2018		At December 31, 2017	
	Level 1	Level 2	Level 1	Level 2
Assets and Liabilities:				
Short-term investments	$ 74,004	$ —	$ 51,590	$ —
Trade receivables from provisional concentrate sales	—	40,803	—	51,952
Derivative financial assets	—	640	—	1,092
Derivative financial liabilities	—	(51)	—	(1,906)
	$ 74,004	$ 41,392	$ 51,590	$ 51,138

There were no transfers between Level 1 and Level 2 during the year ended December 31, 2018. The methodology and assessment of inputs for determining the fair value of financial assets and liabilities as well as the levels of hierarchy for the Company's financial assets and liabilities measured at fair value remains unchanged from that at December 31, 2017.

ii) Valuation Techniques

Short-term investments and other investments

The Company’s short-term investments and other investments are valued using quoted market prices in active markets and as such are classified within Level 1 of the fair value hierarchy and are primarily money market securities and U.S. Treasury securities. The fair value of the investment securities is calculated as the quoted market price of the investment and in the case of equity securities, the quoted market price multiplied by the quantity of shares held by the Company.

Derivative assets and liabilities

The Company’s derivative assets and liabilities were comprised of investments in warrants, commodity swaps and foreign currency contracts. The fair value of the warrants is calculated using an option pricing model which utilizes a combination of quoted prices and market-derived inputs. The Company's commodity swaps and foreign currency contracts are valued using observable market prices. Derivative instruments are classified within Level 2 of the fair value hierarchy.

Receivables from Provisional Concentrate Sales

A portion of the Company’s trade receivables arose from provisional concentrate sales and are valued using quoted market prices based on the forward London Metal Exchange for copper, zinc and lead and the London Bullion Market Association P.M. fix for gold and silver.

f) Financial Instruments and related risks

The Company has exposure to risks of varying degrees of significance which could affect its ability to achieve its strategic objectives for growth and shareholder returns. The principle financial risks to which the Company is exposed are:

- i) Credit risk
- ii) Liquidity risk
- iii) Market risk
    1. Currency risk
    2. Interest rate risk
    3. Price risk

The Company’s Board of Directors has overall responsibility for the establishment and oversight of the Company’s risk management framework and reviews the Company’s policies on an ongoing basis.

i) Credit Risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations and arises principally from the Company’s trade receivables. The carrying value of trade receivables represents the maximum credit exposure.

The Company has long-term concentrate contracts to sell the zinc, lead and copper concentrates produced by the Huaron, Morococha, San Vicente and La Colorada mines. Concentrate contracts are common business practice in the mining industry. The terms of the concentrate contracts may require the Company to deliver concentrate that has a value greater than the payment received at the time of delivery, thereby introducing the Company to credit risk of the buyers of concentrates. Should any of these counterparties not honour supply arrangements, or should any of them become insolvent, the Company may incur losses for products already shipped and be forced to sell its concentrates on the spot market or it may not have a market for its concentrates and therefore its future operating results may be materially adversely impacted. At December 31, 2018, the Company had receivable balances associated with buyers of its concentrates of $40.8 million (2017 - $52.0 million). The vast majority of the Company’s concentrate is sold to six well-known concentrate buyers.

Silver doré production from La Colorada, Dolores and Manantial Espejo is refined under long term agreements with fixed refining terms at three separate refineries worldwide. The Company generally retains the risk and title to the precious metals throughout the process of refining and therefore is exposed to the risk that the refineries will not be able to perform in accordance with the refining contract and that the Company may not be able to fully recover precious metals in such circumstances. At December 31, 2018, the Company had approximately $19.7 million (2017 - $21.9 million) of value contained in precious metal inventory at refineries. The Company maintains insurance coverage against the loss of precious metals at the Company's mine sites, in-transit to refineries and whilst at the refineries.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

The Company maintains trading facilities with several banks and bullion dealers for the purposes of transacting the Company's trading activities. None of these facilities are subject to margin arrangements. The Company's trading activities can expose the Company to the credit risk of its counterparties to the extent that the trading positions have a positive mark-to-market value. However, the Company minimizes this risk by ensuring there is no excessive concentration of credit risk with any single counterparty, by active credit management and monitoring.

Refined silver and gold is sold in the spot market to various bullion traders and banks. Credit risk may arise from these activities if the Company is not paid for metal at the time it is delivered, as required by spot sale contracts.

Supplier advances for products and services yet to be provided are a common practice in some jurisdictions in which the Company operates. These advances represent a credit risk to the Company to the extent that suppliers do not deliver products or perform services as expected. As at December 31, 2018, the Company had made $14.4 million (2017 - $14.3 million) of supplier advances, which are reflected in "Trade and other receivables" on the Company's consolidated statement of financial position.

Management constantly monitors and assesses the credit risk resulting from its refining arrangements, concentrate sales and commodity contracts with its refiners, trading counterparties and customers. Furthermore, management carefully considers credit risk when allocating prospective sales and refining business to counterparties. In making allocation decisions, management attempts to avoid unacceptable concentration of credit risk to any single counterparty.

At December 31, 2018, the Company has recorded an allowance for doubtful accounts provision in the amount of $7.6 million (2017 – $7.6 million) which relates to amounts owing from Doe Run Peru ("DRP"), one of the buyers of concentrates from the Company's Peruvian operations, for deliveries of concentrates that occurred in early 2009. The Company will continue to pursue every possible avenue to recover the amounts owed by DRP. At December 31, 2018, the Company recorded an additional allowance for doubtful accounts provision in the amount of $4.7 million (2017 - $nil) which relates to amounts owning from Republic Metals, one of the buyers of doré, for deliveries that occurred in 2018.

Cash and cash equivalents, trade accounts receivable and other receivables that represent the maximum credit risk to the Company consist of the following:

	December 31, 2018	December 31, 2017
Cash and cash equivalents	**$ 138,510**	$ 175,953
Short-term investments	**74,004**	51,590
Trade accounts receivable[1]	**40,803**	51,952
Royalty receivable[1]	**105**	60
Employee loans[1]	**312**	491

(1) Included in Trade and other receivables.

The Company invests its cash and cash equivalents, which also has credit risk, with the objective of maintaining safety of principal and providing adequate liquidity to meet all current payment obligations.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

ii) Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they come due. The Company manages its liquidity risk by continuously monitoring forecasted and actual cash flows. The Company has in place a rigorous planning and budgeting process to help determine the funds required to support the Company's normal operating requirements on an ongoing basis and its expansion plans. The Company strives to maintain sufficient liquidity to meet its short-term business requirements, taking into account its anticipated cash flows from operations, its holdings of cash and short-term investments, and its committed loan facilities.

In the normal course of business, the Company enters into contracts that give rise to commitments for future minimum payments. The following table summarizes the remaining contractual maturities of the Company's financial and non-financial liabilities, shown in contractual undiscounted cash flow:

Payments due by period 2018					
	Within 1 year	2 - 3 years	4- 5 years	After 5 years	Total
Financial liabilities					
Accounts payable and accrued liabilities other than:	$ 128,486	$ —	$ —	$ —	$ 128,486
Severance accrual	1,791	3,763	534	112	6,200
Employee compensation	1,466	—	—	—	1,466
Total accounts payable and accrued liabilities	131,743	3,763	534	112	136,152
Loss on commodity contracts	51	—	—	—	51
Provisions(1)(2)	3,123	547	720	178	4,568
Income taxes payable	8,306	—	—	—	8,306
Other commitments					
Capital and operating expenditure commitments	7,947	7,898	2,885	530	19,260
Future employee compensation	1,530	4,911	—	—	6,441
Credit facility charges	1,200	350	—	—	1,550
Total contractual obligations(2)	**$ 153,900**	**$ 17,469**	**$ 4,139**	**$ 820**	**$ 176,328**

Payments due by period 2017					
	Within 1 year	2 - 3 years	4- 5 years	After 5 years	Total
Financial liabilities					
Accounts payable and accrued liabilities other than:	$ 136,671	$ —	$ —	$ —	$ 136,671
Severance accrual	1,092	2,273	760	1,051	5,176
Employee compensation	1,935	—	—	—	1,935
Total accounts payable and accrued liabilities	139,698	2,273	760	1,051	143,782
Loan obligation	3,000	—	—	—	3,000
Loss on commodity contracts	1,906	—	—	—	1,906
Provisions(1)(2)	2,681	546	627	243	4,097
Income taxes payable	26,131	—	—	—	26,131
Other commitments					
Capital and operating expenditure commitments	8,812	8,883	1,390	789	19,874
Future employee compensation	1,879	2,894	—	—	4,773
Credit facility charges	1,200	1,550	—	—	2,750
Total contractual obligations(2)	**$ 185,307**	**$ 16,146**	**$ 2,777**	**$ 2,083**	**$ 206,313**

(1) Total litigation provision (Note 17).
(2) Amounts above do not include payments related to the Company's anticipated closure and decommissioning obligation (current $1.9 million, long-term $68.6 million) discussed in Note 17 (2017 - current $5.6 million, long-term $59.8 million), the deferred credit arising from the Aquiline acquisition ($20.8 million) (2017 - $20.8 million) discussed in Note 19, and deferred tax liabilities of $148.8 million (2017 - $171.2 million).

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

There was no significant change to the Company's exposure to liquidity risk during the year ended December 31, 2018.

iii) Market Risk

1. Currency Risk

The Company reports its financial statements in USD; however, the Company operates in jurisdictions that utilize other currencies. As a consequence, the financial results of the Company's operations as reported in USD are subject to changes in the value of the USD relative to local currencies. Since the Company's sales are denominated in USD and a portion of the Company's operating costs and capital spending are in local currencies, the Company is negatively impacted by strengthening local currencies relative to the USD and positively impacted by the inverse.

At December 31, 2018, the Company had outstanding positions on its foreign currency exposure of Mexican peso ("MXN") purchases with no comparative positions at December 31, 2017. The Company recorded gains of $0.7 million on MXN derivative contracts for the year ended December 31, 2018 (2017 - gains of $3.8 million).

