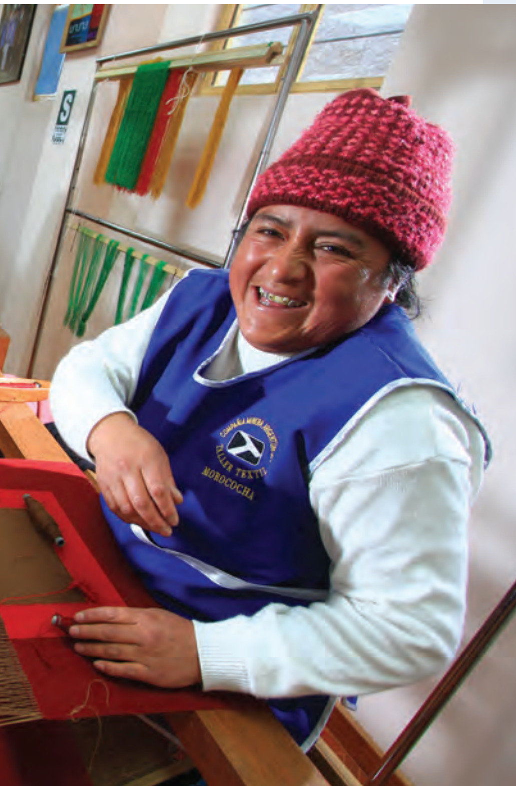
PAN AMERICAN
SILVER

2019 Annual Report



CELEBRATING OUR SILVER JUBILEE:

25 years of responsible mining operations in the Americas

CORPORATE PROFILE

Pan American Silver

Pan American Silver is the world's second largest primary silver producer, providing enhanced exposure to silver through a diversified portfolio of assets, large reserves and growing production.

We own and operate mines in Mexico, Peru, Canada, Argentina and Bolivia. In addition, we own the Escobal mine in Guatemala that is currently not operating. Pan American Silver has a 25-year history of operating in Latin America, earning an industry-leading reputation for operational excellence and corporate social responsibility.

Our vision is to be the world's premier silver producer, with a reputation for excellence in discovery, engineering, innovation, and sustainable development. Our strategy to achieve this vision is to:

- Generate sustainable profits and superior returns on investments through the safe, efficient and environmentally sound development and operation of our assets.
- Constantly replace and grow our reserves and resources through targeted near-mine exploration and business development.
- Foster positive long-term relationships with our employees, shareholders, communities and 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 assets, both internally and through acquisition.
- Encourage our employees to be innovative, responsive and entrepreneurial throughout our entire organization.

PAAS: NASDAQ AND TSX

PANAMERICANSILVER.COM

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 the inside back cover 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.

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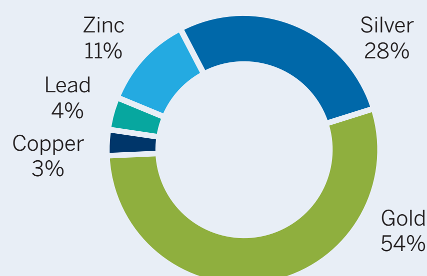
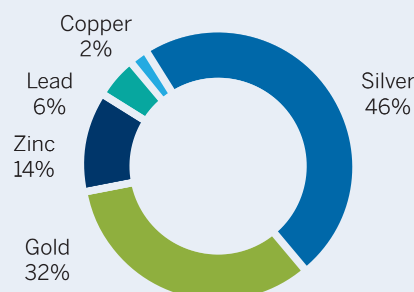
BC CORPORATE INFORMATION

2019 REVENUE GENERATED BY METAL(1)



2019 RESERVES BY METAL(2)



(1) Revenue by metal in 2019 is based on the average realized metal prices for 2019 of: $16.34/oz for silver, $1,406/oz for gold, $2,535/tonne for zinc, $1,997/tonne for lead, and $5,973/tonne for copper.

(2) The reserves by metal reflect the Company's 2019 mineral reserve estimates effective June 30, 2019. See the mineral reserves and resources on page 77 of this report for more detailed information on the Company's reserves and resources.

CONSOLIDATED HIGHLIGHTS

For the year ended December 31,

	2019	2018
Weighted average shares during period *(millions)*	201.4	153.3
Shares outstanding end of period *(millions)*	209.8	153.4
FINANCIAL *(in millions USD, except per share amounts)*		
Revenue	1,350.8	784.5
Net Earnings	111.2	12.0
Basic earnings per share[1]	0.55	0.07
Adjusted Earnings[2]	158.0	59.4
Basic adjusted earnings per share[1][2]	0.78	0.39
Net Cash Generated from Operating Activities	282.0	155.0
Sustaining capital expenditures	179.1	106.9
Project capital expenditures	43.6	44.7
Cash dividend per share	0.14	0.14
PRODUCTION *(in thousands)*		
Silver production *(ounces)*	25,886	24,776
Gold production *(ounces)*	559.2	178.9
Zinc production *(tonnes)*	67.6	64.8
Lead production *(tonnes)*	27.3	22.4
Copper production *(tonnes)*	8.7	9.8
CASH COSTS[2] *($/ounce)*		
Silver Segment	6.39	3.36
Gold Segment	712	n/a
AISC[2] *($/ounce)*		
Silver Segment	10.46	9.48
Gold Segment	948	n/a
Consolidated Silver Basis	4.44	10.77
AVERAGE REALIZED PRICES		
Silver *($/ounce)*[3]	16.34	15.61
Gold *($/ounce)*[3]	1,406	1,272
Zinc *($/tonne)*[3]	2,535	2,846
Lead *($/tonne)*[3]	1,997	2,189
Copper *($/tonne)*[3]	5,973	6,519

(1) Per share amounts are based on basic weighted average common shares.
(2) Non- GAAP measures: Cash Costs, All-in Sustaining Costs (AISC), adjusted earnings, and basic adjusted earnings per share are non-GAAP financial measures. Please refer to the "Alternative Performance (non-GAAP) Measures" section of this annual report for further information on these measures.
(3) Metal prices stated are inclusive of final settlement adjustments on concentrate sales.

Company at a Glance

Diversified Portfolio Across the Americas

OPERATING MINES

(all data as at December 31, 2019)

TIMMINS WEST & BELL CREEK[1]

Location: Canada
Ownership: 100%
Mine Type: Underground
Gold Production: 143.8 koz
Cash Costs[2]: $904
AISC[2]: $998

DOLORES

Location: Mexico
Ownership: 100%
Mine Type: Open Pit/Underground
Silver Production: 5.1 Moz
Gold Production: 117.6 koz
Cash Costs[2]: $3.09
AISC[2]: $15.45

LA COLORADA

Location: Mexico
Ownership: 100%
Mine Type: Underground
Silver Production: 8.2 Moz
Cash Costs[2]: $2.99
AISC[2]: $4.54

SHAHUINDO[1]

Location: Peru
Ownership: 100%
Mine Type: Open Pit
Gold Production: 145.4 koz
Cash Costs[2]: $570
AISC[2]: $807

LA ARENA[1]

Location: Peru
Ownership: 100%
Mine Type: Open Pit
Gold Production: 122.5 koz
Cash Costs[2]: $644
AISC[2]: $1,042

HUARON

Location: Peru
Ownership: 100%
Mine Type: Underground
Silver Production: 3.8 Moz
Cash Costs[2]: $4.15
AISC[2]: $7.74

MOROCOCHA[3]

Location: Peru
Ownership: 92.3%
Mine Type: Underground
Silver Production: 2.5 Moz
Cash Costs[2]: $4.35
AISC[2]: $10.08

SAN VICENTE[4]

Location: Bolivia
Ownership: 95%
Mine Type: Underground
Silver Production: 3.5 Moz
Cash Costs[2]: $11.77
AISC[2]: $13.08

MANANTIAL ESPEJO / COSE / JOAQUIN

Location: Argentina
Ownership: 100%
Mine Type: Underground
Silver Production: 2.6 Moz
Gold Production: 22.4 koz
Cash Costs[2]: $19.59
AISC[2]: $18.43

(1) Reflects production results subsequent to the February 22, 2019, closing date of the acquisition of Tahoe Resources Inc., as described in the "Acquisition of Tahoe" section of Pan American's management's discussion and analysis (MD&A) for the period ended December 31, 2019.
(2) Cash Costs and AISC are non-GAAP financial measures that do not have any standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies. Pan American produces by-product metals incidentally to our silver and gold mining activities. We have adopted the practice of calculating a performance measure with the net cost of producing an ounce of silver and gold, our primary payable metals, after deducting revenues gained from incidental by-product production. Silver segment mines (Dolores, La Colorada, Huaron, Morococha, San Vicente and Manantial Espejo/COSE/Joaquin) Cash Costs and AISC are calculated net of credits for realized revenues from all metals other than silver, and are calculated per ounce of silver sold. Gold segment mines (Timmins West & Bell Creek, Shahuindo and La Arena) Cash Costs and AISC are calculated net of credits for realized silver revenues, and are calculated per ounce of gold sold.
(3) Morococha data represents Pan American's 92.3% interest in the mine's production.
(4) San Vicente data represents Pan American's 95.0% interest in the mine's production.

GROWTH CATALYSTS

La Colorada Skarn

Pan American owns 100% of the large polymetallic deposit discovered in 2018 through brownfield exploration near its La Colorada mine. The deposit is estimated to contain 102 million ounces of silver and a large volume of base metals, based on the initial inferred mineral resource estimate of 72.5 million tonnes released on December 11, 2019.

Escobal

Pan American owns 100% of the Escobal mine in Guatemala. Escobal is one of the world's largest primary silver deposits containing an estimated 264 million ounces of silver reserves. Operations are currently suspended while the government of Guatemala completes an International Labour Organization (ILO) 169 consultation process.

Navidad

Pan American owns 100% of the Navidad project, containing an estimated 632 million ounces of measured and indicated silver resources. The project is located in Chubut Province, Argentina, and development is contingent on a change in the province's mining law.

*See the mineral reserves and resources on page 77 of this report for more detailed information on the Company's reserves and resources.

Letter from the Board Chair

25 years

OF RESPONSIBLE OPERATIONS

557 Moz

SILVER MINERAL RESERVES*

5.1 Moz

GOLD MINERAL RESERVES*

*See the mineral reserves and resources on page 77 of this report for more detailed information on the Company's reserves and resources.

Pan American Silver had an excellent year in 2019. We started the year with the successful closing of the most transformative acquisition in our history – Tahoe Resources.

Acquiring Tahoe brought us four new gold mines: two each in Canada and Peru, and the world-class Escobal silver mine in Guatemala that has been on care and maintenance since 2017 pending a government-led consultation process. In May we celebrated our silver anniversary – 25 years from when I founded the company. You can imagine my pride in seeing how my 1994 vision of building the world's foremost silver mining company became a reality in 2019.

As 2019 came to a close, operating cash flow in the fourth quarter was the highest in our history and we announced an estimated 72.5 million tonne silver-lead-zinc inferred resource at our new La Colorada skarn discovery. We ended the year with the largest silver reserves among our silver mining peers as well as very large gold reserves. We now have over 12,000 employees and contractors at our operations and a wonderful reputation for excellence in mining, exploration, environmental stewardship, governance, and social responsibility.

On the mining side, our teams at all our operations are performing admirably. In exploration, we are finding new reserves that will keep Pan American healthy for many years to come. And in environmental and social governance, we are well positioned to continue our industry-leading work that is so important in protecting our natural environment and sharing the benefits of mining with so many of our stakeholders. Some examples include our Global Human Rights Policy, which highlights our commitment to respect human rights and Indigenous rights; our independent safety reviews at all our operating tailings facilities; our implementation of tailings management and water stewardship protocols pursuant to the guidelines of the Mining Association of Canada; and our programs to conserve water at all our operations.

Responsible environmental management must address the critical issue of climate change and the need to reduce greenhouse gas (GHG) emissions. Pan American is a member of the World Economic Forum's Alliance of CEO Climate Leaders, advocating for a transition to a low carbon economy. We have been reporting our scopes 1 and 2 GHG emissions since 2010 and we began a rigorous process of setting GHG emissions reduction targets in 2018. In 2019, we commenced a study on our climate resilience to potential climate change risks. In 2020, we plan to provide our first disclosure of estimated scope 3 emissions and we will begin the process of aligning our climate disclosure with the Task Force on Climate Related Disclosure (TCFD) recommendations.

Silver has an important role to play in the transition to a low carbon economy. Silver consumption in the photovoltaics sector (solar panels) has become the largest single use of silver for industrial applications.[1] Due to silver being the most electrically conductive metal, it is also playing an important role in electronics. The growing renewable energy-based electrification of our economy will further increase the demand for silver as we transition away from fossil fuels.

Over its 25 years of operation, Pan American has developed a culture of social responsibility and environmental stewardship. That is a core strength for us today. We believe creating respectful, collaborative relationships with our stakeholders is achieved through transparent communication and delivering on our commitments. We also believe responsible environmental management is achieved by minimizing and mitigating the environmental impacts of our operations.

I would like to thank Mr. Kevin McArthur for his contributions to the Board over the past year. Mr. McArthur has decided not to stand for re-election as a director at Pan American's 2020 Annual General Meeting.

Over its 25 years of operation, Pan American has developed a culture of social responsibility and environmental stewardship.

Pan American Silver is in excellent condition today, and I look forward to another successful year in 2020. This is possible due to our strong management team, our outstanding employees and contractors at all our operations, the supportive communities and countries where we work, and all our shareholders who reward us with their long-term support. Thank you all for your part in building our great company.

Respectfully submitted,

ROSS BEATY, *Chair*

MARCH 12, 2020

(1) Silver Institute's World Silver Survey 2019.

Letter from the President

63.9%

TOTAL SHAREHOLDER RETURN IN 2019

$282 M

IN OPERATING CASH FLOW

3

MAJOR CATALYSTS FOR GROWTH

2019 was a transformative year for Pan American Silver. Today we are a larger company in production, reserves and market capitalization. We have a more diversified portfolio of assets, and an expanded suite of catalysts that have the potential to materially increase production and shareholder value.

This transformation is in large part due to the acquisition of Tahoe Resources Inc., which closed in February 2019. Pan American now owns 10 mining operations, including the Escobal mine in Guatemala that is currently on care and maintenance.

I am very pleased by the successful integration of the Tahoe assets into Pan American's business. We are realizing annual general and administrative synergies of $25 million to $30 million, and the acquired mines are performing better than expected. The new shaft at the Bell Creek mine in Canada has improved productivity, resulting in sustainable cost efficiencies. At the Shahuindo mine in Peru, mined ore grades have been outperforming the reserve model.

The performance of these mines has re-affirmed our view that we acquired the Escobal mine in Guatemala as an attractive, low cost option to one of the best-built silver mines in the world. The restart of that mine requires the completion of an International Labour Organization (ILO) 169 consultation process by the Guatemalan government. As well, we are working to better understand the local communities' views on mining and to demonstrate that we are committed to be a respectful, responsible partner in the region.

Advancing Value Drivers

Pan American is in the unique position of having a robust portfolio of cash producing assets, and several large catalysts. One of those catalysts is the Escobal mine, which has the potential to increase our silver

production by about 78% from 2019 levels at all-in sustaining costs below our corporate average. The mine was built to high technical and environmental standards. With silver reserves of 264 million ounces, Escobal offers long-term value for our shareholders and host communities.

A second catalyst is our exploration discovery near our La Colorada mine in Mexico. In late 2019, we released an initial inferred mineral resource estimate of 72.5 million tonnes for the skarn deposit. The substantial size and the grades indicate the value of the deposit. We are continuing an extensive drilling program in 2020 to further define the deposit, which is open laterally and at depth. As well, we plan to advance early stage engineering and complete additional metallurgical testing, with the aim of defining the future development of a new, large mine for Pan American.

The third catalyst is our Navidad project in Argentina. Navidad is one of the largest undeveloped primary silver deposits in the world. High-grade mineralization at surface would allow scalable open pit mining. Development is contingent on a change to the provincial mining law in Chubut, Argentina to allow open pit mining.

Strong performance in 2019

In 2019, we celebrated our silver jubilee – 25 years of responsible mining operations throughout the Americas. Our share price closed at $23.69 at year end, and we distributed $0.14 per share in dividends for a total return of 63.9% in 2019.

In 2019 our operations generated cash flow of $282 million, reflecting the strong contribution from the mines acquired with the Tahoe transaction. We retired $60 million of debt, resulting in net debt of $78 million(1) at year end. Our performance on costs was better than forecasted, with all-in sustaining costs for the silver segment of $10.46 per ounce and $948 per ounce for the gold segment. We also achieved our revised production forecast.(2)

This performance reflects our strategic priorities: efficient operations, disciplined capital allocation, and advancing the value drivers in our portfolio. Those are the same priorities that continue to guide us going forward.

By focusing on our strategic priorities, our shareholders are well-positioned to capture the upside in precious metal prices. We do not hedge our precious metals exposure, and our share price is strongly linked to the performance of precious metal prices, particularly silver. While market cycles are difficult to predict, investment in precious metals can protect wealth and provide upside during periods of economic downturn.

In 2020, we are expecting silver and gold production growth of approximately 7% and 16%, respectively, with all-in sustaining costs in the range of $10.25 to $11.75 for the silver segment of our business and $1,090 to $1,170 for the gold segment. Our consolidated all-in sustaining costs are expected to be between $4.50 to $6.50 and include investment in maintaining safe, responsible operations, brownfield exploration to replace mined reserves, and G&A expenses at our offices. Over the past 15 years, Pan American has successfully replaced reserves at an average cost of $0.49 per ounce of silver. Free cash flow generated by the business will be prioritized for investment in high-return growth projects, debt repayment - in line with our preference to carry little to no debt on our balance sheet - and returning cash to shareholders through dividends. In 2020, we plan to invest in projects to advance the La Colorada skarn discovery and expand the Bell Creek mine.

Building a sustainable business is only possible if we cultivate constructive relationships with all of our stakeholders. We aim to achieve that through transparent communication, respectful engagement, and delivering on our commitments. Our annual sustainability report provides information on our performance and goals for social, environmental and governance metrics. In 2020, we are planning to strengthen our reporting of greenhouse gas emissions and climate change mitigation efforts. Safety is a priority for Pan American, and we will continue our unrelenting focus on improving safety for the more than 12,000 employees and contractors who work at our sites.

Pan American is well-positioned as it enters the next decade. We have a diversified portfolio of producing mines, large reserves, a strong financial position, and superior catalysts for future upside.

I would like to thank our shareholders and communities for their continued support, and our employees, contractors, and Board of Directors for their efforts in making Pan American the premier silver mining company.

MICHAEL STEINMANN, *President & CEO*

MARCH 12, 2020

(1) Net debt is a non-GAAP financial measure, and calculated as the drawn portion of the Company's Credit Facility and the financing of lease liabilities less cash and short-term investments. Please refer to the "Alternative Performance (non-GAAP) Measures" section of this annual report for further information.
(2) Pan American initially provided its guidance for 2019 on January 21, 2019, and subsequently updated the guidance on May 8, 2019, to include certain forecast amounts for the mines acquired from Tahoe Resources Inc. for the period February 22, 2019 to December 31, 2019. Pan American revised its guidance on August 7, 2019, and again on November 6, 2019 to reflect reductions in select anticipated cost metrics as well as a delay in the COSE and Joaquin projects in Argentina, which impacted our expected production of gold and silver. Please refer to the "Operating Performance" section of Pan American's MD&A for the period ended December 31, 2019, for further information.

Non-GAAP Measures

This annual report of Pan American Silver Corp. and its subsidiaries (collectively, "Pan American", "Pan American Silver", the "Company", "we" or "our") refers to various non-GAAP measures, such as "all-in sustaining costs", "cash costs", "adjusted earnings" and "basic adjusted earnings per share", and "net debt". 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. Any reference to "Cash Costs" in this annual report should be understood to mean cash costs per ounce of silver or gold sold, net of by-product credits. Any reference to "AISC" in this annual report should be understood to mean all-in sustaining costs per silver or gold ounce sold, net of by-product credits.

Readers should refer to the "Alternative Performance (Non-GAAP) Measures" section of the Company's Management's Discussion and Analysis ("MD&A") for the period ended December 31, 2019, 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.

Integration of Tahoe Resources Inc. ("Tahoe")

On February 22, 2019, the Company completed the previously announced transaction whereby it acquired all of the issued and outstanding shares of Tahoe ("Acquisition"). Tahoe was a mid-tier publicly traded precious metals mining company with ownership interests in a diverse portfolio of mines and projects including the following principal mines: La Arena and Shahuindo in Peru; Timmins West and Bell Creek in Canada (together "Timmins"); and Escobal in Guatemala, where operations have been suspended since June 2017 (together the "Acquired Mines"). The Company now operates three gold mines as a result of the Acquisition. Consequently, the Company's operations have been divided into silver and gold segments for the purposes of our financial reporting. All production, operating and financial results of the Acquired Mines (including Cash Costs and AISC amounts) and included in the Company's consolidated results and updated guidance, reflect only the results from February 22, 2019 onwards. Further details of the Acquisition are provided in the "Acquisition of Tahoe" section of the MD&A for the period ended December 31, 2019.

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, anticipated accretion to shareholder value from the Company's future developments; future financial and operational performance, including, but not limited to, revenue and operation margins; future production of silver, gold and other metals produced by the Company, including the Acquired Mines; our estimated all-in sustaining costs in 2020; the anticipated amount and timing of production at each of the Company's properties and in the aggregate; our expectations with respect to future metal prices and exchange rates; the anticipated capital expenditures and the timing thereof and the results of any future exploration, development or expansion programs, including, but not limited to, the La Colorada skarn exploration project; the restart of the Escobal mine and the likelihood and results thereof; the potential for increase in the Company's silver production and creation of value for shareholders and communities relating to the restart of the Escobal mine; possible future development of a new mine at La Colorada and development of the Navidad project; our anticipated disclosure of emissions and the timing thereof; the Company's plans and expectations for its properties, operations and exploration projects; the potential mitigation of risks through investment in precious metals; and future growth of the economy and the impact on the overall demand for silver.

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 that, while considered reasonable by the Company, are inherently subject to significant operational, business, economic and regulatory 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; currency exchange rates remaining as estimated; capital, decommissioning and reclamation estimates; our mineral reserve and mineral 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 can be maintained; our ability to secure and maintain title and ownership to properties and the surface rights necessary for our operations; and our ability to comply with environmental, health and safety laws, particularly given the potential for modifications and expansion of such 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 annual report 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 Canadian dollar, Peruvian sol, Mexican peso, Argentine peso, Bolivian boliviano, and Guatemalan quetzal versus the U.S. dollar); 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, Guatemala or other countries where the Company may carry on business, including legal restrictions relating to mining, the risk of expropriation related to certain of our operations, particularly in Argentina and Bolivia, and risks related to the constitutional court-mandated ILO 169 consultation process in Guatemala; operational risks and hazards inherent with the business of mineral exploration, development and mining (including environmental accidents and hazards, industrial accidents, equipment breakdown, unusual or unexpected geological or structural formations, pressures, cave-ins and flooding); risks relating to claims and legal proceedings involving or against the Company and our subsidiaries; 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 Company's ability to secure our mine sites or maintain access to our mine sites due to criminal activity, violence, or civil and labour unrest; the speculative nature of mineral exploration and development; our ability to obtain all necessary licenses, permits, and regulatory approvals in a timely manner; risks of liability relating to our past sale of the Quiruvilca mine in Peru; diminishing quantities or grades of mineral reserves as properties are mined; global financial conditions; 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 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 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. The Company 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 Pan American's qualified persons for the purposes of National Instrument 43-101 ("NI 43-101"). Mineral reserves in this annual report were prepared under the supervision of, or were reviewed by, Martin Wafforn and Chris Emerson.

See Pan American's Annual Information Form dated March 12, 2020, available at www.sedar.com for further information on Pan American's material mineral properties as at December 31, 2018, including information concerning associated QA/QC and data verification matters, the key assumptions, parameters and methods used by the Pan American to estimate mineral reserves and mineral resources, and for a detailed description of known legal, political, environmental, and other risks that could materially affect Pan American's business and the potential development of Pan American's mineral reserves and resources. Please also refer to Pan American's news release dated December 11, 2019 with respect to Pan American's initial mineral resource estimate for the La Colorada skarn deposit, and our news releases dated October 23, 2018, February 21, 2019, May 8, 2019, August 1, 2019, October 1, 2019 and February 13, 2020 with respect to the La Colorada skarn exploration results.

The mineral reserves and resources of Pan American in this annual report reflect our mineral reserves and resources estimates as at June 30, 2019 as announced in our news release dated September 4, 2019.

Management's Discussion and Analysis

FOR THE YEAR ENDED DECEMBER 31, 2019

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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, 2019 (the "2019 Financial Statements") and the related notes contained therein. All amounts in this MD&A and the 2019 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 2019 Financial Statements.

This MD&A refers to various non-Generally Accepted Accounting Principles ("non-GAAP") measures, such as "all-in sustaining cost", "cash costs", "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", "cash costs ", "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 2019 Financial Statements.