The Company's net earnings are affected by the revaluation of its monetary assets and monetary liabilities at each balance sheet date. The Company has reviewed its monetary assets and monetary liabilities and is exposed to foreign exchange risk through financial assets and liabilities and deferred income tax liabilities denominated in currencies other than USD as shown in the table below. The Company estimates that a 10% change in the exchange rate of the foreign currencies in which its December 31, 2018 non-USD net monetary liabilities were denominated would result in an income before taxes change of about $14.3 million (2017 - $17.4 million).

The Company is exposed to currency risk through the following financial assets and liabilities, and deferred income tax assets and liabilities denominated in foreign currencies:

At December 31, 2018	Cash and short-term investments	Other current and non-current assets	Income taxes receivable (payable), current and non-current	Accounts payable and accrued liabilities and non-current liabilities	Deferred tax assets and liabilities
Canadian Dollar	$ 22,514	$ 1,793	$ —	$ (851)	$ —
Mexican Peso	2,724	18,873	7,240	(31,909)	(106,383)
Argentinian Peso	2,677	15,038	1,134	(18,739)	—
Bolivian Boliviano	285	532	(6,068)	(12,167)	(9,372)
European Euro	127	—	(332)	—	—
Peruvian Sol	1,268	2,324	2,640	(13,134)	(23,004)
	$ 29,595	$ 38,560	$ 4,614	$ (76,800)	$ (138,759)

(Tabular amounts are in thousands of U.S. dollars, except for number of shares, options, warrants, and per share amounts, unless otherwise noted)

At December 31, 2017	Cash and short-term investments	Other current and non-current assets	Income taxes receivable (payable), current and non-current	Accounts payable and accrued liabilities and non-current liabilities	Deferred tax assets and liabilities
Canadian Dollar	$ 25,062	$ 529	$ (713)	$ (348)	$ —
Mexican Peso	5,188	22,809	(242)	(26,013)	(141,870)
Argentinian Peso	4,239	19,720	837	(28,685)	—
Bolivian Boliviano	4,659	495	(3,840)	(13,954)	(10,076)
European Euro	24	—	(780)	—	—
Peruvian Sol	2,274	1,026	(4,402)	(13,478)	(16,603)
	$ 41,446	$ 44,579	$ (9,140)	$ (82,478)	$ (168,549)

2. Interest Rate Risk

Interest rate risk is the risk that the fair values and future cash flows of the Company will fluctuate because of changes in market interest rates. At December 31, 2018, the Company has $6.7 million in lease obligations (2017 - $7.6 million), that are subject to an annualized interest rate of 2.2% (2017 - 2.2%). At December 31, 2018, the Company has short-term loans in Argentina of $nil (2017 - $3.0 million at an annualized interest rate of 1.8%).

The average interest rate earned by the Company during the year ended December 31, 2018 on its cash and short-term investments was 0.90% (2017 - 0.77%). A 10% increase or decrease in the interest earned from financial institutions on cash and short-term investments would result in a $0.2 million increase or decrease in the Company's before tax earnings (2017 – $0.2 million).

3. Price Risk

Metal price risk is the risk that changes in metal prices will affect the Company's income or the value of its related financial instruments. The Company derives its revenue from the sale of silver, gold, lead, copper, and zinc. The Company's sales are directly dependent on metal prices that have shown significant volatility and are beyond the Company's control. Consistent with the Company's mission to provide equity investors with exposure to changes in silver prices, the Company's current policy is to not hedge the price of silver.

A 10% increase in all metal prices as at December 31, 2018, would result in an increase of approximately $81.2 million (2017 – $83.9 million) in the Company's revenues. A 10% decrease in all metal prices as at the same period would result in a decrease of approximately $82.7 million (2017 - $85.3 million) in the Company's revenues. The Company also enters into provisional concentrate contracts to sell the zinc, lead and copper concentrates produced by the Huaron, Morococha, San Vicente and La Colorada mines. We have provisionally priced sales for which price finalization, referenced to the relevant zinc, lead, copper and silver index, is outstanding at the balance sheet date. A 10% increase in metals prices on open positions of approximately 8,300 tonnes, 2,300 tonnes, 2,000 tonnes, and 1.6 million ounces (2017 - 9,200 tonnes, 2,200 tonnes, 800 tonnes, and 1.9 million ounces) of zinc, lead, copper and silver, respectively, for provisional concentrate contracts for the year ended December 31, 2018 would result in an increase of approximately $6.2 million (2017 - $7.4 million) in the Company's before tax earnings which would be reflected in 2018 results. A 10% decrease in metal prices for the same period would result in a decrease of approximately $6.2 million (2017 - $7.4 million) in the Company's before tax earnings.

The Company mitigates the price risk associated with its base metal production by committing some of its forecasted base metal production from time to time under forward sales and option contracts. The Board of Directors continually assesses the Company's strategy towards its base metal exposure, depending on market conditions. At December 31, 2018, the Company had outstanding contracts to sell some of its base metals production.

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options, warrants, and per share amounts, unless otherwise noted)

9. SHORT-TERM INVESTMENTS

	December 31, 2018			December 31, 2017		
	Fair Value	Cost	Accumulated unrealized holding gains	Fair Value	Cost	Accumulated unrealized holding gains
Short-term investments	**$ 74,004**	**$ 73,796**	**$ 208**	$ 51,590	$ 49,985	$ 1,605

10. INVENTORIES

Inventories consist of:

	December 31, 2018	December 31, 2017
Concentrate inventory	**$ 19,286**	$ 11,582
Stockpile ore [(1)]	**3,945**	16,209
Heap leach inventory and in process [(2)]	**113,199**	108,509
Doré and finished inventory [(3)]	**30,736**	35,054
Materials and supplies	**47,299**	47,361
	$ 214,465	$ 218,715

(1) Includes an impairment charge of $11.2 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines (December 31, 2017 – $10.0 million at Manantial Espejo mine).
(2) Includes an impairment charge of $28.9 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines (December 31, 2017 - $10.3 million at Manantial Espejo and Dolores mines).
(3) Includes an impairment charge of $7.5 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines at December 31, 2018. (December 31, 2017 - $2.9 million at Manantial Espejo mine).

The costs of inventories recognized as expense for the year ended December 31, 2018 amounted to $683.6 million (2017 – $648.1 million), of which $515.6 million (2017 – $500.7 million) and $147.3 million (2017 – $122.9 million) was included in production costs and depreciation and depletion in the Consolidated Income Statements, respectively.

During the year ended December 31, 2018 a $24.3 million (2017 - $12.3 million NRV loss) NRV loss was recognized, primarily driven by decreased metal prices, and included in production costs (Note 21). Inventories held at NRV amounted to $143.6 million (2017 - $125.5 million).

A portion of the Stockpile ore amounting to $2.5 million (2017 - $9.5 million) and a portion of the heap leach inventory amounting to $75.3 million (2017 - $74.3 million) are expected to be recovered or settled after more than twelve months.

11. MINERAL PROPERTIES, PLANT AND EQUIPMENT

Acquisition costs of investment and non-producing properties together with costs directly related to mine development expenditures are capitalized. Exploration expenditures on investment and non-producing properties are charged to expense in the period they are incurred.

Capitalization of evaluation expenditures commences when there is a high degree of confidence in the project's viability and hence it is probable that future economic benefits will flow to the Company. Evaluation expenditures, other than that acquired from the purchase of another mining company, are carried forward as an asset provided that such costs are expected to be recovered in full through successful development and exploration of the area of interest or alternatively, by its sale. Evaluation expenditures include delineation drilling, metallurgical evaluations, and geotechnical evaluations amongst others.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares, options, warrants, and per share amounts, unless otherwise noted)

Mineral properties, plant and equipment consist of:

	Mining Properties				
	Depletable	Non-depletable			
	Reserves and Resources	Reserves and Resources	Exploration and Evaluation	Plant and Equipment	Total
Carrying value					
As at January 1, 2018					
Net of accumulated depreciation	$ 766,883	$ 71,809	$ 253,128	$ 244,863	$ 1,336,683
Additions	106,701	25,423	—	16,896	149,020
Disposals	—	(396)	—	(937)	(1,333)
Depreciation and amortization	(68,935)	—	—	(78,354)	(147,289)
Depreciation charge captured in inventory	(12,620)	—	—	—	(12,620)
Impairment charge	(2,144)	(25,113)	—	(532)	(27,789)
Transfers	(115,726)	1,652	(3,897)	117,971	—
Closure and decommissioning – changes in estimate	4,330	—	—	—	4,330
As at December 31, 2018	**$ 678,489**	**$ 73,375**	**$ 249,231**	**$ 299,907**	**$ 1,301,002**
Cost as at December 31, 2018	$ 1,997,880	$ 104,614	$ 668,358	$ 939,993	$ 3,710,845
Accumulated depreciation and impairments	**(1,319,391)**	**(31,239)**	**(419,127)**	**(640,086)**	**(2,409,843)**
Carrying value – December 31, 2018	**$ 678,489**	**$ 73,375**	**$ 249,231**	**$ 299,907**	**$ 1,301,002**

	Mining Properties				
	Depletable	Non-depletable			
	Reserves and Resources	Reserves and Resources	Exploration and Evaluation	Plant and Equipment	Total
Carrying value					
As at January 1, 2017					
Net of accumulated depreciation	$ 694,501	$ 58,578	$ 259,953	$ 209,695	$ 1,222,727
Additions	120,098	4,066	—	23,938	148,102
Acquisition of Argentine projects	—	40,315	—	30	40,345
Disposals	—	—	(195)	(2,710)	(2,905)
Depreciation and amortization	(53,124)	—	—	(69,764)	(122,888)
Depreciation charge captured in inventory	(4,104)	—	—	—	(4,104)
Impairment reversal	27,531	6,892	1,317	25,814	61,554
Transferred to assets held for sale	—	—	(7,947)	(2)	(7,949)
Transfers	(22,400)	(38,042)	—	57,862	(2,580)
Closure and decommissioning – changes in estimate	4,381	—	—	—	4,381
As at December 31, 2017	**$ 766,883**	**$ 71,809**	**$ 253,128**	**$ 244,863**	**$ 1,336,683**
Cost as at December 31, 2017	$ 2,018,937	$ 77,242	$ 653,216	$ 889,655	$ 3,639,050
Accumulated depreciation and impairments	**(1,252,054)**	**(5,433)**	**(400,088)**	**(644,792)**	**(2,302,367)**
Carrying value – December 31, 2017	**$ 766,883**	**$ 71,809**	**$ 253,128**	**$ 244,863**	**$ 1,336,683**