Any reference to "cash costs" or "cash costs" in this MD&A should be understood to mean cash costs per ounce of silver or gold, net of by-product credits. Any reference to "AISC" in this MD&A should be understood to mean all-in sustaining costs per silver or gold 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 and gold mining and related activities, including exploration, mine development, extraction, processing, refining and reclamation. The Company owns and operates silver and gold mines located in Peru, Mexico, Argentina, Bolivia, and Canada. We also own the Escobal mine in Guatemala that is currently not operating. In addition, the Company is exploring for new silver deposits and opportunities throughout the Americas. 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 premier silver mining company, 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 our assets.
- Constantly replace and grow our mineable reserves and resources through targeted near-mine exploration and global business development.
- Foster positive long-term relationships with our employees, shareholders, communities and 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 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.

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 eight directors, six of whom are independent as at December 31, 2019. 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:

- *Supporting education for children and adults by contributing to teacher's salaries, and offering scholarships at local and national levels.*
- *Promoting community health with an emphasis on immunizations, optometry, and oral health.*
- *Improving nutrition, focusing on children and women.*
- *Promoting tourism and local areas of interest.*
- *Encouraging economic activity by strengthening the production chain of livestock breeding, and the development of alpaca textiles for product commercialization in North America.*

Climate Action

We recognize that climate change is a threat to the global environment, society, our stakeholders and our business. We are committed to doing our part to ensure an orderly transition to a prosperous low-carbon world.

As one of the largest primary producers of silver in the world, sustainable solutions to climate change are embedded in our purpose as a company. The silver we produce is a key material in solar energy and electrical applications, thereby supporting the transition to a lower carbon economy. Our silver and other products can contribute to displacing a much greater amount of fossil fuel carbon emissions than the direct carbon emissions our operations generate.

We are committed to reducing our carbon footprint by setting realistic short and medium term targets, and supporting research and conservation efforts both near our operations and globally. We are also improving our existing public disclosure regarding our greenhouse gas emissions, ensuring that recognition of climate risks are part of our business plan and stakeholder development strategies.

We support the recommendations from the Task Force on Climate Related Financial Disclosure ("TCFD"), and we are working towards implementing those TCFD recommendations, targeting 2021 for the release of our first report aligned with the TCFD recommendations. We will also continue to report on our emissions, targeted emission reductions, climate risks and other climate-related actions in our annual Sustainability Reports.

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 and mitigate 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 are actively implementing the Mining Association of Canada's *Towards Sustainable Mining* program at all our mines.

In 2019 our efforts were centered around integrating our new assets from the Tahoe acquisition within our existing environmental management strategy and teams. This included a specific focus on environmental stewardship and communication at the Escobal mine in Guatemala, incorporating the new operations into the Towards Sustainable Mining program, environmental auditing of the La Arena and Shahuindo mines, and changing the Closure and Decommissioning Liability calculation methods for La Arena and Shahuindo to our standard methodology.

We build and operate mines in varied environments across the Americas. From the Patagonian plateau in Argentina, to the Sierra Madre in Mexico, to Northern Ontario in Canada 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 the potential to impact surrounding habitats and communities.

We manage environmental 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 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 to 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 ; such as: 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 2019, audits were conducted on the Manantial Espejo, La Arena, and Shahuindo mines. In 2018, audits were conducted on the San Vicente, Huaron and Morococha mines . No material issues were identified in either the 2019 or 2018 environmental audits.

2019 HIGHLIGHTS

Integration of Tahoe Resources Inc. ("Tahoe")

On February 22, 2019, the Company completed the previously announced transaction whereby Pan American acquired all of the issued and outstanding shares of Tahoe (the "Tahoe Acquisition"). Tahoe was a publicly traded precious metals mining company with a diverse portfolio of mines and projects including the following principal mines: La Arena and Shahuindo in Peru; Timmins West and Bell Creek in Canada (together "Timmins"); and Escobal in Guatemala, where operations have been suspended since June 2017 (together the "Acquired Mines"). The Company now operates three gold mines as a result of the Tahoe Acquisition. Consequently, the Company's operations have been divided into silver and gold segments for the purposes of reporting in this MD&A.

All production, operating and financial results of the Acquired Mines (including cash costs and AISC amounts) reported in this MD&A and included in the Company's consolidated results, reflect only the results from February 22, 2019 onwards. Further details of the Tahoe Acquisition are provided in the "Acquisition of Tahoe" section of this MD&A.

Operations & Project Development

- **Silver production of 25.9 million ounces**

Consolidated silver production for 2019 of 25.9 million ounces was 1.1 million ounces more than in 2018, mainly reflecting additional production at Dolores, La Colorada, Huaron, and the Acquired Mines, partially offset by lower production from Manantial Espejo and Morococha. 2019 silver production was in-line with the most recent 2019 forecast range of 25.3 million ounces to 26.3 million ounces, as provided in the Company’s Q3 2019 MD&A dated November 6, 2019 (the "November 2019 Forecast").

- **Gold production of 559.2 thousand ounces**

Consolidated gold production for 2019 of 559.2 thousand ounces was 380.3 thousand ounces more than in 2018, reflecting additional production from the Acquired Mines, and was in-line with the November 2019 Forecast range of 550.0 thousand ounces to 600.0 thousand ounces.

- **Base metal production**

Zinc production in 2019 was 67.6 thousand tonnes, slightly higher than both the 2018 zinc production and management's November 2019 Forecast production of 65.0 thousand tonnes to 67.0 thousand tonnes.

Lead production in 2019 was 27.3 thousand tonnes, 22% higher than 2018 lead production and higher than management's November 2019 Forecast production of 24.0 thousand tonnes to 25.0 thousand tonnes.

Copper production in 2019 was 8.7 thousand tonnes, 11% lower than 2018 copper production and lower than management's November 2019 Forecast production of 9.8 thousand tonnes to 10.3 thousand tonnes.

Financial

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

Revenue in 2019 of $1,350.8 million was up 72% from 2018, driven mainly by increased quantities of gold sold from the Acquired Mines' gold production, and from increased precious metals prices.

Net earnings in 2019 were $111.2 million ($0.55 basic earnings per share), which was a $99.2 million increase from 2018 net earnings of $12.0 million ($0.07 basic earnings per share). The increase was primarily driven by: a $128.4 million increase in mine operating earnings, largely from the Acquired Mines; an $85.0 million increase in investment income, mainly related to the appreciation of the Company's approximately 17% equity interest in New Pacific Metals Corp ("New Pacific"). The increase was partially offset by: increased income taxes, mine care and maintenance costs primarily related to the suspended Escobal mine, and higher interest costs related to amounts drawn on the Company's revolving credit facility (the "Credit Facility"). Net earnings in 2019 included impairment charges of $40.1 million compared to impairments of $27.8 million in 2018, the impairment charges in each year were on the Company's Argentine operating assets.

Adjusted earnings in 2019 were $158.0 million ($0.78 basic adjusted earnings per share), which was $98.6 million higher than 2018 adjusted earnings of $59.4 million ($0.39 basic adjusted earnings per share).

Net cash generated from operating activities in 2019 was $282.0 million, $127.1 million higher than 2018. The increase was driven by higher income and related cash-flows.

- **Liquidity and working capital**

As at December 31, 2019, the Company had cash and short-term investment balances of $238.2 million, working capital of $517.2 million, and $225.0 million available under its $500.0 million revolving credit facility. Total debt of $316.2 million was related to the drawn portion of the Credit Facility and the financing of lease liabilities, which were partially attributable to the new lease accounting standard (IFRS-16) adopted on January 1, 2019, as discussed in the "Changes in Accounting Standards" section of this MD&A.

- **Cash costs per ounce sold**

Silver Segment 2019 cash costs were $6.39 per silver ounce sold, in-line with the November 2019 Forecast range of $6.00 to $7.00 per silver ounce sold.

Gold Segment 2019 cash costs related to the Acquired Mines were $712 per gold ounce sold, which was lower than the November 2019 Forecast range of $725 to $775 per gold ounce sold.

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 the 2019 Financial Statements.

- **All-in Sustaining Costs per ounce sold ("AISC")**

Silver Segment 2019 AISC were $10.46 per silver ounce sold, in-line with the November 2019 Forecast range of $9.50 to $11.00 per silver ounce sold.

Gold Segment 2019 AISC were $948 per gold ounce sold, which was lower than the November 2019 Forecast of $1,000 to $1,100 per gold ounce sold.

Consolidated 2019 AISC per silver ounce sold, including by-product credits from the Acquired Mines' gold production, were $4.44 per silver ounce sold, which was lower than the November 2019 Forecast range of $6.00 to $7.50 per silver ounce sold.

AISC 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 the 2019 Financial Statements.

2020 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. We may revise forecasts during the year to reflect actual results to date and those anticipated for the remainder of the year. The 2020 production, cash costs and AISC outlooks for each mine are further discussed in the "2020 Mine Operation Forecasts" section of this MD&A.

2020 Silver and Gold Production, Cash Costs and AISC Forecasts:

	Silver Production (million ounces)	Gold Production (thousand ounces)	Cash Costs ($ per ounce)[1]	AISC ($ per ounce)[1]
Silver Segment:				
La Colorada	8.5 - 8.7	4.0 -5.0	3.00 - 4.00	5.50 - 6.50
Dolores	4.5 - 5.0	133.5 - 143.5	(8.50) - (5.50)	4.25 - 6.25
Huaron	3.8 - 3.9	0.5	9.25 - 11.00	12.50 - 14.25
Morococha (92.3%)[2]	2.6 - 2.8	1.3 - 1.5	9.50 - 11.75	13.50 - 15.50
San Vicente (95.0%)[3]	3.5 -3.6	0.5	14.00 - 15.00	16.00 - 17.00
Manantial Espejo/COSE/Joaquin	4.0 - 4.3	33.2 - 36.5	16.75 - 17.75	18.50 - 19.50
Total[4,5]	**26.8 - 28.3**	**173.0 - 187.5**	**5.75 - 7.50**	**10.25 - 11.75**
Gold Segment:				
Shahuindo	0.2	162.0 - 172.5	700 - 750	1,070 - 1,150
La Arena	—	125.0 - 135.0	800 - 850	1,120 - 1,200
Timmins	—	165.0 - 180.0	950 - 1,000	1,090 - 1,170
Total[4,5]	**0.2**	**452.0 - 487.5**	**820 - 870**	**1,090 - 1,170**
Total Production[5]	**27.0 - 28.5**	**625.0 - 675.0**		
Consolidated Silver Basis[4]			**n/a[6]**	**4.50 - 6.50**

(1) Cash costs and AISC are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for further information on these measures. The cash costs and AISC forecasts assume average metal prices of $17.50/oz for silver, $1,525/oz for gold, $2,350/tonne ($1.07/lb) for zinc, $2,000/tonne ($0.91/lb) for lead, and $6,150/tonne ($2.79/lb) for copper; and average annual exchange rates relative to 1 USD of 19.50 for the Mexican peso ("MXN"), 3.34 for the Peruvian sol ("PEN"), 73.64 for the Argentine peso ("ARS"), 6.91 for the Bolivian boliviano ("BOB"), and $1.30 for the Canadian dollar ("CAD").

(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) As shown in the detailed quantification of consolidated AISC, included in the "Alternative Performance (Non-GAAP) Measures" section of this MD&A, corporate general and administrative costs, and exploration and project development expenses are included in Consolidated Silver Basis AISC, but are not allocated in calculating AISC for the Silver and Gold Segments.

(5) Totals may not add due to rounding.

(6) Pan American will no longer be providing guidance for cash costs on a Consolidated Silver Basis, determining that AISC guidance is a more appropriate measure of reflecting costs on a Consolidated Silver Basis.

The Company expects 2020 silver production of between 27.0 million and 28.5 million ounces, representing between a 4% and 10% increase over the 2019 consolidated production of 25.9 million ounces. Production increases are expected at La Colorada, Manantial Espejo, and Morococha. Production at San Vicente and Huaron is expected to be generally consistent with 2019, while production at Dolores is expected to be slightly lower than 2019. The increase in silver production at La Colorada is expected to be achieved by increasing throughput rates through mine mechanizations, debottlenecking efforts, and infrastructure upgrades. At Manantial Espejo, the expected increase reflects the COSE and Joaquin mine projects coming into production in 2020, and thereby increasing feed grades. At Morococha, the increase is due to mine sequencing into higher silver grade zones. The expected decrease in silver production at Dolores is driven by open pit sequencing into lower silver grade ore zones partially offset by leach sequencing that is expected to draw-down heap silver inventories.