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

	December 31, 2018			December 31, 2017		
	Cost	**Accumulated Depreciation and Impairment**	**Carrying Value**	Cost	Accumulated Depreciation and Impairment	Carrying Value
Huaron mine, Peru	**$ 207,360**	**$ (114,288)**	**$ 93,072**	$ 196,111	$ (107,970)	$ 88,141
Morococha mine, Peru	**243,603**	**(149,120)**	**94,483**	230,932	(135,868)	95,064
Alamo Dorado mine, Mexico	**126,960**	**(126,960)**	**—**	194,023	(194,023)	—
La Colorada mine, Mexico	**301,706**	**(121,940)**	**179,766**	279,541	(100,970)	178,571
Dolores mine, Mexico	**1,529,751**	**(981,948)**	**547,803**	1,485,200	(908,651)	576,549
Manantial Espejo mine, Argentina	**367,105**	**(362,293)**	**4,812**	367,573	(353,322)	14,251
San Vicente mine, Bolivia	**137,394**	**(86,663)**	**50,731**	131,038	(79,595)	51,443
Other	**23,994**	**(16,265)**	**7,729**	24,174	(16,447)	7,727
Total	**$ 2,937,873**	**$ (1,959,477)**	**$ 978,396**	$ 2,908,592	$ (1,896,846)	$ 1,011,746
Land and Non-Producing Properties:						
Land	**$ 4,677**	**$ (1,096)**	**$ 3,581**	$ 4,990	$ (1,234)	$ 3,756
Navidad project, Argentina	**566,577**	**(376,101)**	**190,476**	566,577	(376,101)	190,476
Minefinders projects, Mexico	**91,362**	**(36,975)**	**54,387**	73,956	(16,929)	57,027
Morococha, Peru	**9,674**	**—**	**9,674**	9,674	—	9,674
Argentine projects[(1)(2)]	**69,774**	**(24,939)**	**44,835**	44,376	—	44,376
Other	**30,908**	**(11,255)**	**19,653**	30,885	(11,257)	19,628
Total non-producing properties	**$ 772,972**	**$ (450,366)**	**$ 322,606**	$ 730,458	$ (405,521)	$ 324,937
Total mineral properties, plant and equipment	**$ 3,710,845**	**$ (2,409,843)**	**$ 1,301,002**	$ 3,639,050	$ (2,302,367)	$ 1,336,683

(1) On February 10, 2017, the Company completed the acquisition of 100% of Coeur Joaquin S.R.L., subsequently renamed Minera Joaquin S.R.L. (“Joaquin”). Joaquin’s principal asset is the Joaquin project, located in the Santa Cruz province of southern Argentina. The consideration for the acquisition was $25.0 million, comprised of$15.0 million in cash and $10.0 million of the Company’s common shares valued as of January 13, 2017 (555,654 total common shares), plus a 2.0% net smelter returns royalty on the Joaquin project. Transaction costs were $0.3 million during the year ended December 31, 2017 with no similar amount in 2018.

(2) On May 31, 2017, the Company acquired 100% of Patagonia Gold Plc's ("Patagonia") COSE project in the Santa Cruz province of southern Argentina from Patagonia. Consideration payable to Patagonia included $15 million, of which $7.5 million is deferred, plus a 1.5% net smelter returns ("NSR") royalty on the COSE project. On May 31, 2017, the Company made a payment of $7.5 million and granted a 1.5% NSR on production from COSE, and the title to COSE transferred to the Company. The remaining $7.5 million payment was made on May 31, 2018.

The assets acquired and liabilities assumed from both projects have been included in the table above under "Argentine projects", and in the "Manantial Espejo" reportable operating segment of the segment note (Note 26). The Company concluded that the acquired assets and assumed liabilities did not constitute a business and accordingly the transactions were accounted for as asset acquisitions. The Joaquin purchase price was allocated to the assets acquired and liabilities assumed on a relative fair value basis with $25.4 million allocated to mineral properties, plant and equipment and the remaining allocated to working capital items ($0.04 million). The COSE purchase price of $15.0 million was allocated to mineral properties, plant and equipment.

Held for Sale Assets

On December 31, 2017, all of the assets and liabilities of Minera Aquiline Argentina SA were classified as held for sale. Immediately prior to the classification to assets and liabilities held for sale, the carrying amount of the Calcatreu project ("Calcatreu") was re-measured to its recoverable amount, being its fair value less costs of disposal, based on the expected proceeds from the sale. As a result, the Company recorded an impairment reversal during the year ended December 31, 2017 of $1.3 million with no impairment or impairment reversal recorded during the year ended December 31, 2018 (Note 12).

On January 31, 2018, the Company completed the sale of 100% of the shares of Minera Aquiline Argentina SA, which owns Calcatreu, to Patagonia for total consideration of $15 million in cash. The Company received $5 million at the date of sale with the remaining $10 million received on May 18, 2018 as scheduled. During the year ended December 31, 2018 the Company recorded a gain of $8.0 million (2017 - $nil) ($6 million, net of tax expense (2017 - $nil, net of tax expense)), respectively, on the sale of Calcatreu included in gain on sale of mineral properties, plant and equipment.

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options, warrants, and per share amounts, unless otherwise noted)

12. IMPAIRMENT (CHARGES) REVERSALS AND GOODWILL

Non-current assets are tested for impairment, or reversal of previous impairment charges, when events or changes in circumstance indicate that the carrying amount may not be recoverable, or previous impairment charges against assets are recoverable. The Company performs an impairment test for goodwill at each financial year end and when events or changes in circumstances indicate that the related carrying value may not be recoverable. The Company considers its internal discounted cash flow economic models as a proxy for the calculation of FVLCTS, given a willing market participant would use such models in establishing a value for the properties. The Company considers impairment, or if previous impairment charges should be reversed, at the CGU level, which is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Company's CGUs are its mine sites, represented by its principal producing mining properties and significant development projects. The CGU carrying amount for purposes of this test includes the carrying value of the mineral properties plant and equipment and goodwill less deferred tax liabilities and closure and decommissioning liabilities related to each CGU.

The Company's key assumptions for determining the recoverable amounts of its various CGUs, for the purpose of testing for impairment or impairment reversals, include the most current operating and capital costs information and risk adjusted project specific discount rates. The Company uses an average of analysts' consensus prices for the first four years of its economic modeling, and long-term reserve prices for the remainder of each asset's life. The prices used can be found in the key assumptions and sensitivity section below.

Impairment (charges) reversals

Based on the Company's assessment with respect to possible indicators of either impairment or reversal of previous impairments to its mineral properties, the Company concluded that as of December 31, 2018 impairment charges totaling $27.8 million ($27.8 million, net of tax expense) (2017 - impairment reversals of $61.6 million ($53.4 million, net of tax expense)) were required on the following CGUs:

	2018	2017
Manantial Espejo	**$ (27,789)**	$ —
Morococha	**—**	60,237
Calcatreu	**—**	1,317
	$ (27,789)	$ 61,554

2018 Impairment - Manantial Espejo

The decrease in short term analyst consensus silver prices and the introduction of an export tax of three to four Argentine pesos per Dollar of export in September 2018, led management to conclude that there was an indication of impairment to its operating assets in Argentina, namely the Manantial Espejo mine, and the COSE and Joaquin projects. As at December 31, 2018, the Company determined that the combined Net Carrying Amount of the Manantial Espejo mine and the Joaquin and COSE development projects, including mineral properties, plant and equipment, and stockpile inventories, net of associated closure and decommissioning liabilities of $68.1 million was greater than the combined estimated recoverable amount of $39.3 million when using a 7.25% risk adjusted discount rate. Based on this assessment, the Company recorded an impairment charge related to the Manantial Espejo mineral property, and the COSE and Joaquin projects, of $27.8 million ($27.8 million, net of tax).

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

2017 Impairment Reversal - Morococha

During the years ended December 2017 and 2016, Morococha generated significantly higher cash flows from operations than the amount assumed in the recoverable value estimation at December 31, 2015, primarily the results of continued costs performance and base metal prices being superior to prior expectations. Further, as of December 31, 2017, Morococha's estimated silver mineral reserve increased by 2.8 million ounces. As a result of the CGU's continued strong performance, increased silver mineral reserves and higher long-term metal prices, the Company recognized a reversal of the remaining unamortized impairment of $60.2 million ($52.1 million, net of tax) related to its investment in Morococha at December 31, 2017.

2017 Impairment Reversal - Calcatreu

The Company recorded an impairment reversal on Calcatreu during the year ended December 31, 2017 further discussed in Note 11.

Key assumptions and sensitivity

The metal prices used to calculate the recoverable amounts at December 31, 2018, and December 31, 2017 are based on analyst consensus prices and the Company's long term reserve prices, and are summarized in the following tables.

Metal prices used at December 31, 2018:

Commodity Prices	2019-2022 average	Long term
Silver price - $/oz.	$17.07	$18.50
Gold price - $/oz.	$1,300	$1,300
Zinc price - $/tonne	$2,599	$2,400
Lead price - $/tonne	$2,171	$2,100
Copper price - $/tonne	$6,975	$6,000

Metal prices used at December 31, 2017:

Commodity Prices	2018-2021 average	Long term
Silver price - $/oz.	$18.57	$18.50
Gold price - $/oz.	$1,307	$1,300
Zinc price - $/tonne	$2,818	$2,600
Lead price - $/tonne	$2,251	$2,200
Copper price - $/tonne	$6,742	$5,500

In 2018, the discount rates used to present value the Company's life of mine cash flows were derived from the Company's weighted average cost of capital which was calculated as 5.3% (2017 – 5.2%), with rates applied to the various mines and projects ranging from 4.5% to 9.8% (2017 - 4.0% to 9.0%), depending on the Company's assessment of country risk, project risk, and other potential risks specific to each CGU.

The key assumptions in determining the recoverable value of the Company's mineral properties are individual metal prices, operating and capital costs, foreign exchange rates and discount rates. At December 31, 2018, the Company performed a sensitivity analysis on all key assumptions that assumed a modest (10%) adverse change to each individual assumption while holding the other assumptions constant.

At December 31, 2018, an adverse 10% movement in any of the major assumptions in isolation did not cause the recoverable amount to be below the CGU carrying value for any of the La Colorada, San Vicente, Huaron, or Morococha mines. For the Dolores mine, Manantial Espejo mine and Navidad project, which previously had their carrying values adjusted to FVLCTS through impairment charges, a modest adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

At December 31, 2017, an adverse 10% movement in any of the major assumptions in isolation did not cause the recoverable amount to be below the CGU carrying value for any of the La Colorada, San Vicente, Huaron, or Morococha mines. For the Dolores mine, Manantial Espejo mine and Navidad project, which previously had their carrying values adjusted to FVLCTS through impairment charges, a modest adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

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options, warrants, and per share amounts, unless otherwise noted)

Goodwill

Goodwill arose when the Company acquired Minefinders Corporation Ltd. in 2012 and consists of:

	December 31, 2018	December 31, 2017
Goodwill	**$ 3,057**	$ 3,057

13. INVESTMENT IN ASSOCIATES

The following table shows a continuity of the Company's investment in Maverix and its investment in other associates:

	2018	2017
Balance of investment in Maverix, December 31,	**$ 53,567**	$ 48,284
Investment in associate	—	2,473
Dilution gain	13,288	2,273
Adjustment for change in ownership interest	1,870	758
Income (loss) in associate	391	(221)
Balance of investment in Maverix, December 31,	**$ 69,116**	$ 53,567
Balance of investment in other	**$ 1,450**	$ 1,450
	$ 70,566	$ 55,017

Investment in Maverix:

The Company's warrant liability representing in substance ownership interest in Maverix was $14.7 million as at December 31, 2018 (December 31, 2017 - $14.3 million). The Company's share of Maverix income or loss was recorded, based on its 40% interest from January 1, 2018 to June 29, 2018, and 29% interest from June 30, 2018 to December 31, 2018 (2017 - 43% from January 1, 2017 to February 21, 2017, 41% from February 22, 2017 to April 20, 2017, and 40% for the remainder of the year) representing the Company's fully diluted ownership.

On June 29, 2018, Maverix closed a transaction with Newmont Mining Corp. and its affiliates ("Newmont") where Maverix acquired a portfolio of fifty (50) royalties from Newmont, for which Maverix issued to Newmont a total of 60 million common shares, 10 million common share purchase warrants, exercisable for five years at $1.64per common share, and made a cash payment of $17 million (collectively, the "Newmont Transaction").

On August 17, 2017, Maverix closed a transaction with CEF Limited ("CEF") where CEF provided Maverix with a $20.0 million senior secured loan facility and Maverix issued 5.9 million common shares to CEF for gross proceeds of $5.3 million. The Company exercised its anti-dilution rights in connection with the CEF transaction where Maverix issued 2.3 million common shares to the Company for gross proceeds of $2.5 million.

On April 20, 2017, Maverix closed a transaction with a wholly owned subsidiary of Silvercorp Metals Inc. (Silvercorp"), where Maverix acquired a net smelter return royalty on the Silvertip mine located in British Columbia Canada; and Maverix issued to Silvercorp a total of 3.8 million common shares (the "Silvertip Transaction").

On February 21, 2017, Maverix closed a transaction with Auramet Trading LLC and certain of its affiliates (collectively "Auramet"), where Maverix acquired a portfolio of two (2) royalties from Auramet; and Maverix issued to Auramet a total of 8.5 million common shares and made a cash payment of $5 million (collectively, the "Auramet Transaction").

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Deferred Revenue:

Deferred revenue relates to precious metal streams whereby the Company will sell 100% of the future gold production from La Colorada and 5% of the future gold production from La Bolsa, which is in the exploration stage, to Maverix for $650 and $450 per ounce, respectively (the "Streams"). The deferred revenue liability recognized by the Company is the portion of the deferred revenue to be paid to Maverix owners other than Pan American through its ownership in Maverix.

The Company will recognize the deferred revenue related to the Streams as revenue as the gold ounces are delivered to Maverix. On June 29, 2018, February 21, 2017, April 20, 2017 and August 17, 2017, the Company recorded an additional $1.9 million, $0.4 million, $0.2 million, and $0.1 million of deferred revenue, respectively, as a result of the diluted ownership in Maverix that arose on the Newmont, Auramet, Silvertip and CEF Transactions, respectively. As at December 31, 2018, the deferred revenue liability was $13.3 million (December 31, 2017 - $12.0 million).

During the year ended December 31, 2018, $0.6 million (2017 - $0.3 million) was recognized for the delivery of 3,968 ounces of gold (2017 - 2,347 ounces) from La Colorada to Maverix. All transactions with Maverix were in the normal course and measured at exchange amounts, which were the amounts of consideration established and agreed to by the Company and Maverix.

Income Statement Impacts:

The Company recognized dilution gains of $13.3 million for the year ended December 31, 2018 (2017 - gains of $2.3 million) recorded in share of loss from associate and dilution gain.

For the year ended December 31, 2018 the Company also recognized its share of income from associate of $0.4 million (2017 - $0.2 million loss) which represents the Company's proportionate share of Maverix's income (loss) during the year.

14. OTHER ASSETS

Other assets consist of:

	December 31, 2018	December 31, 2017
Reclamation bonds	**$ 199**	$ 199
Lease receivable	**1,903**	81
Other assets	**61**	66
	$ 2,163	$ 346

15. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities consist of:

	December 31, 2018	December 31, 2017
Trade accounts payable(1)	**$ 52,201**	$ 47,138
Royalties payable	**2,004**	4,896
Other accounts payable and trade related accruals	**32,896**	29,690
Payroll and related benefits	**26,817**	29,329
Severance accruals	**1,791**	1,092
Other taxes payable	**4,044**	3,439
Other	**11,990**	24,114
	$ 131,743	$ 139,698

(1) No interest is charged on the trade accounts payable ranging from 30 to 60 days from the invoice date. The Company has policies in place to ensure that all payables are paid within the credit terms.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares, options, warrants, and per share amounts, unless otherwise noted)

16. LOANS PAYABLE

	December 31, 2018	December 31, 2017
Loans Payable[1]	$ —	$ 3,000

(1) This $US loan bears interest at 1.8% per annum.

17. PROVISIONS

	Closure and Decommissioning	Litigation	Total
December 31, 2016	$ 55,611	$ 4,332	$ 59,943
Revisions in estimates and obligations incurred	12,561	—	12,561
Charged (credited) to earnings:			
-new provisions	—	767	767
-change in estimate	—	(228)	(228)
-exchange gains on provisions	—	93	93
Charged in the year	—	(867)	(867)
Reclamation expenditures	(8,749)	—	(8,749)
Accretion expense (Note 23)	5,973	—	5,973
December 31, 2017	$ 65,396	$ 4,097	$ 69,493
Revisions in estimates and obligations incurred	**6,516**	**—**	**6,516**
Charged (credited) to earnings:			
-new provisions	**—**	**1,308**	**1,308**
-change in estimate	**—**	**(173)**	**(173)**
-exchange gains on provisions	**—**	**(253)**	**(253)**
Charged in the year	**—**	**(411)**	**(411)**
Reclamation expenditures	**(7,849)**	**—**	**(7,849)**
Accretion expense (Note 23)	**6,524**	**—**	**6,524**
December 31, 2018	**$ 70,587**	**$ 4,568**	**$ 75,155**

Maturity analysis of total provisions:	December 31, 2018	December 31, 2017
Current	**$ 5,072**	$ 8,245
Non-Current	**70,083**	61,248
	$ 75,155	$ 69,493

Closure and Decommissioning Cost Provision

The total inflated and undiscounted amount of estimated cash flows required to settle the Company's estimated future closure and decommissioning costs is $159.1 million (December 31, 2017 - $142.2 million) which has been inflated using inflation rates of between 2% and 17% (2017 – between 2% and 25%). The total provision for closure and decommissioning cost is calculated using discount rates of between 2% and 22% (2017 - between 2% and 24%). Revisions made to the reclamation obligations in 2018 were primarily a result of increased site disturbance at the mines as well as revisions to the estimate based on periodic reviews of closure plans, actual expenditures incurred and concurrent closure activities completed. These obligations will be funded from operating cash flows, reclamation deposits and cash on hand.

The accretion expense charged to 2018 earnings as finance expense was $6.5 million (2017 - $6.0 million). Reclamation expenditures paid during the current year were $7.8 million (2017 - $8.7 million).

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Litigation Provision

The litigation provision, as at December 31, 2018 and 2017, consists primarily of amounts accrued for labour claims at several of the Company's mine operations. The balance of $4.6 million at December 31, 2018 (2017 - $4.1 million) represents the Company's best estimate for all known and anticipated future obligations related to the above claims. The amount and timing of any expected payments are uncertain as their determination is outside the control of the Company.

18. FINANCE LEASE OBLIGATIONS

The following table presents a reconciliation of the total future minimum lease payments at December 31, 2018 and December 31, 2017 to their present value for equipment lease obligations at several of the Company's subsidiaries:

	December 31, 2018	December 31, 2017
Less than a year	$ 5,488	$ 5,879
2 years	1,335	1,845
	6,823	7,724
Less future finance charges	(147)	(165)
Present value of minimum lease payments	$ 6,676	$ 7,559
Less: current portion of finance lease obligation	(5,356)	(5,734)
Non-current portion of finance lease obligation	$ 1,320	$ 1,825

19. OTHER LONG TERM LIABILITIES

Other long term liabilities consist of:

	December 31, 2018	December 31, 2017
Deferred credit(1)	$ 20,788	$ 20,788
Other income tax payable	227	2,082
Severance accruals	4,410	4,084
	$ 25,425	$ 26,954

(1) As part of the 2009 Aquiline transaction the Company issued a replacement convertible debenture that allowed the holder to convert the debenture into either 363,854 Common Shares or a Silver Stream contract related to certain production from the Navidad project. Regarding the replacement convertible debenture, it was concluded that the deferred credit presentation was the most appropriate and best representation of the economics underlying the contract as of the date the Company assumed the obligation as part of the Aquiline acquisition. Subsequent to the acquisition, the counterparty to the replacement debenture selected the Silver Stream alternative. The final contract for the alternative is being discussed and pending the final resolution of this discussion, the Company continues to classify the fair value calculated at the acquisition of this alternative, as a deferred credit.