Gold production in 2020 is expected to be between 625 thousand and 675 thousand ounces, which is an increase of between 12% and 21%. The increase is expected primarily from production from a full calendar year of the Acquired Mines, higher gold grades at Dolores due to open pit sequencing, and the addition of COSE production at the Manantial Espejo operation, and partially offset by lower ore tonnages at La Arena from mine sequencing.

Silver Segment cash costs for 2020 are forecast to be between $5.75 and $7.50 per payable ounce of silver, while Silver Segment AISC are expected to be between $10.25 and $11.75 per ounce, which compare to 2019 Silver Segment Cash costs and AISC of $6.39 and $10.46, respectively. Silver Segment per ounce cost metrics are expected to be similar to 2019, based on assumptions for modest escalation in wages and certain consumables as well as higher concentrate treatment and refining charges, offset by higher by-product gold production at Dolores, higher throughputs at La Colorada and higher by-product gold prices. An increase in sustaining capital expenditures is also expected to impact the 2020 AISC, as further described in the following sections.

Gold Segment cash costs for 2020 are forecast to be between $820 and $870 per payable ounce of gold, while Gold Segment AISC are expected to be between $1,090 and $1,170 per ounce, which compare to 2019 Gold Segment cash costs and AISC of $712 and $948, respectively. The expected increase in the Gold Segment per ounce cost metrics is primarily due to increased capital spending on waste dumps and leach pads at Shahuindo and La Arena and equipment replacements at Timmins, which partly reflects the deferral of major projects from 2019 into 2020. In addition, the cost increase reflects a modest increase in operating costs, as further described in the following sections, and assumptions for modest escalation in wages and certain consumables.

Consolidated AISC (on a silver basis, net of by-product credits) in 2020 is forecast to be between $4.50 and $6.50 compared to the $4.44 per ounce recorded in 2019. The expected increase in AISC is largely driven by the same factors expected to increase the Gold Segment AISC discussed above.

2020 Consolidated Base Metal Production Forecasts:

	Zinc (kt)	Lead (kt)	Copper (kt)
Consolidated Production	**67.5 - 70.5**	**27.5 - 29.5**	**9.3 - 10.3**

Base metal production is expected to increase for zinc, lead and copper in 2020 compared to 2019. The expected increase in zinc and lead production reflects higher sulphide ore throughput at La Colorada, partially offset by mine sequencing into lower grades at Huaron, Morococha, and San Vicente. Copper production is expected to increase at Morococha and San Vicente as a result of mine sequencing.

2020 Capital Expenditure Forecasts

In 2020, Pan American expects sustaining capital investments of between $225.0 million and $240.0 million, which is an increase from the $179.1 million invested in 2019. In addition, Pan American expects to invest between $22.0 million and $27.0 million in project capital, primarily to advance the skarn deposit at La Colorada. The following table details the forecast capital investments at the Company's operations and projects in 2020:

	2020 Forecast Capital Investment ($ millions)
La Colorada	15.5 - 16.5
Dolores	55.0 - 58.0
Huaron	9.0 - 10.0
Morococha	7.5 - 9.0
San Vicente	6.0 - 7.0
Manantial Espejo/COSE/Joaquin	4.0 - 5.5
Shahuindo	63.0 - 65.0
La Arena	42.0 - 44.0
Timmins	23.0 - 25.0
Sustaining Capital Total	**225.0 - 240.0**
La Colorada Skarn project	16.0 - 18.0
Timmins Expansion	4.0 - 5.0
Other	2.0 - 4.0
Project Capital Total	**22.0 - 27.0**
Total Capital	**247.0 - 267.0**

The forecast 2020 sustaining capital is related primarily to the following activities:

- La Colorada - underground mechanization equipment additions, mine equipment refurbishments and replacements, underground ventilation infrastructure improvements, tailing storage facility expansions and near-mine exploration;
- Dolores - heap leach pad and pond expansions, open pit mine waste pre-stripping activities and mine equipment refurbishments;
- Huaron - mine equipment replacements, mine deepening and near-mine exploration;
- Morococha - near-mine exploration and underground mine equipment additions and replacements;
- San Vicente - underground mine equipment refurbishments and replacements and near-mine exploration;
- Manantial Espejo - near-mine exploration and mill upgrades to accept the COSE and Joaquin ores;
- Shahuindo - heap leach pad expansions, waste rock storage facility expansions, lease payments from a fleet expansion initiated in 2019, land purchases and near-mine exploration;
- La Arena - open pit mine waste pre-stripping activities, waste rock storage facility expansions and land purchases; and,
- Timmins - tailings storage facility expansions, underground mine equipment replacements and refurbishments and near-mine exploration.

Forecast 2020 project capital consists of:

- La Colorada - continued exploration drilling and early stage engineering and metallurgical testing for the skarn discovery;

- Timmins - an approximate 20% expansion of the Bell Creek mine, including the purchase of additional mine equipment and debottlenecking and upgrading certain components of the plant to maximize the benefits of the improved efficiencies resulting from the commissioning of the Bell Creek shaft in February 2019; and,
- Other - includes remaining payments for the COSE and Joaquin mine developments in Argentina, and advancements in the engineering and permitting for a future plant relocation at Morococha.

2020 Care & Maintenance and General & Administrative Expense Forecast

Forecast care and maintenance expense for 2020 is $21.5 million to $23.0 million, and is made up of $19.0 million to $20.0 million on the Escobal mine and $2.5 million to $3.0 million related to the Navidad project. Annual corporate general and administrative expense, including share-based compensation, is forecast to be between $35.0 million and $37.0 million in 2020.

2020 Exploration Expenditures Forecast

Exploration expenditures in 2020, including both amounts that will be expensed and capitalized, are expected to total $37.5 million to $39.5 million, comprised of: (1) $18.5 million to $19.5 million for 186,000 metres of near-mine brownfield exploration drilling for reserve replacement, which is included in the forecast for 2020 sustaining capital expenditures, (2) $11.5 million to $12.5 million in regional, greenfield exploration in Peru, Mexico and Canada; and (3) $7.5 million for 44,000 metres of drilling on the La Colorada skarn discovery, which is included in the forecast for 2020 project capital expenditures.

2020 Mine Operation Forecasts

Management's expectations for each mine’s 2020 operating performance, including production, cash costs, and AISC, are provided below:

La Colorada mine

Silver production is forecast to be between 8.5 million ounces and 8.7 million ounces in 2020 which is 4% to 6% more than the 8.2 million ounces produced in 2019. The increase is driven by an expected 4% increase in throughput from additional debottlenecking, mine mechanizations, and better backfill availability.

Cash costs per silver ounce in 2020 are forecast to be between $3.00 and $4.00 compared to the $2.99 achieved in 2019. The increase is primarily related to higher treatment and refining charges due to deteriorating concentrate treatment terms and lower average zinc price assumptions.

AISC in 2020 is forecast to be between $5.50 and $6.50 per silver ounce, which is 21% to 43% higher than the $4.54 achieved in 2019. The increase is largely driven by the higher treatment and refining charges, as well as an expected $5.8 million to $6.8 million increase in sustaining capital, as previously described.

Dolores mine

Silver production is forecast to be between 4.5 million ounces and 5.0 million ounces in 2020, which is 0.1 million ounces to 0.6 million ounces lower than the 5.1 million ounces produced in 2019. The decrease is primarily driven by planned mine sequencing into lower silver grade zones, partially offset by leach sequencing that is expected to reduce the heap silver inventory. Conversely, the mine sequencing is also expected to increase gold production. Gold production in 2020 is forecast to be between 133.5 thousand ounces and 143.5 thousand ounces, which is between 15.8 thousand ounces to 25.8 thousand ounces higher than the 117.6 thousand ounces produced in 2019.

Cash costs per silver ounce in 2020 are forecast to be between negative $8.50 and negative $5.50, which is a decrease from 2019 cash costs of $3.09, due primarily to increased gold credits from higher gold production and price assumptions.

AISC in 2020 is forecast to be between $4.25 and $6.25 per silver ounce, compared to 2019 AISC of $15.45 (inclusive of net realizable value ("NRV") inventory adjustments that increased AISC by $1.60 in 2019). Excluding the effect of

2019 NRV adjustments, AISC is expected to decrease from 2019 due to the same factors affecting year-over-year cash costs, partially offset by a $5.3 million to $8.3 million expected increase in sustaining capital expenditures, as described previously.

Huaron mine

Silver production is forecast to be between 3.8 million ounces to 3.9 million ounces in 2020, comparable to the 3.8 million ounces produced in 2019. Base metal production is expected to decrease slightly as a result of lower grades from mine sequencing.

Cash costs per silver ounce in 2020 are forecast to be between $9.25 and $11.00, which is higher than the 2019 cash costs of $4.15 per ounce. The increase reflects higher treatment and refining charges, decreased base metal credits due to a combination of a lower zinc price assumption and lower by-product base metal grades, and assumptions for modest escalation in wages and consumables.

AISC for 2020 is forecast to between $12.50 and $14.25 per silver ounce, which is higher than the $7.74 per ounce achieved in 2019 as a result of the increase in cash costs mentioned previously.

Morococha mine

Silver production is forecast to be between 2.6 million ounces to 2.8 million ounces in 2020 which is higher than the 2.5 million ounces produced in 2019, as a result of slight increases to throughput, grades and recoveries. Zinc and lead production are expected to be consistent with 2019, while copper production is expected to increase considerably as a result of mine sequencing.

Cash costs per silver ounce in 2020 are forecast to be between $9.50 and $11.75, which is $5.15 to $7.40 higher than 2019 cash costs of $4.35 per ounce. The increase reflects higher treatment and refining charges, lower zinc price assumptions, and assumptions for modest escalation in wages and certain consumable costs, partially offset by increased copper and silver production.

AISC is forecast to be between $13.50 and $15.50 per silver ounce, which is $3.42 to $5.42 higher than the $10.08 per ounce reported in 2019. The increase is due to the same factors affecting year-over-year cash costs, partially offset by an expected decrease in sustaining capital expenditures, as previously described.

San Vicente mine

Silver production is forecast to be between 3.5 million ounces and 3.6 million ounces in 2020, which is in-line with 2019 production, with anticipated throughput increases being partially offset by lower grades from mine sequencing. Zinc production is expected to decrease by 15% and copper is expected to increase by 18%, both due to mine sequencing.

Cash costs per silver ounce in 2020 are forecast to be between $14.00 and $15.00, which is between $2.23 and $3.23 per ounce higher than 2019 cash costs of $11.77 per ounce due to: operating cost increases from government mandated wage increases; cost escalation for certain consumables; higher treatment and refining charges; and, lower overall base metal credits due to lower zinc production and prices; partially offset by lower royalties and increased copper production.

AISC for 2020 is forecast to be between $16.00 and $17.00 per silver ounce, which is between $2.92 to $3.92 per ounce higher than the $13.08 per ounce recorded in 2019, due to the same factors impacting cash costs previously mentioned.

Manantial Espejo mine

Silver production is forecast to be between 4.0 million ounces to 4.3 million ounces in 2020, which is between 54% and 65% higher than the 2.6 million ounces produced in 2019. Gold production in 2020 is forecast to be between 33.2 thousand ounces and 36.5 thousand ounces, which is between 48% and 63% higher than the 22.4 thousand ounces produced in 2019. The expected increase in production is attributable to the addition of higher-grade COSE and Joaquin ore processed at the Manantial Espejo plant as these projects ramp-up to production following their development in 2019.

Cash costs per silver ounce in 2020 are forecast to be between $16.75 to $17.75, which is below 2019 cash costs of $19.59, primarily as a result of higher grade ore production from COSE and Joaquin displacing low-grade stockpile ores, particularly in the second half of 2020 as these mines ramp up production rates.

AISC for 2020 is forecast to be between $18.50 and $19.50 per silver ounce, which is a slight increase from the $18.43 per ounce reported in 2019. AISC in 2019 benefited from a $3.35 per ounce cost-decreasing NRV adjustment.

Shahuindo mine

Gold production is forecast to be between 162.0 thousand to 172.5 thousand ounces in 2020, which is higher than the 145.4 thousand ounces produced in 2019, primarily the result of additional production from a full year of operations.

Cash costs per gold ounce in 2020 are forecast to be between $700 and $750, which is higher than 2019 cash costs of $570 due to increases in operating costs from higher expected employee profit participation payments, greater leach reagent consumption aimed at optimizing recovery rates, and higher community expenses.

AISC for 2020 is forecast to be between $1,070 and $1,150 per gold ounce, which is higher than the 2019 AISC of $807 per ounce as a result of the increase in cash costs mentioned previously, as well as higher sustaining capital as previously described.