20. SHARE-BASED COMPENSATION AND OTHER RELATED INFORMATION

a. Stock options and Common Shares issued as compensation ("Compensation Shares")

For the year ended December 31, 2018 the total share-based compensation expense relating to stock options and Compensation Shares was $3.0 million (2017 - $3.1 million) and presented as a component of general and administrative expense.

i. Compensation shares

During the year ended December 31, 2018, the Company awarded 129,619 (2017 - 123,113 Compensation Shares with a two year vesting period) Compensation Shares with a three year vesting period as compensation.

During the year ended December 31, 2018, 10,338 Common Shares were issued to Directors in lieu of Directors fees of $0.2 million (2017 - 12,291 Common Shares in lieu of fees of $0.2 million).

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

ii. Stock options

During the year ended December 31, 2018, the Company granted 149,163 (2017 – 91,945 stock options) stock options with a two year vesting period as compensation.

The following table summarizes changes in stock options for the years ended December 31:

	Stock Options		
	Shares		**Weighted Average Exercise Price CAD$**
As at December 31, 2016	**1,310,864**	**$**	**16.81**
Granted	91,945	$	18.64
Exercised	(307,266)	$	11.24
Expired	(61,891)	$	40.22
Forfeited	(97,529)	$	23.60
As at December 31, 2017	**936,123**	**$**	**16.56**
Granted	149,163		17.53
Exercised	(125,762)	$	11.14
Expired	(211,614)		24.90
Forfeited	(49,523)	$	19.49
As at December 31, 2018	**698,387**	**$**	**15.00**

The following table summarizes information about the Company's stock options outstanding at December 31, 2018:

	Options Outstanding				Options Exercisable		
Range of Exercise Prices CAD$	**Number Outstanding as at December 31, 2018**	Weighted Average Remaining Contractual Life (months)		Weighted Average Exercise Price CAD$	**Number Exercisable as at December 31, 2018**		Weighted Average Exercise Price CAD$
$9.76 - $11.57	**232,883**	43.08	$	10.07	**232,883**	$	10.07
$11.58 - $17.01	**97,043**	40.16	$	12.50	**97,043**	$	12.50
$17.02 - $18.53	**230,811**	57.74	$	17.88	**81,648**	$	18.53
$18.54 - $23.61	**137,650**	67.28	$	20.29	**91,680**	$	21.12
	698,387	52.29	$	15.00	**503,254**	$	13.92

The following assumptions were used in the Black-Scholes option pricing model in determining the fair value of options granted during the years ended December 31:

		2018		2017
Expected life		**4.0**		4.0
Expected volatility		**43.8%**		41.9%
Expected dividend yield		**2.1%**		2.6%
Risk-free interest rate		**2.5%**		2.2%
Weighted average exercise price (CAD$)	**$**	**17.53**	$	18.64
Weighted average fair value (CAD$)	**$**	**5.90**	$	5.30

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

b. PSUs

PSUs are notional share units that mirror the market value of the Company's Common Shares. Each vested PSU entitles the participant to a cash payment equal to the value of an underlying share, less applicable taxes, at the end of the term, plus the cash equivalent of any dividends distributed by the Company during the three-year performance period. PSU grants will vest on the date that is three years from the date of grant subject to certain exceptions. Performance results at the end of the performance period relative to predetermined performance criteria and the application of the corresponding performance multiplier determine how many PSUs vest for each participant. The Board of Directors approved the issuance of 117,328 PSUs for 2018 with a share price of CAD $17.48 (2017 - 54,962 PSUs approved at a share price of CAD $19.04). Compensation expense for PSUs was $1.0 million for the year ended December 31, 2018 (2017 - $1.0 million) and is presented as a component of general and administrative expense.

At December 31, 2018, the following PSUs were outstanding:

PSU	Number Outstanding	Fair Value
As at December 31, 2016	**141,790**	**$ 2,152**
Granted	54,962	823
Paid out	(30,408)	(875)
Forfeited	—	—
Change in value	—	511
As at December 31, 2017	**166,344**	**$ 2,611**
Granted	117,328	1,532
Paid out	(73,263)	(1,528)
Forfeited	—	—
Change in value	—	476
As at December 31, 2018	**210,409**	**$ 3,091**

c. RSUs

Under the Company's RSU plan, selected employees are granted RSUs where each RSU has a value equivalent to one Pan American common share. The RSUs are settled in cash or Common Shares at the discretion of the Board of Directors and vest in three installments, the first 33.3% vest on the first anniversary date of the grant, the second 33.3% vest on the second anniversary date of the grant, and a further 33.3% vest on the third anniversary date of the grant. Additionally, RSU value is adjusted to reflect dividends paid on Common Shares over the vesting period.

Compensation expense for RSUs was $1.7 million for the year ended December 31, 2018 (2017 – $2.0 million) and is presented as a component of general and administrative expense.

At December 31, 2018, the following RSUs were outstanding:

RSU	Number Outstanding	Fair Value
As at December 31, 2016	**315,423**	**$ 4,764**
Granted	184,187	2,698
Paid out	(222,006)	(3,257)
Forfeited	(15,591)	(243)
Change in value	—	136
As at December 31, 2017	**262,013**	**$ 4,098**
Granted	244,961	3,207
Paid out	(156,715)	(2,181)
Forfeited	(21,436)	(313)
Change in value	—	(1,187)
As at December 31, 2018	**328,823**	**$ 3,624**

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

d. Issued share capital

The Company is authorized to issue 200,000,000 Common Shares of no par value.

e. Dividends

The Company declared the following dividends for the period starting January 1, 2017 until March 12, 2019:

Declaration Date	Record date	Dividend per common share
February 20, 2019 (1)	March 4, 2019	$ 0.0350
November 6, 2018	November 19, 2018	$ 0.0350
August 8, 2018	August 20, 2018	$ 0.0350
May 9, 2018	May 22, 2018	$ 0.0350
February 20, 2018	March 5, 2018	$ 0.0350
November 8, 2017	November 20, 2017	$ 0.0250
August 9, 2017	August 21, 2017	$ 0.0250
May 9, 2017	May 23, 2017	$ 0.0250
February 14, 2017	February 27, 2017	$ 0.0250

(1) These dividends were declared subsequent to the year end and have not been recognized as distributions to owners during the period presented.

21. PRODUCTION COSTS

Production costs are comprised of the following:

	2018	2017
Consumption of raw materials and consumables	**$ 184,484**	$ 160,224
Employee compensation and benefits expense	**167,879**	169,109
Contractors and outside services	**88,475**	83,012
Utilities	**26,320**	24,764
Severance costs related to mine operations	**—**	3,509
Other expenses (1)	**31,417**	34,339
Changes in inventories (2)	**17,061**	25,713
	$ 515,636	$ 500,670

(1) Includes closure and decommissioning liability adjustments to reduce production costs by $nil (2017 - reduce by $1.2 million).
(2) Includes NRV adjustments to inventory to increase production costs by $24.3 million for the year ended December 31, 2018 (2017 - increase by $12.3 million).

22. EMPLOYEE COMPENSATION AND BENEFITS EXPENSE

	2018	2017
Wages, salaries and bonuses	**$ 181,957**	$ 184,225
Share-based compensation	**2,957**	3,077
Total employee compensation and benefit expenses	**184,914**	187,302
Less: Expensed within General and Administrative expenses	**(13,919)**	(14,023)
Less: Expensed within Exploration expenses	**(3,116)**	(4,170)
Employee compensation and benefits expenses included in production costs	**$ 167,879**	$ 169,109

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

23. INTEREST AND FINANCE EXPENSE

		2018		2017
Interest recovery	$	**(678)**	$	(1,179)
Finance fees		**2,293**		2,391
Accretion expense (Note 17)		**6,524**		5,973
	$	**8,139**	$	7,185

24. EARNINGS PER SHARE (BASIC AND DILUTED)

For the year ended December 31,	2018			2017		
	Earnings (Numerator)	Shares (000's) (Denominator)	Per-Share Amount	Earnings (Numerator)	Shares (000's) (Denominator)	Per-Share Amount
Net earnings [(1)]	**$ 10,294**			$ 120,991		
Basic EPS	**$ 10,294**	**153,315**	**$ 0.07**	$ 120,991	153,070	$ 0.79
Effect of Dilutive Securities:						
Stock Options	**—**	**207**		—	283	
Diluted EPS	**$ 10,294**	**153,522**	**$ 0.07**	$ 120,991	153,353	$ 0.79

(1) Net earnings attributable to equity holders of the Company.

Potentially dilutive securities excluded in the diluted earnings per share calculation for the year ended December 31, 2018 were 45,705 out-of-the-money options (2017 – 279,943).

25. SUPPLEMENTAL CASH FLOW INFORMATION

The following tables summarize other adjustments for non-cash income statement items, changes in operating working capital items and significant non-cash items:

Other operating activities		2018		2017
Adjustments for non-cash income statement items:				
Share-based compensation expense	$	**2,957**	$	3,077
Loss on securities held		**3,298**		—
Gains on commodity and foreign currency contracts (Note 8)		**(4,930)**		(606)
Loss (gain) on derivatives (Note 8)		**1,078**		(64)
Loss on inventory		**4,670**		—
Share of income from associate and dilution gain (Note 13)		**(13,679)**		(2,052)
NRV adjustment for inventories		**24,330**		12,308
	$	**17,724**	$	12,663

Changes in non-cash operating working capital items:		2018		2017
Trade and other receivables	$	**6,256**	$	9,852
Inventories		**(12,128)**		10,898
Prepaid expenses		**1,878**		(3,096)
Accounts payable and accrued liabilities		**8,053**		2,569
Provisions		**(8,320)**		(8,514)
	$	**(4,261)**	$	11,709

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Significant non-cash items:	**2018**	2017
Assets acquired by finance lease	**$ 7,028**	$ 5,000
Share-based compensation issued to employees and directors	**$ 1,879**	$ 2,020
Shares issued as consideration for select Argentine projects (Note 11)	**$ —**	$ 8,650

Cash and Cash Equivalents	**December 31, 2018**	December 31, 2017
Cash in banks	**$ 77,735**	$ 160,001
Short-term money market investments	**60,775**	15,952
Cash and cash equivalents	**$ 138,510**	$ 175,953

26. SEGMENTED INFORMATION

All of the Company's operations are within the mining sector, conducted through operations in four countries. Due to geographic and political diversity, the Company's mining operations are decentralized in nature whereby Mine General Managers are responsible for achieving specified business results within a framework of global policies and standards. We have determined that each producing mine and significant development property represents an operating segment. Country corporate offices provide support infrastructure to the mines in addressing local and country issues including financial, human resources, and exploration support. The Company has a separate budgeting process and measures the results of operations and exploration activities independently. Operating results of operating segments are reviewed by the Company's chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segments and to assess their performance. Segment performance is evaluated by the CODM based on a number of measures including earnings before income taxes.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Significant information relating to the Company's reportable operating segments is summarized in the table below:

	Year ended December 31, 2018										
	Peru		Mexico			Argentina		Bolivia	Canada		
	Huaron	Morococha	Dolores	Alamo Dorado	La Colorada	Manantial Espejo	Navidad	San Vicente	Pas Corp	Other	**Total**
Revenue	$ 114,739	$ 117,517	$ 236,835	$ —	$ 164,050	$ 90,851	$ —	$ 60,503	$ —	$ —	$ 784,495
Depreciation and amortization	$ (12,867)	$ (15,476)	$ (83,621)	$ —	$ (22,567)	$ (6,090)	$ (87)	$ (6,200)	$ (145)	$ (236)	$ (147,289)
Exploration and project development	$ (660)	$ (598)	$ (1,463)	$ —	$ (880)	$ (843)	$ (3,629)	$ —	$ (1,687)	$ (1,378)	$ (11,138)
Interest income	$ 38	$ 101	$ —	$ 8	$ —	$ 290	$ 104	$ —	$ 1,138	$ 265	$ 1,944
Interest and financing expenses	$ (786)	$ (582)	$ (207)	$ (508)	$ (477)	$ (3,018)	$ (97)	$ (256)	$ (2,170)	$ (38)	$ (8,139)
(Loss) gain on disposition of assets	$ (39)	$ 7	$ (67)	$ 568	$ 1	$ —	$ —	$ (513)	$ 195	$ 7,821	$ 7,973
Share of loss from associate and dilution gain	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 13,679	$ —	$ 13,679
Loss on derivatives	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ (1,078)	$ —	$ (1,078)
Foreign exchange gains (losses)	$ 185	$ 141	$ 1,407	$ (106)	$ 22	$ (6,404)	$ (2,448)	$ 1,021	$ (3,235)	$ 91	$ (9,326)
Gain on commodity, fuel swaps and foreign currency contracts	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 4,930	$ —	$ 4,930
Impairment charges	$ —	$ —	$ —	$ —	$ —	$ (27,789)	$ —	$ —	$ —	$ —	$ (27,789)
Earnings (loss) before income taxes	$ 24,302	$ 33,204	$ (35,648)	$ (5,529)	$ 67,400	$ (44,103)	$ (6,832)	$ 10,421	$ (22,560)	$ 12,533	$ 33,188
Income tax (expense) recovery	$ (10,587)	$ (12,113)	$ 24,884	$ 7,547	$ (20,408)	$ (89)	$ (36)	$ (3,747)	$ (6,111)	$ (487)	$ (21,147)
Net earnings (loss) for the year	$ 13,715	$ 21,091	$ (10,764)	$ 2,018	$ 46,992	$ (44,192)	$ (6,868)	$ 6,674	$ (28,671)	$ 12,046	$ 12,041
Capital expenditures	$ 14,551	$ 10,370	$ 59,480	$ —	$ 22,473	$ 29,881	$ 39	$ 6,949	$ 440	$ 165	$ 144,348

	As at December 31, 2018										
	Huaron	Morococha	Dolores	Alamo Dorado	La Colorada	Manantial Espejo	Navidad	San Vicente	Pas Corp	Other	**Total**
Total assets	$ 119,015	$ 126,755	$ 791,485	$ 12,270	$ 230,736	$ 20,839	$ 193,777	$ 83,686	$ 247,792	$ 111,121	$ 1,937,476
Total liabilities	$ 44,055	$ 40,183	$ 150,003	$ 5,856	$ 56,206	$ 24,994	$ 1,546	$ 38,169	$ 30,221	$ 32,894	$ 424,127

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

	Year ended December 31, 2017										
	Peru		Mexico			Argentina		Bolivia	Canada		
	Huaron	Morococha	Dolores	Alamo Dorado	La Colorada	Manantial Espejo	Navidad	San Vicente	Pas Corp	Other	Total
Revenue	$ 129,085	$ 120,244	$ 197,748	$ 17,958	$ 171,654	$ 111,642	$ —	$ 68,497	$ —	$ —	$ 816,828
Depreciation and amortization	$ (13,464)	$ (9,693)	$ (67,515)	$ (23)	$ (19,381)	$ (5,236)	$ (88)	$ (7,181)	$ (108)	$ (199)	$ (122,888)
Exploration and project development	$ (1,713)	$ (1,629)	$ (2,316)	$ —	$ (2,149)	$ (4,588)	$ (2,894)	$ —	$ (2,659)	$ (1,807)	$ (19,755)
Interest income	$ 63	$ 58	$ —	$ 4	$ —	$ 525	$ —	$ —	$ 472	$ 340	$ 1,462
Interest and financing expenses	$ (855)	$ (578)	$ 1,613	$ (359)	$ (467)	$ (2,969)	$ (99)	$ (232)	$ (3,101)	$ (138)	$ (7,185)
(Loss) gain on disposition of assets	$ (154)	$ (117)	$ (291)	$ 540	$ (319)	$ —	$ —	$ (455)	$ 361	$ 626	$ 191
Share of loss from associate and dilution gain	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 2,052	$ —	$ 2,052
Gain on derivatives	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 64	$ —	$ 64
Foreign exchange (losses) gains	$ (92)	$ (38)	$ 642	$ (29)	$ (143)	$ (1,373)	$ (644)	$ 1,045	$ 1,493	$ 962	$ 1,823
Gain on commodity, fuel swaps and foreign currency contracts	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 606	$ —	$ 606
Impairment reversals	$ —	$ 42,112	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ 19,442	$ 61,554
Earnings (loss) before income taxes	$ 36,650	$ 86,476	$ (503)	$ (8,474)	$ 79,307	$ (24,404)	$ (3,570)	$ 14,592	$ (22,567)	$ 24,978	$ 182,485
Income tax (expense) recovery	$ (12,818)	$ (16,663)	$ 11,719	$ 1,033	$ (20,843)	$ (1,108)	$ (85)	$ (5,305)	$ (6,360)	$ (8,604)	$ (59,034)
Net earnings (loss) for the year	$ 23,832	$ 69,813	$ 11,216	$ (7,441)	$ 58,464	$ (25,512)	$ (3,655)	$ 9,287	$ (28,927)	$ 16,374	$ 123,451
Capital expenditures	$ 8,412	$ 9,283	$ 85,379	$ —	$ 21,963	$ 8,590	$ 27	$ 8,146	$ 2	$ 430	$ 142,232

	As at December 31, 2017										
	Huaron	Morococha	Dolores	Alamo Dorado	La Colorada	Manantial Espejo	Navidad	San Vicente	Pas Corp	Other	Total
Total assets	$ 116,138	$ 131,180	$ 833,397	$ 17,125	$ 231,205	$ 125,088	$ 194,225	$ 85,869	$ 210,286	$ 48,819	$ 1,993,332
Total liabilities	$ 46,184	$ 36,058	$ 176,464	$ 8,163	$ 65,145	$ 43,408	$ 1,296	$ 30,819	$ 28,939	$ 35,805	$ 472,281

Product Revenue	2018	2017
Refined silver and gold	**348,717**	345,756
Zinc concentrate	**155,412**	140,315
Lead concentrate	**150,832**	161,981
Copper concentrate	**86,599**	114,564
Silver concentrate	**42,935**	54,212
Total	**784,495**	816,828

The Company has 16 customers that account for 100% of the concentrate and silver and gold sales revenue. The Company has 7 customers that accounted for 28%, 14%, 13%, 10%, 8%, 8%, and 5% of total sales in 2018, and 7 customers that accounted for 23%, 16%, 15%, 14%, 8%, 6%, and 5% of total sales in 2017. The loss of certain of these customers or curtailment of purchases by such customers could have a material adverse effect on the Company's results of operations, financial condition, and cash flows.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares, options, warrants, and per share amounts, unless otherwise noted)

27. OTHER INCOME AND (EXPENSES)

	2018	2017
Change in closure and decommissioning estimates	**$ (2,968)**	$ (8,388)
Royalties income	**$ 631**	$ 574
Other (loss) income	**(1,322)**	2,309
Total	**$ (3,659)**	$ (5,505)

28. INCOME TAXES

Components of Income Tax Expense

	2018	2017
Current tax expense (recovery)		
Recognized in profit or loss in current year	**$ 59,056**	$ 66,345
Adjustments recognized in the current year with respect to prior years	**(5,155)**	(3,468)
	53,901	62,877
Deferred tax expense (recovery)		
Deferred tax recovery recognized in the current year	**(13,256)**	(898)
Adjustments recognized in the current year with respect to prior years	**(1,098)**	(1,539)
Increase in deferred tax liabilities due to tax impact of reversals of mineral properties, plant, and equipment impairments (Note 11, 12)	**—**	17,770
Recognition of previously unrecognized deferred tax assets	**(6,140)**	(10,275)
Benefit from previously unrecognized losses, and other temporary differences	**(3,600)**	(6,487)
Decrease in deferred tax liabilities due to tax impact of NRV charge to inventory	**(8,660)**	(2,414)
	(32,754)	(3,843)
Income tax expense	**$ 21,147**	$ 59,034

Income tax expense differs from the amount that would result from applying the Canadian federal and provincial income tax rates to earnings before income taxes. These differences result from the items shown on the following table which results in an effective tax rate that varies considerably from the comparable period. The main factors that affected the effective tax rate for the year ended December 31, 2018 and the comparable period of 2017 were changes in the non-recognition of certain deferred tax assets, mining taxes paid, and withholding taxes on payments from foreign subsidiaries. The Company continues to expect that these and other factors will continue to cause volatility in effective tax rates in the future.