La Arena mine

Gold production is forecast to be between 125.0 thousand ounces to 135.0 thousand ounces in 2020, which is higher than the 122.5 thousand ounces produced in 2019. Higher gold grades and recoveries and additional production from a full year of operations are expected to offset lower throughput as a result of higher waste mining anticipated in 2020.

Cash costs per gold ounce in 2020 are forecast to be between $800 and $850, which is higher than 2019 cash costs of $644 due to higher leach pumping costs from an increase in heap heights, the introduction of geotechnical pre-split drilling to optimize the ultimate open pit layback sequencing, which also encounters lower ore production at a higher waste strip ratio.

AISC for 2020 is forecast to be between $1,120 and $1,200 per gold ounce, which is $78 to $158 higher than the $1,042 per ounce reported in 2019 due to the increase in cash costs previously mentioned, partially offset by anticipated lower sustaining capital expenditures, as previously described.

Timmins mine

Gold production is forecast to be between 165.0 thousand ounces to 180.0 thousand ounces in 2020, which is higher than the 143.8 thousand ounces produced in 2019 due to additional production from a full year of operations and increased daily throughput from an approximately 20% mill expansion, largely offset by lower gold grades to optimize the mineral reserve cut-off grade to maximize life of mine profitability.

Cash costs per gold ounce in 2020 are forecast to be between $950 and $1,000, slightly higher than the 2019 cash costs of $904 as increases in operating costs from higher mining and milling rates are expected to be largely offset by higher gold production.

AISC for 2020 is forecast to be between $1,090 and $1,170 per gold ounce, which is higher than 2019 AISC of $998 per ounce as a result of higher sustaining capital, as previously described.

2019 OPERATING PERFORMANCE

Consolidated 2019 Operating Results

Silver and Gold Production

The following table provides silver and gold production at each of Pan American's operations for the three and twelve month periods ended December 31, 2019 and 2018, except for the Acquired Mines, which for the twelve months ended December 31, 2019 only include production from the February 22, 2019 acquisition date:

	Silver Production (ounces '000s)				Gold Production (ounces '000s)			
	Three months ended December 31,		Year ended December 31,		Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018
La Colorada	**2,080**	2,074	**8,206**	7,617	**1.3**	1.2	**4.6**	4.4
Dolores	**1,287**	824	**5,122**	4,081	**26.1**	29.4	**117.6**	136.6
Huaron	**935**	965	**3,796**	3,561	**0.2**	0.2	**1.0**	0.8
Morococha[(1)]	**554**	740	**2,456**	2,881	**0.2**	0.2	**1.4**	2.1
San Vicente[(2)]	**877**	937	**3,528**	3,544	**0.1**	0.1	**0.5**	0.5
Manantial Espejo	**817**	587	**2,599**	3,092	**6.7**	6.2	**22.4**	34.6
Shahuindo	**54**	—	**137**	—	**43.5**	—	**145.4**	—
La Arena	**11**	—	**26**	—	**48.4**	—	**122.5**	—
Timmins	**6**	—	**18**	—	**47.3**	—	**143.8**	—
Total [(3)]	**6,622**	6,128	**25,886**	**24,776**	**173.9**	**37.2**	**559.2**	**178.9**

(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.

Silver Production

2019 consolidated silver production of 25.89 million ounces was 4% higher than the 24.78 million ounces produced in 2018. Dolores, Huaron, and La Colorada drove the increases, primarily due to increased grades and a higher ratio of ounces produced to placed on the heap at Dolores given higher pulp agglomeration plant throughput and increased throughput at the other two operations. The increase was partially offset by lower production at Morococha and Manantial Espejo, primarily due to lower grades at both operations, while Manantial Espejo was also affected by lower throughput. Consolidated silver production in Q4 2019 of 6.62 million ounces was 8% higher than the 6.13 million ounces produced in the fourth quarter of 2018 ("Q4 2018"). Dolores and Manantial Espejo drove the increase, primarily due to increased grades due from mine sequencing at both operations partially offset by heap sequencing that lead to a lower ratio of ounces produced to placed at Dolores. The increase was partially offset by lower production at Morococha, primarily due to lower grades from mine sequencing.

Gold Production

Consolidated gold production in 2019 of 559.2 thousand ounces was more than three times the 178.9 thousand ounces produced in 2018. The increase was attributable to gold production from the Acquired Mines, which totaled 411.7 thousand ounces, partially offset by lower production at Manantial Espejo as a result of higher throughput from low grade stockpiles due to a delay in the COSE and Joaquin mine developments, and at Dolores due to mine

sequencing. Similarly, consolidated gold production in Q4 2019 of 173.9 thousand ounces was more than four times the 37.2 thousand ounces produced in Q4 2018. Q4 2019 production from the Acquired Mines totaled 139.3 thousand ounces of gold.

Each operation's production variances are further discussed in the "Individual Mine Performance" section of this MD&A.

Base Metal Production

The following table provides the Company's base metal production for the three-month and twelve-month periods ended December 31, 2019 and 2018:

	Base Metal Production			
	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	2018
Zinc - kt	**16.6**	18.5	**67.6**	64.8
Lead - kt	**7.2**	6.3	**27.3**	22.4
Copper - kt	**2.3**	2.2	**8.7**	9.8

Zinc production in 2019 was consistent with 2018 production, driven by higher sulphide ore throughput at La Colorada, which was partially offset by lower grades at San Vicente.

Lead production in 2019 was 22% higher than 2018, resulting primarily from higher sulphide ore throughput at La Colorada and higher grades at Morococha from mine sequencing.

Copper production in 2019 was 11% lower than 2018, driven by lower grades and recoveries at Morococha from mine sequencing. Each operation's by-product production variances are further discussed in the "Individual Mine Performance" section of this MD&A.

Per Ounce Measures

The Company currently operates three gold mines as a result of the Tahoe Acquisition. Consequently, the Company's operations have been divided into silver and gold segments for the purposes of reporting cash costs and AISC, as set out in the table below. Based on the changed production profile of the Company and increased gold production following the Tahoe Acquisition, the Company has determined it necessary to expand the calculating and reporting of operating production, cash costs, and AISC metrics into two segments. The quantification of both the current cash costs and AISC measures is described in detail, and where appropriate reconciled to the 2019 financial statements, in the "Alternative (Non-GAAP) Performance Measures" section of this MD&A.

The following table reflects the cash costs and AISC net of by-product credits at each of Pan American's operations for the three and twelve months ended December 31, 2019, as compared to the same periods in 2018 for the Silver Segment mines and since February 22, 2019 for the newly acquired Gold Segment mines:

	Cash Costs[1] ($ per ounce)				AISC[1] ($ per ounce)			
	Three months ended December 31,		Year ended December 31,		Three months ended December 31,		Year ended December 31,	
	2019	2018[2]	2019	2018[2]	2019	2018[3]	2019	2018[3]
La Colorada	4.30	2.46	2.99	2.26	5.80	5.93	4.54	4.63
Dolores	2.64	6.30	3.09	(1.81)	9.33	35.36	15.45	16.36
Huaron	5.34	2.42	4.15	1.79	9.44	9.71	7.74	7.95
Morococha	10.85	(0.58)	4.35	(4.43)	18.83	6.19	10.08	1.59
San Vicente	14.38	10.20	11.77	9.83	16.50	13.59	13.08	12.20
Manantial Espejo	15.47	23.03	19.59	14.83	16.94	27.94	18.43	16.83
Silver Segment Consolidated	**7.80**	**5.82**	**6.39**	**3.36**	**11.37**	**14.69**	**10.46**	**9.48**
Shahuindo	605	—	570	—	970	—	807	—
La Arena	580	—	644	—	764	—	1,042	—
Timmins	884	—	904	—	984	—	998	—
Gold Segment Consolidated	**693**	**—**	**712**	**—**	**901**	**—**	**948**	**—**
Consolidated per silver ounce sold[4]:								
All Operations	**(8.63)**	**5.82**	**(4.89)**	**3.36**	**1.04**	**16.19**	**4.44**	**10.77**
All Operations before NRV inventory adjustments	**(8.63)**	**5.82**	**(4.89)**	**3.36**	**0.96**	**13.69**	**4.45**	**9.72**

(1) Cash costs and AISC are non-GAAP measures. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of this MD&A for a detailed description of these measures and where appropriate a reconciliation of the measure to the 2019 Financial Statements.

(2) Silver Segment cash costs per ounce sold are calculated based on cash costs, net of by-product credits divided by per ounce of silver sold and they are therefore different from previously reported 2018 "cash costs" which were calculated based on cash costs net of by-product credits divided by payable silver ounces produced. The 2018 cash costs per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the Company to calculate the 2019 cash cost per ounce sold.

(3) 2018 AISC per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the Company to calculate the 2019 AISC per ounce sold. The change in methodology relates to the sustaining capital calculation to account for the adoption of IFRS 16, and sustaining capital now includes lease payments. Previously, leased assets were included as sustaining capital in the period of acquisition, while future related lease payments were excluded.

(4) Consolidated silver basis total is calculated per silver ounce sold with total gold revenues included within by-product credits. G&A costs are included in the consolidated AISC, but not allocated in calculating AISC for each operation.

Cash Costs

Consolidated silver basis cash costs were negative $4.89 per ounce and negative $8.63 per ounce for 2019 and Q4 2019, down $8.25 and $14.45 from the comparable 2018 periods, respectively, primarily as a result of the increase in gold by-product credits from the newly acquired Gold Segment mines. These decreases were partially offset by increased Silver Segment cash costs due to a combination of lower base metal prices, higher treatment and refining charges and higher cost per ounce at Morococha and higher annual operating costs per ounce at San Vicente and Manantial Espejo. Consolidated silver basis cash costs reflect the cash costs at both the silver and gold segments of the Company's operations, and are based on total silver ounces sold net of by-product credits from all metals other than silver.

AISC

Consolidated silver basis AISC for 2019 and Q4 2019 were $4.44 per ounce and $1.04 per ounce, respectively, representing decreases of $6.33 and $15.15 per ounce, respectively, from the corresponding 2018 periods. The decreases were primarily the result of the same factors driving the decreased cash costs, as well as a reduction in cost-increasing NRV adjustments. Sustaining capital expenditures decreased for the Silver Segment mines, but increased as a whole due to the addition of the newly Acquired Mines. Consolidated AISC are based on total silver ounces sold and are net of by-product credits from all metals other than silver.

2019 Operating Results versus 2019 Guidance

The following table sets out the various 2019 annual metal production, cash costs, AISC and capital expenditures guidance provided by Management. The Original Guidance was provided in our Annual 2018 MD&A dated March 12, 2019, and was based on Pan American's assets prior to the closing of the Tahoe Transaction. The May Guidance was provided in the Company's MD&A dated May 8, 2019, and incorporated forecasts for the newly Acquired Mines. "NC" in the table below denotes no changes to the previously provided guidance. Guidance was updated in the Company's MD&A dated August 7, 2019 and again in the Company's MD&A dated November 6, 2019 to reflect reductions in select anticipated cost metrics as well as a delay in the COSE and Joaquin projects in Argentina, which impacted our expected production of gold and silver.

	Original Guidance	May Guidance	August Guidance	November Guidance	2019 Actual
Silver Production - Moz	26.5 - 27.5	26.6 - 27.6	25.3 - 26.3	NC	25.9
Gold Production - koz	162.5 - 172.5	570.0 - 620.0	550.0 - 600.0	NC	559.2
Zinc Production - kt	65.0 - 67.0	NC	NC	NC	67.6
Lead Production - kt	24.0 - 25.0	NC	NC	NC	27.3
Copper Production - kt	9.8 - 10.3	NC	NC	NC	8.7
Silver Segment Cash Costs ($ per ounce)	-	6.50 - 7.50	NC	6.00 - 7.00	6.39
Gold Segment Cash Costs ($ per ounce)	-	740 - 810	NC	725 - 775	712
Consolidated Silver Basis Cash Costs ($ per ounce)	6.50 - 7.50	(2.25) - 0.50	(3.30) - (1.80)	(5.50) - (3.80)	(4.89)
Silver Segment AISC ($ per ounce)	-	9.75 - 11.25	NC	9.50 - 11.00	10.46
Gold Segment AISC ($ per ounce)	-	1,025 - 1,125	NC	1,000 - 1,100	948
Consolidated Silver Basis AISC ($ per ounce)	10.80 - 12.30	7.75 - 10.75	7.00 - 9.00	6.00 - 7.50	4.44
Sustaining Capital ($ millions)	85 - 90	203 - 213	NC	NC	179.1
Project Capital ($ millions)	30	40	45	NC	43.6

The following section compares our guidance following the Tahoe acquisition (the "May Guidance") to actual results achieved in 2019.

Silver and Gold Production versus May Guidance

Metal figures presented are in ounces or tonnes of metal produced.

	2019 Silver Production (million ounces)		2019 Gold Production (thousand ounces)	
	Guidance [(1)]	Actual	Guidance [(1)]	Actual
Silver Segment:				
La Colorada	8.0 - 8.2	8.2	4.1 - 4.8	4.6
Dolores	5.2 - 5.5	5.1	114.5 - 120.0	117.6
Huaron	3.6 -3.7	3.8	0.5	1.0
Morococha[(2)]	2.8 -2.9	2.5	1.2 - 1.5	1.4
San Vicente[(2)]	3.5 - 3.7	3.5	0.3	0.5
Manantial Espejo	3.4 - 3.6	2.6	42.0 - 45.0	22.4
Silver Segment Total[(3)]	**26.5 - 27.5**	**25.7**	**162.5 - 172.5**	**147.5**
Gold Segment:				
Shahuindo	0.1	0.1	135.0 - 165.0	145.4
La Arena	—	—	117.5 - 122.5	122.5
Timmins	—	—	155.0 - 160.0	143.8
Gold Segment Total[(3)]	**0.1**	**0.2**	**407.5 - 447.5**	**411.7**
Total[(3)]	**26.6 - 27.6**	**25.9**	**570.0 - 620.0**	**559.2**

(1) Guidance amount per the May 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.

Silver Production

Consolidated 2019 silver production was 25.9 million ounces, which was 3% lower than the 26.6 million ounces at the low-end of the May Guidance range. The slight production shortfall was primarily the result of the postponement of commercial production from the COSE and Joaquin projects following the ground fall accident reported in June, 2019, deferring start-up of these projects into 2020, as communicated in previous MD&A reports.

Gold Production

Consolidated 2019 gold production was 559.2 thousand ounces which is 2% lower than the 570.0 thousand ounce low-end of the May Guidance range. Similarly, the gold production shortfall was primarily due to the postponement of COSE production into 2020.

Base Metal Production versus May Guidance

Metal figures presented are in ounces or tonnes of metal produced.

	2019 Zinc Production (thousand tonnes)		2019 Lead Production (thousand tonnes)		2019 Copper Production (thousand tonnes)	
	Guidance [(1)]	Actual	Guidance [(1)]	Actual	Guidance [(1)]	Actual
La Colorada	18.7 - 19.5	21.0	9.5 - 9.8	11.1	-	-
Huaron	17.7 - 18.0	18.1	8.5 - 8.8	9.2	5.7 - 5.9	6.0
Morococha[(2)]	22.6 - 23.0	22.5	5.3 - 5.7	6.6	2.8 - 3.1	1.8
San Vicente[(2)]	6.0 - 6.5	6.0	0.7	0.4	1.3	0.8
Total[(3)]	**65.0 - 67.0**	**67.6**	**24.0 - 25.0**	**27.3**	**9.8 - 10.3**	**8.7**

(1) Guidance amount per the May 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.

2019 based metal production was largely in-line with Management's guidance, the differences being attributable to a combination of grade differentials from mine sequencing and throughputs.

Cash Costs and AISC versus May Guidance:

The following table summarizes 2019 cash costs and AISC compared to the May Guidance on a per ounce basis, net of by-product credits.

	2019 Cash Costs[(1)] ($ per ounce)		2019 AISC[(1)] ($ per ounce)	
	Guidance [(2)]	Actual	Guidance [(2)]	Actual
Silver Segment:				
La Colorada	2.50 - 3.50	2.99	3.50 - 4.50	4.54
Dolores	4.50 - 5.50	3.09	14.00 - 16.00	15.45
Huaron	6.00 - 7.00	4.15	7.50 - 9.25	7.74
Morococha	3.10 - 4.00	4.35	7.00 - 9.00	10.08
San Vicente	10.60 - 11.50	11.77	12.25 - 13.50	13.08
Manantial Espejo	17.00 - 18.50	19.59	17.75 - 19.50	18.43
Total[(3)]	**6.50 - 7.50**	**6.39**	**9.75 - 11.25**	**10.46**
Gold Segment:				
Shahuindo	550 - 625	570	875 - 1,000	807
La Arena	800 - 850	644	1,275 - 1,325	1,042
Timmins	890 - 940	904	1,025 - 1,075	998
Total[(3)]	**740 - 810**	**712**	**1,025 - 1,125**	**948**
Consolidated Silver Basis[(3,4)]	**(2.25) - 0.50**	**(4.89)**	**7.75 - 10.75**	**4.44**

(1) Cash Costs and AISC are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of these calculations and a reconciliation of these measures to the 2019 Financial Statements. The cash costs and AISC Forecasts assumed the following 2019 average metal prices: $14.50/oz for silver, $1,250/oz for gold, $2,600/tonne ($1.18/lb) for zinc, $1,950/tonne ($0.88/lb) for lead, and $6,150/tonne ($2.79/lb) for copper; and average annual exchange rates relative to 1 USD of 19.50 for the MXN, 3.33 for the PEN, 41.80 for the ARS, 6.91 for the BOB, and $1.30 for the CAD.
(2) Guidance amount per the May Guidance.
(3) As shown in the detailed quantification of consolidated AISC, included in the "Alternative Performance (Non-GAAP) Measures" section of this MD&A, corporate general and administrative expense, and exploration and project development expense are included in consolidated (silver basis) AISC, but are not allocated amongst the operations and thus are not included in either the silver or gold segment totals.
(4) Consolidated silver basis is calculated by treating all revenues from metals other than silver, including gold, as a by-product credit.

Cash Costs

Silver segment cash costs of $6.39 per ounce were below Management's May Guidance range of $6.50 to $7.50 per ounce, primarily as a result of lower than expected cash costs at Dolores and Huaron being partly offset by higher than expected cash costs at Morococha, San Vicente and Manantial Espejo. Lower cash costs at Dolores were mainly the result of increased gold production, as expected, and higher than assumed gold prices. Lower cash costs at Huaron were mainly due to higher than guidance silver production and lower than expected treatment and refining charges. Manantial Espejo's cash costs were higher than guidance due to the production shortfall previously discussed, partially offset by lower costs from currency devaluation and higher gold prices. Morococha and San Vicente's higher cash costs reflect lower by-product credits from lower than expected base metal prices, increased costs, and lower production than guidance.

Gold segment cash costs of $712 per ounce were below the lower end of the May Guidance due largely to lower direct operating costs at La Arena and Timmins. At La Arena, lower operating costs were primarily related to administrative costs, whereas at Timmins the lower costs were related to a weaker Canadian dollar than assumed and better than expected efficiencies from the new shaft at Bell Creek.

Consolidated cash costs of negative $4.89 per ounce were $2.64 lower than the low-end of the May Guidance, driven primarily from higher than expected gold production and prices.

AISC

Silver segment AISC of $10.46 per silver ounce was within Management's May Guidance range. 2019 AISC reflects the same factors affecting cash costs, partially offset by higher sustaining capital per ounce due to the lower than expected silver production, despite lower than forecast sustaining capital spending.

Gold Segment AISC of $948 per gold ounce was below the low end of the May Guidance range, reflecting the same factors affecting cash costs, as well as lower sustaining capital due to the deferral of certain projects into 2020.

Consolidated AISC, calculated on a silver ounce basis, of $4.44 was well below the low end of the May Guidance, primarily as a result of higher by-product credits from higher than assumed gold prices, and lower than expected sustaining capital expenditures in the Gold Segment operations.

Capital Expenditures versus Forecast:

The following table summarizes the 2019 capital expenditures compared to the Updated 2019 Forecast:

	2019 Capital Expenditure ($ millions)	
	Guidance [(1)]	Actual
La Colorada	6.5 – 7.0	9.7
Dolores	53.0 – 54.0	49.7
Huaron	6.5 – 7.5	10.9
Morococha	11.0 – 12.0	12.6
San Vicente	6.5 – 7.5	5.0
Manantial Espejo	1.5 – 2.0	2.8
Shahuindo	47.5 – 49.0	29.9
La Arena	54.0 – 56.0	47.6
Timmins	16.5 – 18.0	11.0
Sustaining Capital Sub-total	**203.0 - 213.0**	**179.1**
Morococha projects	2.5	2.3
Mexico projects	7.5	11.5
Joaquin and COSE projects	20.0	23.8
Acquired Mines Projects	10.0	6.1
Project Capital Sub-total	**40.0**	**43.6**
Total Capital	**243.0 – 253.0**	**222.7**

(1) Guidance amount per the May Guidance.

Sustaining capital expenditures were $23.9 million less than the low end of the May Guidance range, driven primarily by deferrals of certain sustaining capital projects in the Gold Segment mines, particularly at Shahuindo. Project capital expenditures in 2019 were largely consistent with guidance amounts.

Individual Mine Performance

An analysis of performance at each operation in 2019 compared with 2018 follows. The project capital amounts invested in 2019 are further discussed in the "Project Development Update" section of this MD&A. The Gold Segment Mines were acquired on February 22, 2019, and as such, the financial and operating results of these mines have only been reported, and included in the Company's consolidated results, from this date forward. As all comparative 2018 period amounts are nil, they have been excluded from the tables and the analysis.

La Colorada mine

	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	**2018**
Tonnes milled - kt	**197.1**	187.4	**768.7**	726.0
Average silver grade – grams per tonne	**358**	375	**361**	358
Average zinc grade - %	**2.85**	3.10	**3.10**	2.83
Average lead grade - %	**1.70**	1.50	**1.65**	1.40
Production:				
Silver – koz	**2,080**	2,074	**8,206**	7,617
Gold – koz	**1.28**	1.16	**4.61**	4.40
Zinc – kt	**4.85**	5.09	**20.97**	17.79
Lead – kt	**2.92**	2.44	**11.15**	8.84
Cash costs[(1)]	**$ 4.30**	$ 2.46	**$ 2.99**	$ 2.26
Sustaining capital - ('000s)[(2)]	**$ 1,957**	$ 5,364	**$ 9,721**	$ 15,462
AISC[(1)]	**$ 5.80**	$ 5.93	**$ 4.54**	$ 4.63
Payable silver sold - koz	**1,770**	1,780	**7,583**	7,069

(1) Cash costs and AISC are non-GAAP measures. Please refer to the “Alternative Performance (Non-GAAP) Measures” section of this MD&A for a detailed reconciliation of these measures to cost of sales.

(2) Sustaining capital expenditures exclude $2.9 million and $11.1 million investing activity cash outflows for Q4 2019 and full year 2019, respectively (Q4 2018 and full year 2018: $2.8 million and $7.0 million respectively) related to investment capital incurred on the La Colorada projects, as disclosed in the “Project Development Update” section of this MD&A.

2019 versus 2018

Production:

- Silver: 8% increase, driven primarily by higher throughput of sulphide ore and higher silver grades in the oxide ores from mine sequencing as expected.
- By-products: 18% and 26% increase in zinc and lead, respectively, primarily from the higher throughput of sulphide ore as expected.

Cash Costs: were 32% higher than in 2018; the increase reflects higher than anticipated operating costs largely driven from underground mine ventilation development shortfalls, initial mechanization implementations, higher treatment and refining charges due to a deteriorating concentrate market and lower zinc and lead prices, which more than offset higher production.

Sustaining Capital: primarily related to investments in mechanization equipment, underground infrastructure, lease payments for equipment and offices, and near-mine exploration activities. The decrease in sustaining capital relates to lower expenditures in equipment replacements and refurbishments, and tailings dam expenditures, as anticipated.

AISC: the 2% decrease was the result of lower sustaining capital more than offsetting the drivers that increased cash costs, as described previously.

Dolores mine

	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	**2018**
Tonnes placed - kt	**1,856.7**	1,818.5	**6,777.0**	6,903.3
Average silver grade – grams per tonne	**42**	25	**38**	31
Average gold grade – grams per tonne	**0.62**	0.68	**0.60**	0.85
Production:				
Silver – koz	**1,287**	824	**5,122**	4,081
Gold – koz	**26.1**	29.4	**117.6**	136.6
Cash costs(1)	**2.64**	6.30	**3.09**	(1.81)
Sustaining capital - ('000s)(2)	**8,106**	13,255	**49,660**	48,842
AISC(1)	**9.33**	35.36	**15.45**	16.36
Payable silver sold - koz	**1,402**	870	**4,924**	4,205

(1) Cash costs and AISC are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of these measures to cost of sales.
(2) Sustaining capital expenditures exclude $nil and $0.4 million investing activity cash outflows for Q4 2019 and full year 2019, respectively (Q4 2018 and full year 2018: $0.3 million and $10.6 million respectively) related to final payables for the pulp agglomeration plant and underground mine projects.