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Reconciliation of Effective Income Tax Rate

	2018	2017
Earnings before taxes and non-controlling interest	$ 33,188	$ 182,485
Statutory Canadian income tax rate	27.00%	26.00%
Income tax expense based on above rates	$ 8,961	$ 47,446
Increase (decrease) due to:		
Non-deductible expenditures	3,929	4,618
Foreign tax rate differences	(2,160)	3,644
Change in net deferred tax assets not recognized:		
- Argentina exploration expenditures	3,372	2,051
- Other deferred tax assets	1,168	(10,752)
Non-taxable portion of net earnings of affiliates	(3,254)	(4,055)
Tax on sale of royalty	—	1,400
Effect of other taxes paid (mining and withholding)	14,371	20,065
Effect of foreign exchange on tax expense	1,611	(3,928)
Non-taxable impact of foreign exchange	(351)	2,937
Change in current tax expense estimated for prior years	(5,030)	(3,503)
Other	(1,470)	(889)
Income tax expense	$ 21,147	$ 59,034
Effective income tax rate	63.72%	32.35%

Deferred tax assets and liabilities

The following is the analysis of the deferred tax assets (liabilities) presented in the consolidated financial statements:

	2018	2017
Net deferred tax liability, beginning of year	$ (168,549)	$ (169,136)
Recognized in net earnings in the year	32,754	3,843
Reduction due to Mexican de-consolidation payments applied to current tax	(697)	(3,231)
Other	(83)	(25)
Net deferred liability, end of year	$ (136,575)	$ (168,549)
Deferred tax assets	12,244	2,679
Deferred tax liabilities	(148,819)	(171,228)
Net deferred tax liability	$ (136,575)	$ (168,549)

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Components of deferred tax assets and liabilities

The deferred tax assets (liabilities) are comprised of the various temporary differences as detailed below:

	2018	2017
Deferred tax assets (liabilities) arising from:		
Closure and decommissioning costs	$ 9,105	$ 7,019
Tax losses and mining tax credits	29,195	24,014
Deductible Mexican mining taxes	2,974	2,792
Tax credit resulting from Mexican de-consolidation	698	1,385
Accounts payable and accrued liabilities	6,726	3,047
Trade and other receivables	15,756	21,527
Provision for doubtful debts and inventory adjustments	(11,752)	(14,517)
Mineral properties, plant, and equipment	(169,703)	(186,641)
Estimated sales provisions	(19,746)	(28,726)
Other temporary differences and provisions	172	1,551
Net deferred tax liability	$ (136,575)	$ (168,549)

At December 31, 2018, the net deferred tax liability above included the deferred tax benefit of $29.2 million related to tax losses of approximately $98.4 million. These losses will begin to expire after the 2024 year end, if unused.

At December 31, 2017, the net deferred tax liability above included the deferred tax benefit of $24.0 million related to tax losses of approximately $80.6 million. These losses will begin to expire after the 2024 year end, if unused.

Unrecognized deductible temporary differences, unused tax losses and unused tax credits

Deductible temporary differences, unused tax losses and unused tax credits for which no deferred tax assets have been recognized are attributable to the following:

	2018	2017
Tax loss (revenue in nature)	$ 131,179	$ 165,180
Net tax loss (capital in nature)	14,456	15,423
Resource pools and other tax credits	18,266	18,609
Financing fees	785	1,464
Mineral properties, plant, and equipment	22,669	20,441
Closure and decommissioning costs	33,835	42,484
Exploration and other expenses not currently deductible	51,175	54,672
Intercompany debt	10,160	8,061
Doubtful debt and inventory	24,840	16,602
Deductible Mexican mining taxes	—	77
Payroll and vacation accruals	827	2,015
Other temporary differences	8,217	2,601
	$ 316,409	$ 347,629

Included in the above amounts are operating losses, which if not utilized will expire as follows:

At December 31, 2018

	Canada	US	Peru	Mexico	Barbados	Argentina	Total
2019	—	85	—	—	4	45	134
2020	—	80	—	—	7	61	148
2021 – and after	114,466	13,469	250	2,456	105	151	130,897
Total tax losses	**$ 114,466**	**$ 13,634**	**$ 250**	**$ 2,456**	**$ 116**	**$ 257**	**131,179**

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

At December 31, 2017

	Canada	US	Peru	Mexico	Barbados	Argentina	Total
2018	—	120	—	—	6	50	176
2019	—	86	—	—	4	90	180
2020 – and after	122,853	13,289	—	20,925	93	7,664	164,824
Total tax losses	**$ 122,853**	**$ 13,495**	**$ —**	**$ 20,925**	**$ 103**	**$ 7,804**	**$ 165,180**

Taxable temporary differences associated with investment in subsidiaries

As at December 31, 2018, taxable temporary differences of $85.2 million (2017 – $88.3 million) associated with the investments in subsidiaries have not been recognized as the Company is able to control the timing of the reversal of these differences and does not expect them to reverse in the foreseeable future.

29. CONTINGENCIES

The following is a summary of the contingent matters and obligations relating to the Company as at December 31, 2018.

a. General

The Company is subject to various investigations, claims and legal and tax proceedings covering matters that arise in the ordinary course of business activities. Each of these matters is subject to various uncertainties and it is possible that some of these matters may be resolved unfavorably to the Company. Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company. In the opinion of management none of these matters are expected to have a material effect on the results of operations or financial conditions of the Company.

b. Environmental Matters

The Company's mining and exploration activities are subject to various laws and regulations governing the protection of the environment. These laws and regulations are continually changing and are generally becoming more restrictive. The Company conducts its operations so as to protect the public health and environment and believes its operations are in compliance with applicable laws and regulations in all material respects. The Company has made, and expects to make in the future, expenditures to comply with such laws and regulations, but cannot predict the full amount of such future expenditures.

Estimated future reclamation costs are based on the extent of work required and the associated costs are dependent on the requirements of relevant authorities and the Company's environmental policies. As of December 31, 2018, $70.6 million (December 31, 2017 - $65.4 million) was accrued for reclamation costs relating to mineral properties. See also Note 17.

c. Income Taxes

The Company operates in numerous countries around the world and accordingly it is subject to, and pays annual income taxes under the various income tax regimes in the countries in which it operates. Some of these tax regimes are defined by contractual agreements with the local government, and others are defined by the general corporate income tax laws of the country. The Company has historically filed, and continues to file, all required income tax returns and to pay the taxes reasonably determined to be due. The tax rules and regulations in many countries are highly complex and subject to interpretation. From time to time, the Company is subject to a review of its historic income tax filings and in connection with such reviews, disputes can arise with the taxing authorities over the interpretation or application of certain rules to the Company's business conducted within the country involved.

d. Law changes in Argentina

Under the previous political regime in Argentina, the government intensified the use of severe price, foreign exchange, and import controls in response to unfavourable domestic economic trends. These included informal restrictions on dividend, interest, and service payments abroad and limitations on the ability to convert ARS into USD, exposing the Company to additional risks of ARS devaluation and high domestic inflation. The new federal government elected in 2015 has eased many of the previously instituted controls and restrictions, but it is unknown whether these changes will be lasting, and in September 2018, it introduced a new export duty on silver and gold doré exported from Argentina. The duty is scheduled to expire on December 31, 2020. However, for the period from September to December 2018, we paid approximately $1.6 million in export duties, representing an average rate for the export duty of approximately 8%.

e. Political changes in Bolivia

On May 28, 2014, the Bolivian government enacted Mining Law No. 535 (the "New Mining Law"). Among other things, the New Mining Law has established a new Bolivian mining authority to provide principal mining oversight (varying the role of COMIBOL) and sets out a number of new economic and operational requirements relating to state participation in mining projects. Further, the New Mining Law provides that all pre-existing contracts are to migrate to one of several new forms of agreement within a prescribed period of time. As a result, we anticipate that our current joint venture agreement with COMIBOL relating to the San Vicente mine will be subject to migration to a new form of agreement and may require renegotiation of some terms in order to conform to the New Mining Law requirements. We are assessing the potential impacts of the New Mining Law on our business and are awaiting further regulatory developments, but the primary effects on the San Vicente operation and our interest therein will not be known until such time as we have, if required to do so, renegotiated the existing contract, and the full impact may only be realized over time. In the meantime, we understand that pre-existing agreements will be respected during the period of migration and we will take appropriate steps to protect and, if necessary, enforce our rights under our existing agreement with COMIBOL. There is, however, no guarantee that governmental actions, including possible expropriation or additional changes in the law, and the migration of our contract will not impact our involvement in the San Vicente operation in an adverse way and such actions could have a material adverse effect on us and our business.

f. Other Legal Matters

The Company is subject to various claims and legal proceedings covering a wide range of matters that arise in the ordinary course of business activities, many of them relating to ex-employees. Each of these matters is subject to various uncertainties and it is possible that some of these matters may be resolved unfavorably to the Company. The Company establishes provisions for matters that are probable and can be reasonably estimated, included within current liabilities, and amounts are not considered material.

In assessing loss contingencies related to legal proceedings that are pending against the Company or un-asserted claims that may result in such proceedings, the Company and its legal counsel evaluate the perceived merits of any legal proceedings or un-asserted claims as well as the perceived merits of the amount of relief sought or expected to be sought. In the opinion of management there are no claims expected to have a material effect on the results of operations or financial condition of the Company.

g. Title Risk

Although the Company has taken steps to verify title to properties in which it has an interest, these procedures do not guarantee the Company's title. Property title may be subject to, among other things, unregistered prior agreements or transfers and may be affected by undetected defects.

h. Royalty Agreements and Participation Agreements

The Company has various royalty agreements on certain mineral properties entitling the counterparties to the agreements to receive payments per terms as summarized below. Royalty liabilities incurred on acquisitions of properties are netted against the mineral property while royalties that become payable upon production are expensed at the time of sale of the production.