2019 versus 2018

Production:

- Silver: the 26% increase was primarily the result of higher grades from mine sequencing as expected partially offset by leach sequencing that resulted in additional silver being inventoried on the heaps.
- Gold: the 14% decrease was due to lower grades from mine sequencing, partially offset by increased recoveries from improved leach kinetics, as expected.

Cash Costs: increased $4.90 per ounce due to lower by-product credits from lower gold production, partially offset by higher silver production and higher gold prices.

Sustaining Capital: consistent year-over-year and primarily related to pre-stripping and leach pad expansions in both periods.

AISC: decrease of 6% due to the factors affecting cash costs being offset by a decrease in NRV adjustments.

Huaron mine

	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	**2018**
Tonnes milled - kt	**252.3**	252.0	**994.0**	935.0
Average silver grade – grams per tonne	**140**	142	**142**	142
Average zinc grade - %	**2.49**	2.49	**2.38**	2.44
Average lead grade - %	**1.32**	1.22	**1.22**	1.18
Average copper grade - %	**0.85**	0.78	**0.81**	0.76
Production:				
Silver – koz	**935**	965	**3,796**	3,561
Gold – koz	**0.21**	0.22	**0.97**	0.79
Zinc – kt	**4.95**	4.82	**18.07**	17.38
Lead – kt	**2.50**	2.16	**9.22**	8.05
Copper – kt	**1.57**	1.52	**6.02**	5.44
Cash costs[(1)]	**$ 5.34**	$ 2.42	**$ 4.15**	$ 1.79
Sustaining capital - ('000s)	**$ 2,834**	$ 6,099	**$ 10,936**	$ 17,761
AISC[(1)]	**$ 9.44**	$ 9.71	**$ 7.74**	$ 7.95
Payable silver sold – koz	**736**	858	**3,253**	3,094

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

2019 versus 2018

Production:

- Silver: 7% higher primarily due to higher throughput.
- By-products: increased lead, copper and zinc production of 15%, 11% and 4%, respectively, primarily from higher throughput, and higher lead and copper grades due to mine sequencing, as expected.

Cash Costs: $2.36 per ounce higher due primarily from lower base metal prices, partially offset by increased production of all metals.

Sustaining Capital: primarily related to equipment leases, near mine exploration, mine deepening, and equipment replacements and refurbishments. The year-over-year decrease is primarily related to the reduced spending on the tailings storage facility expansion and mine deepening projects, as the former was completed in 2018 and the latter nears completion.

AISC: a decrease of 3% due to the same factors affecting year-over-year cash costs, being fully offset by decreased sustaining capital.

Morococha mine[1]

	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	**2018**
Tonnes milled – kt	**176.5**	163.0	**686.2**	672.0
Average silver grade – grams per tonne	**112**	154	**126**	149
Average zinc grade - %	**3.55**	4.02	**3.76**	3.80
Average lead grade - %	**1.17**	1.09	**1.21**	0.92
Average copper grade - %	**0.44**	0.44	**0.44**	0.66
Production:				
Silver – koz	**554**	740	**2,456**	2,881
Gold – koz	**0.23**	0.19	**1.39**	2.09
Zinc – kt	**5.46**	5.78	**22.50**	22.17
Lead – kt	**1.61**	1.40	**6.56**	4.69
Copper – kt	**0.46**	0.45	**1.83**	3.30
Cash costs [2]	**$ 10.85**	$ (0.58)	**$ 4.35**	$ (4.43)
Sustaining capital - ('000s)[3]	**$ 3,945**	$ 4,357	**$ 12,599**	$ 15,038
AISC[2]	**$ 18.83**	$ 6.19	**$ 10.08**	$ 1.59
Payable silver sold (100%) - koz	**515**	674	**2,335**	2,652

(1) Production figures are for Pan American's 92.3% share only, unless otherwise noted.
(2) Cash costs and AISC are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of these measures to cost of sales.
(3) Sustaining capital expenditures exclude $0.8 million and $2.3 million investing activity cash outflows for Q4 2019 and full year 2019, respectively, related to investment capital incurred on the Morococha project, as disclosed in the "Project Development Update" section of this MD&A (Q4 2018 and full year 2018, nil).

2019 versus 2018

Production:

- Silver: 15% lower, primarily due to lower grades from mine sequencing.
- By-products: a 40% increase in lead and 45% decrease in copper, both related to mine sequencing into higher lead ore zones. Zinc production was consistent year-over-year.

Cash Costs: $8.78 per ounce higher, due primarily to lower base metal prices and lower silver and copper production, as well as higher direct unit operating costs and treatment and refining charges.

Sustaining Capital: primarily related to expanded near-mine exploration, equipment replacements and refurbishments, and equipment and office leases. The decrease is primarily related to lower ventilation and mill capital.

AISC: $8.49 per ounce increase, primarily driven by the same factors affecting year-over-year cash costs.

San Vicente mine [1]

	Three months ended December 31,		Year ended December 31,	
	2019	2018	**2019**	2018
Tonnes milled – kt	**91.1**	88.3	**349.7**	332.9
Average silver grade – grams per tonne	**328**	372	**345**	362
Average zinc grade - %	**1.80**	3.66	**2.16**	2.77
Average lead grade - %	**0.15**	0.32	**0.14**	0.34
Average copper grade - %	**0.30**	0.37	**0.31**	0.40
Production:				
Silver – koz	**877**	937	**3,528**	3,544
Gold – koz	**0.13**	0.12	**0.48**	0.50
Zinc – kt	**1.31**	2.82	**6.01**	7.47
Lead – kt	**0.13**	0.26	**0.42**	0.78
Copper – kt	**0.22**	0.22	**0.85**	1.02
Cash costs [2]	**$ 14.38**	$ 10.20	**$ 11.77**	$ 9.83
Sustaining capital - ('000s)	**$ 2,048**	$ 1,637	**$ 4,960**	$ 6,983
AISC[2]	**$ 16.50**	$ 13.59	**$ 13.08**	$ 12.20
Payable silver sold (100%) - koz	**1,001**	502	**4,003**	3,054

(1) Production figures are for Pan American's 95.0% share only, unless otherwise noted.
(2) Cash costs and AISC are non-GAAP measures. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of these measures to cost of sales.

2019 versus 2018

Production:

- Silver: consistent year-over-year as higher throughput was offset by lower grades, as expected.
- By-products: decreased lead, zinc and copper production of 46%, 20% and 17%, respectively, as a result of lower base metal grades due to the mine sequencing, largely as expected.

Cash costs: $1.94 per ounce increase due to lower base metal grades and prices, higher treatment and refining charges, and higher direct unit costs; partially offset by lower royalties, all in line with expectations.

Sustaining Capital: expenditures primarily relate to mine equipment replacements and rehabilitations, near-mine exploration, and mine site and camp infrastructure. The year-over-year decrease is due to the completion of a tailings storage facility expansion in 2018 and a shortfall in completing planned projects in 2019.

AISC: a $0.88 per ounce increase due to the same factors affecting year-over-year cash costs, partially offset by lower sustaining capital.

Manantial Espejo mine

	Three months ended December 31,				Year ended December 31,			
	2019		2018		**2019**		**2018**	
Tonnes milled - kt		**186.5**		198.5		**708.6**		804.4
Average silver grade – grams per tonne		**150**		95		**127**		135
Average gold grade – grams per tonne		**1.21**		0.98		**1.08**		1.42
Production:								
Silver – koz		**817**		587		**2,599**		3,092
Gold – koz		**6.71**		6.19		**22.41**		34.55
Cash costs [(1)]	**$**	**15.47**	$	23.03	**$**	**19.59**	$	14.83
Sustaining capital - ('000s)	**$**	**696**	$	436	**$**	**2,757**	$	2,827
AISC[(1)]	**$**	**16.94**	$	27.94	**$**	**18.43**	$	16.83
Payable silver sold - koz		**928**		615		**2,460**		3,086

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

2019 versus 2018

Production:

- Silver and gold: 16% and 35% decreases, respectively, primarily from lower throughput due to the temporary suspension in operations following the accident at COSE reported in June 2019 and the processing of lower grade stockpiles from the lack of higher grade ores due to project delays.

Cash costs: a $4.76 per ounce increase from lower sales of silver and gold, as well as higher direct selling costs due to the export tax introduced in September 2018.

Sustaining Capital: consistent with prior year, and primarily related to near-mine exploration and certain mill improvements to adapt for the COSE and Joaquin ores.

AISC: a $1.60 per ounce increase as the factors affecting year-over-year cash costs were partially offset by an increase in cost-decreasing NRV inventory adjustments.

Gold Segment Mines

The Gold Segment Mines were acquired on February 22, 2019, and as such, the financial and operating results of these mines have only been reported, and included in the Company's consolidated results, from this date forward. All comparative 2018 period amounts for the Acquired Mines are nil.

	Three months ended December 31,			Year ended December 31,		
	Shahuindo	La Arena	Timmins	Shahuindo	La Arena	Timmins
Tonnes milled - kt	3,449.4	5,311.8	473.9	11,218.8	11,189.7	1,480.7
Average silver grade – grams per tonne	7	—	—	8	—	—
Average gold grade – grams per tonne	0.58	0.41	3.17	0.60	0.41	3.18
Production:						
Silver – koz	54.21	10.81	5.53	136.62	26.16	17.53
Gold – koz	43.52	48.43	47.33	145.37	122.52	143.77
Cash costs[(1)]	$ 605	$ 580	$ 884	$ 570	$ 644	$ 904
Sustaining capital - ('000s)[(2)]	$ 14,156	$ 8,382	$ 4,066	$ 29,873	$ 47,557	$ 11,035
AISC[(1)]	$ 970	$ 764	$ 984	$ 807	$ 1,042	$ 998
Payable gold sold - koz	39.85	48.06	46.40	133.30	124.21	143.30

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

(2) Timmins sustaining capital expenditures exclude $0.1 million and $2.7 million of investing activity cash outflow for Q4 2019 and full year 2019, respectively, and related primarily to reduction in accounts payable balances from the Bell Creek shaft project completed prior to acquisition. Shahuindo sustaining capital expenditures exclude $0.1 million and $3.4 million of investing activity cash outflow for Q4 2019 and full year 2019, respectively, relating to project development, as disclosed in the "Project Development Update" section of this MD&A.

Shahuindo

Production: gold production of 145.4 thousand ounces was within the May Guidance range of 135.0 thousand ounces to 165.0 thousand ounces.

Cash Costs: of $570 per ounce of gold were within the May Guidance range of $550 to $625 per ounce.

Sustaining Capital: primarily comprised of leach pad construction and mining equipment, and reflect the deferral in completion of several sustaining capital projects into 2020.

AISC: of $807 per ounce of gold were lower than the May Guidance range of $875 to $1,000, as a result of deferrals in sustaining capital expenditures into 2020.

La Arena

Production: gold production of 122.5 thousand ounces was at the high end of the May Guidance range of 117.5 thousand ounces to 122.5 thousand ounces.

Cash Costs: of $644 per gold ounce were lower than the May Guidance range of $800 to $850 per ounce, due to higher than expected mining costs being classified as capitalized pre-stripping activities as well as lower than expected administrative costs.

Sustaining Capital: primarily comprised of greater than expected classification of mining costs to capitalized pre-stripping activities, leach pad and waste storage facility construction, mine infrastructure upgrades, and land purchases. 2019 sustaining capital was below Management's expectations, as completion of certain sustaining capital projects were deferred into 2020.

AISC: of $1,042 per ounce of gold was lower than the May Guidance range of $1,275 to $1,325, primarily due to better than expected gold sales, lower administrative costs, and lower sustaining capital.

Timmins

Production: gold production of 143.8 thousand ounces was below the May Guidance range of 155.0 thousand ounces to 160.0 thousand ounces largely due to reducing the cut-off grade in an effort to maximize life-of-mine profitability.

Cash Costs: of $904 per ounce of gold are within the May Guidance range of $890 to $940 per ounce.

Sustaining Capital: primarily comprised of exploration, equipment rebuilds and infrastructure upgrades. 2019 sustaining capital was below Management's forecasted range, as completion of certain sustaining capital projects were deferred into 2020.

AISC: was $998 per ounce of gold, which is below the lower end of the May Guidance range of $1,025 to $1,075, due to the factors previously described.

PROJECT DEVELOPMENT UPDATE

The following table reflects the amounts spent at each of Pan American's major projects in 2019 as compared to 2018.