As part of the arrangement closed with Maverix on July 11, 2016 (Note 13), Maverix acquired from the Company a portfolio of royalties, precious metals streams and payment agreements, in exchange for a 54% interest in Maverix

(40% fully diluted as at December 31, 2018). The key portfolio assets included the economic equivalent of one hundred percent (100%) of the gold produced from Pan American's operating La Colorada silver mine, less a fixed price of US $650 per ounce for the life of the mine, as well as an agreement to purchase five percent (5%) of future gold production at a fixed price of US$450 per ounce from the feasibility stage La Bolsa project. The portfolio also included, among others, a net smelter returns royalty of one percent (1%) on the Pico Machay project that is currently owned by Pan American.

In the province of Chubut, Argentina which is the location of the Company's Navidad property, there is a provincial royalty of 3% of the "Operating Income". Operating income is defined as revenue minus production costs (not including mining costs), treatment and transportation charges. Refer below to the Navidad project section below for further details.

In September 2018, the government of Argentina introduced a new export duty of 12% to be applied on the export of goods from Argentina until December 31, 2020. In general, the duty is capped at ARS 4 per USD $1 of gold dore exported, and at ARS 3 per USD $1 of silver dore exported. For the period from September to December 2018, the Company paid approximately $1.6 million in export duties.

As part of the 2009 Aquiline transaction, the Company issued a replacement convertible debenture that allowed the holder to convert the debenture into either 363,854 Common Shares or a silver stream contract with Aquiline Resources Inc., a wholly owned subsidiary of the Company. The holder subsequently selected the silver stream contract related to certain production from the Navidad project. The final contract for the alternative is being discussed and pending the final resolution to this alternative, the Company continues to classify the fair value calculated at the acquisition of this alternative, as a deferred credit as disclosed in Note 19.

Manantial Espejo mine

Production from the Manantial Espejo property is subject to royalties to be paid to Barrick Gold Corp. according to the following: (i) $0.60 per metric tonne of ore mined from the property and fed to process at a mill or leaching facility to a maximum of 1 million tonnes; and (ii) one-half of one percent (0.5%) of net smelter returns derived from the production of minerals from the property. In addition, the Company has negotiated a royalty equal to 3.0% of operating cash flow payable to the Province of Santa Cruz.

San Vicente mine

Pursuant to an option agreement entered into with COMIBOL, a Bolivian state mining company, with respect to the development of the San Vicente property, the Company is obligated to pay COMIBOL a participation fee of 37.5% (the "Participation Fee") of the operation's cash flow. Once full commercial production of San Vicente began, the Participation Fee was reduced by 75% until the Company recovered its investment in the property. The Participation Fee has now reverted back to the original percentage. For the year ended December 31, 2018, the Company incurred approximately $4.8 million in COMIBOL royalties (2017 - incurred $8.5 million).

A royalty is also payable to EMUSA, a former partner of the Company on the project. The royalty is a 2% net smelter return royalty (as per the Agreement) payable only after the Company has recovered its capital investment in the project and only when the average price of silver in a given financial quarter is $9.00 per ounce or greater. For the year ended December 31, 2018 the royalties paid to EMUSA amounted to approximately $0.7 million (2017 - $0.9 million).

In December 2007, the Bolivian government introduced a new mining royalty that affects the San Vicente project. The royalty is applied to gross metal value of sales (before smelting and refining deductions) and the royalty percentage is a sliding scale depending on metal prices. At current metal prices, the royalty is 6% for silver metal value and 5% for zinc and copper metal value of sales. The royalty is income tax deductible. For the year ended December 31, 2018 the royalty amounted to $4.4 million (2017 - $5.0 million).

(Tabular amounts are in thousands of U.S. dollars, except for number of shares,
options, warrants, and per share amounts, unless otherwise noted)

Dolores mine

Production from the Dolores mine is subject to underlying net smelter return royalties comprised of 2% on silver production and 3.25% on gold production. These royalties are payable to Royal Gold Inc. and were effective in full as of May 1, 2009, on the commencement of commercial production at the Dolores mine. The royalties to Royal Gold amounted to approximately $6.8 million for the year ended December 31, 2018 (2017 – $5.5 million).

Navidad project

As a result of uncertainty over the zoning, regulatory and tax laws which will ultimately apply, the Company has temporarily suspended project development activities at Navidad. The Company remains committed to the development of Navidad and to contributing to the positive economic and social development of the province of Chubut upon the adoption of a favorable legislative framework.

30. RELATED PARTY TRANSACTIONS

The Company's related parties include its subsidiaries, associates over which it exercises significant influence, and key management personnel. During its normal course of operation, the Company enters into transactions with its related parties for goods and services. All related party transactions for the year ended December 31, 2018 and 2017 have been disclosed in these consolidated financial statements. Transactions with Maverix, an associate of the Company, have been disclosed in Note 13 of these consolidated financial statements.

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the parties.

Compensation of key management personnel

The remuneration of directors and other members of key management personnel during the year were as follows:

	2018	2017
Short-term benefits	$ 13,863	$ 10,175
Share-based payments	2,446	2,235
	$ 16,309	$ 12,410

31. SUBSEQUENT EVENTS

Tahoe Resources Inc. ("Tahoe") Acquisition

On February 22, 2019, the Company completed the acquisition of 100% of the issued and outstanding shares of Tahoe. Each Tahoe shareholder had the right to elect to receive either $3.40 in cash (the "Cash Election") or 0.2403 of a Common Share (the "Share Election") for each Tahoe share, subject in each case to pro-ration based on a maximum cash consideration of $275 million and a maximum number of Common Shares issued of 56.0 million. Tahoe shareholders who did not make an election by the election deadline were deemed to have made the Share Election. Holders of 23,661,084 Tahoe shares made the Cash Election and received all cash consideration in the amount of $3.40 per Tahoe share. The holders of 290,226,406 Tahoe shares that made or were deemed to have made, the Share Election were subject to pro-ration, and received consideration of approximately $0.67 in cash and 0.1929 of a Common Share per Tahoe share.

In addition, Tahoe shareholders received contingent consideration in the form of one contingent value right ("CVR") for each Tahoe share. Each CVR will be exchanged for 0.0497 of a Common Share upon first commercial shipment of concentrate following restart of operations at the Escobal mine. The CVRs are transferable and have a term of 10 years.

As a result of the acquisition of Tahoe, the Company paid $275 million in cash, issued 55,990,512 Common Shares, and issued 313,887,490 CVRs. After this share issuance, Pan American shareholders owned approximately 73%, while former Tahoe shareholders owned approximately 27%, of the shares of the combined company. The Company has determined that this transaction represents a business combination with Pan American identified as the acquirer. Based on the February 21, 2019 closing share price of Common Shares, the total consideration of the acquisition is approximately $1.1 billion. We began consolidating the operating results, cash flows and net assets of Tahoe from February 22, 2019 onwards.

Tahoe is a mid-tier publicly traded precious metals mining company with ownership interests in a diverse portfolio of mines and projects including the following principle mines: Timmins West and Bell Creek in Canada; La Arena and Shahuindo in Peru; and Escobal in Guatamela. The Escobal mine's operations have been suspended since June 2017.

As the transaction closed in February 2019, the initial allocation of the purchase price to the assets and liabilities acquired is not complete. The main areas under consideration are the values attributable to the mineral interests of each of the mines acquired. We will disclose a preliminary purchase price allocation in our first quarter 2019 condensed consolidated interim financial statements.

Acquisition related costs incurred in 2018 amounted to $10.2 million have been expensed and are presented as transaction costs as at December 31, 2018.

Authorized Share Capital

In January 2019, the Company obtained shareholder approval to increase its authorized share capital from 200 million to 400 million Common Shares without par value.

Credit Facility Renewal and Advance

The Company's four-year, $300.0 million secured revolving credit facility that matures on April 15, 2020 (the “Credit Facility”) remained undrawn as of December 31, 2018 and December 31, 2017, and the Company was in compliance with all covenants required by the Credit Facility. In February 2019, as part of the acquisition of Tahoe, the Company amended and extended its Credit Facility. The facility has been increased by $200.0 million to $500.0 million, and matures on February 1, 2023. At Pan American's option, amounts can be drawn under the revolving facility and will incur interest based on the Company's leverage ratio at either (i) LIBOR plus 1.875% to 2.750% or; (ii) The Bank of Nova Scotia's Base Rate on U.S. dollar denominated commercial loans plus 0.875% to 1.750%. Undrawn amounts under the revolving facility are subject to a stand-by fee of 0.4219% to 0.6188% per annum, dependent on the Company's leverage ratio. The Company drew down US$301 million under the Credit Facility, under LIBOR-based interest rates to fund, in part, the cash purchase price under the Tahoe arrangement and to repay, in full, and cancel Tahoe's second amended and restated revolving facility, under which US$125 million had been drawn.

CORPORATE INFORMATION

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EXECUTIVE TEAM

Michael Steinmann – *President & Chief Executive Officer*
Steve Busby – *Chief Operating Officer*
Robert Doyle – *Chief Financial Officer*
Christopher Lemon – *General Counsel*
Andres Dasso – *Senior Vice President, Mining Operations*
George Greer – *Senior Vice President, Project Development*
Sean McAleer – *Senior Vice President, Corporate Affairs*
Martin Wafforn – *Senior Vice President, Technical Services & Process Optimization*
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SHARE INFORMATION

NASDAQ: PAAS
TSX: PAAS
Common shares outstanding at Dec. 31, 2018: 153.3 million

INVESTOR CONTACT

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ANNUAL MEETING

Wednesday, May 8th, 2019 – 3:00pm (PST)
Fairmont Waterfront Hotel, Malaspina Room
900 Canada Place Way
Vancouver, British Columbia
Canada V6C 3L5

PHOTO:

Morococha Mine, Peru – Pan American created a wetland at its Morococha mine in Peru as an alternative to a traditional tailings storage facility. This innovative approach involves planting vegetation and the subaquatic deposit of tailings as a natural alternative for the remediation of mine tailings.