Project Development Investment[1] (thousands of USD)	Three months ended December 31,		Year ended December 31,	
	2019	2018	2019	2018
Mexico Projects	**2,891**	3,128	**11,469**	17,648
Joaquin and COSE Projects	**5,622**	10,022	**23,754**	27,053
Morococha Projects	**804**	—	**2,284**	—
Acquired Mines Projects	**187**	—	**6,120**	—
Total	**9,504**	13,150	**43,627**	44,701

(1) Amounts provided in the table above, including prior year amounts, reflect cash-outflows for project capital in the respective periods. Amounts provided in similar tables of previous MD&As represented amounts capitalized as part of the projects in the period reported. As a result of periodic changes in accounts payable balances, the amounts capitalized for the projects during the period may be different than the project investment cash outflows in the period.

Mexico Projects:

The Company spent $11.5 million in 2019, primarily related to exploration drilling activities for the La Colorada skarn deposit discovery first announced in October 2018, for which the Company published an initial resource on December 11, 2019.

Joaquin and COSE Projects:

The Company spent a combined $23.8 million in 2019 on the COSE and Joaquin projects, in order to substantially complete the development of both projects. As a result of the aforementioned accident at COSE, development of both the COSE and Joaquin projects were delayed to reassess and re-engineer ground control systems. Both mines are expected to begin ramp-up ore production rates in 2020.

Morococha Project:

Project capital spending at Morococha during 2019 related to the installation of a power-line to the existing processing plant and advancing engineering and permitting work, all related to a future relocation for the plant.

Acquired Mines Projects:

The Company spent $6.1 million during 2019, primarily related to completing the crushing and agglomeration plant at Shahuindo and the mine shaft and paste plant projects at Bell Creek projects that were started by Tahoe before the Tahoe Acquisition.

OVERVIEW OF 2019 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 both 2019 and 2018 included impairment charges to the Manantial Espejo mine and the COSE and Joaquin projects.

2019	Quarter Ended				Year Ended
(In thousands of USD, other than per share amounts)	March 31 (1)	June 30 [1]	Sept 30 [1]	Dec 31	Dec 31
Revenue[2]	$ 253,699	$ 340,494	$ 352,187	$ 404,379	**$ 1,350,759**
Mine operating earnings (loss)[2]	$ 15,770	$ 37,740	$ 77,168	$ 98,610	**$ 229,288**
Earnings (loss) for the period attributable to equity holders	$ 2,783	$ 5,053	$ 50,975	$ 51,927	**$ 110,738**
Basic earnings (loss) per share	$ 0.02	$ 0.02	$ 0.26	$ 0.25	**$ 0.55**
Diluted earnings (loss) per share	$ 0.02	$ 0.02	$ 0.26	$ 0.25	**$ 0.55**
Cash flow from operating activities	$ (12,911)	$ 83,518	$ 81,948	$ 129,473	**$ 282,028**
Cash dividends paid per share	$ 0.035	$ 0.035	$ 0.035	$ 0.035	**$ 0.140**
Other financial information					
Total assets					**$ 3,461,682**
Total long-term financial liabilities[3]					**$ 517,776**
Total attributable shareholders' equity					**$ 2,463,099**

(1) Amounts differ from those originally reported in the respective quarter due to: (1) the finalization of the purchase price allocation which was retrospectively applied, the most significant change being the removal of the previously recorded $30.5M bargain purchase gain; and, (2) amounts presented retrospectively as if Timmins had not been classified as held for sale.
(2) Concurrent with the Tahoe Acquisition, the Company classified the Timmins mines as a discontinued operation held for sale and, in the third quarter, reclassified to be a continuing operation after a change in Management's intentions. As a result, the previously recorded first and second quarters have been recast to present the Timmins mines as continuing operations.
(3) Total long-term financial liabilities are comprised of non-current liabilities excluding deferred tax liabilities, deferred revenue, and share purchase warrant liabilities.

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	$ 55,124	$ 54,851	$ (4,412)	$ (4,666)	$ 100,897
Earnings for the period attributable to equity holders	$ 47,376	$ 36,187	$ (9,460)	$ (63,809)	$ 10,294
Basic earnings per share	$ 0.31	$ 0.24	$ (0.06)	$ (0.42)	$ 0.07
Diluted earnings 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.

Income Statement: 2019 versus 2018

Net earnings of $111.2 million were recorded in 2019 compared to $12.0 million in 2018, which corresponds to basic earnings per share of $0.55 and $0.07, respectively.

The following table highlights the difference between net earnings in 2019 compared with 2018:

Net earnings, year ended December 31, 2018 (in thousands of USD)		$ 12,041	Note
Increased revenue:			
Increased realized metal prices	$ 63,792		
Higher quantities of metal sold	515,563		
Increased direct selling costs	(20,732)		
Increased positive settlement adjustments	7,641		
Total increase in revenue		**$ 566,264**	**(1)**
Increased cost of sales:			
Increased production costs and increased royalty charges	$ (331,709)		**(2)**
Increased depreciation and amortization	(106,164)		**(3)**
Total increase in cost of sales		**$ (437,873)**	
Increased investment income net of other expense		83,711	**(4)**
Increased income tax expense		(50,121)	**(5)**
Increased mine care and maintenance		(23,662)	**(6)**
Increased interest and finance expense		(21,143)	**(7)**
Increased impairment charges		(12,261)	**(8)**
Increased general and administrative expense		(9,103)	**(9)**
Decreased net gain on asset sales, commodity contracts and derivatives		(4,666)	
Increased foreign exchange gains		4,323	
Decreased transaction costs		2,714	
Increased share of income from associate and dilution gain		1,566	
Increased exploration and project development expense		(546)	
Net earnings, year ended December 31, 2019		**$ 111,244**	

1. ***Revenue*** for 2019 was $1.4 billion, a $566.3 million increase from the $784.5 million of revenue recognized in 2018. The major factor driving the increase was $515.6 million in additional quantities of metal sold, primarily from the addition of the newly acquired Gold Segment mines, and $63.8 million from higher precious

metal prices net of lower base metal prices. Partially offsetting this increase were increased selling costs, mainly from deteriorating concentrate treatment terms and additional export taxes in Argentina.

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,	
	2019	2018	2019	2018
Silver[(1)] – koz	**$ 16.34**	15.61	**24,676**	23,160
Gold[(1)] – koz	**$ 1,406**	1,272	**548.2**	173.9
Zinc[(1)] – kt	**$ 2,535**	2,846	**60.0**	54.6
Lead[(1)] – kt	**$ 1,997**	2,189	**25.7**	20.6
Copper[(1)] – kt	**$ 5,973**	$ 6,519	**7.6**	9.2

(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 and gold increased by 5% and 11%, respectively, in 2019 compared to 2018, whereas realized prices for zinc, lead and copper decreased by 11%, 9% and 8%, respectively.

Gold, silver, lead and zinc quantities sold in 2019 increased by 215%, 7%, 25%, and 10% compared to 2018, respectively, whereas copper quantities sold decreased by 18%. The changes were primarily the result from production changes previously described.

2. ***Production and royalty costs*** in 2019 were $331.7 million higher than in 2018. The increase was mainly attributable to production costs being $350.3 million higher largely due to: (i) additional production costs from the newly Acquired Mines ($325.0 million); (ii) increased production costs at Dolores, San Vicente and Morococha, primarily from inflationary pressures, and at La Colorada from higher sales volumes; partially offset by (iii) lower production costs at Manantial Espejo due primarily to the depreciation of the ARS; and, (iv) a $24.7 million reduction in negative NRV charges. Royalty charges in 2019 were $6.0 million higher, due primarily to royalty charges at the Timmins mines acquired in 2019.
3. ***Depreciation and amortization ("D&A")*** was $106.2 million higher than in 2018, largely as a result of additional depreciation expense from the Acquired Mines of $79.8 million, and increased depreciation at Dolores due to a higher asset base.
4. ***Investment income*** in 2019 was $84.7 million compared to a loss of $0.3 million in 2018, the increase reflects the fair value mark-to-market adjustment of the Company's equity investments for which prices appreciated during 2019, primarily from it's approximately 17% equity interest in New Pacific.
5. ***Income tax expense*** for the year ended December 31, 2019 increased to $71.3 million compared to $21.1 million in 2018. The $50.1 million year-over-year increase in income tax expense was mainly due to the increase in earnings before taxes from 2018 to 2019.
6. ***Care and maintenance costs*** totaled $23.7 million in 2019 and related primarily to the Company's Escobal mine where operations are currently suspended. The Escobal mine was acquired in February 2019 as part of the Tahoe Acquisition therefore there are no comparable expenses from 2018.
7. ***Interest and finance costs*** of $29.3 million in 2019 increased by $21.1 million from 2018, reflecting the interest expense relating to the debt drawn on the Credit Facility, and increased interest expense related to IFRS 16 leases.
8. ***Impairment charges*** of $40.1 million ($40.1 million, net of tax expense) were recorded in 2019, with impairment charges of $27.8 million recorded in 2018. 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, 2019 impairment charges totaling $40.1 million (2018 - charges of $27.8 million) were required on Manantial Espejo.

<u>2019 Impairment - Manantial Espejo</u>

A recent increase in Argentina export taxes, announced in January 2020, combined with the delayed commencement of production from the COSE and Joaquin deposits, and the deteriorated Argentina economy led management to conclude that there was an indication of impairment to its Argentine operating assets, namely the Manantial Espejo mine, and the COSE and Joaquin projects. As at December 31, 2019, the Company determined that the combined CGU 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 $63.6 million was higher than the combined estimated recoverable amount of $23.5 million when using a 9.75% 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 $40.1 million ($40.1 million, net of tax).

<u>2018 Impairment - Manantial Espejo</u>

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 CGU 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).

Key assumptions and sensitivity:

The metal prices used to calculate the recoverable amounts at December 31, 2019 and December 31, 2018 are based on analyst consensus prices:

Metal prices used at December 31, 2019:

Metal Prices	2020-2022 average
Silver - $/oz	$17.94
Gold - $/oz	$1,474

Metal prices used at December 31, 2018:

Metal Prices	2019-2022 average
Silver - $/oz	$17.07
Gold - $/oz	$1,300

In 2019, 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 3.7% (2018 – 5.3%), with rates applied to the various mines and projects ranging from 4.0% to 12.3% (2018 - 4.5% to 9.8%), 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, 2019, the Company performed a sensitivity analysis on all key assumptions that assumed a 10% adverse change to each individual assumption while holding the other assumptions constant.

At December 31, 2019, 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 Shahuindo, La Arena, Timmins, 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 10% adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

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 10% adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

9. ***General and Administrative expense*** was $31.8 million in 2019 compared to $22.6 million in 2018. The $9.1 million increase reflects the increased size and composition of the Company as a result of the Tahoe Acquisition. The share-based compensation of $4.4 million in 2019 was higher than the share-based compensation of $3.0 million in 2018, a result of the increased size and share price of the Company.

Statement of Cash Flows: 2019 versus 2018

Cash flow from operations in 2019 totaled $282.0 million, $127.1 million more than the $155.0 million generated in 2018. The increase was due to the additional operating cash flow from the newly Acquired Mines, which was mostly offset by lower cash mine operating earnings at Dolores and Manantial Espejo due to a combination of lower revenues and higher operating costs per ounce (see "Individual Mine Performance" section of this MD&A), and a $23.7 million increase in use of cash from working capital changes.

Working capital changes in 2019 resulted in a $27.9 million use of cash reflecting a $43.5 million pay down of accounts payable and accrued liabilities partially offset by a $22.8 million draw-down of inventories. These working capital movements compared to a $4.3 million use of cash in 2018, comprised mainly of inventory buildups and decreased provisions, partially offset by accounts payable buildups and collection of receivables.

Investing activities utilized $402.2 million in 2019, inclusive of $39.7 million received from the net sale of short-term investments. The investing cash outflow reflects the $247.5 million investment (net of cash acquired) related to the

Tahoe Acquisition, as described in the "Acquisition of Tahoe" section of this MD&A, and $205.8 million spent on mineral properties, plant and equipment at the Company's mines and projects.

In 2018, investing activities utilized $159.2 million, 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 properties, 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.

Cash from the sale of certain non-core assets in 2019 and 2018 totaled $10.3 million and $15.8 million, respectively.

Financing activities in 2019 generated $103.3 million compared to a use of $33.1 million in 2018. Financing activities in 2019 were primarily related to the Tahoe Acquisition. The net cash generated consisted of a net $335.0 million drawn on the Company's Credit Facility, described in the "Liquidity and Capital" section of this MD&A, and $125.0 million used to settle Tahoe's previously drawn credit facility. In addition to these acquisition related financing activities, $29.3 million was paid as dividends, $19.3 million of lease repayments were made, and $2.8 million was realized from share issuances from the exercise of stock options in 2019. Financing activities in 2018 consisted of $21.3 million paid as dividends to shareholders, $7.9 million of lease repayments, and $3.0 million used to repay short-term loans.

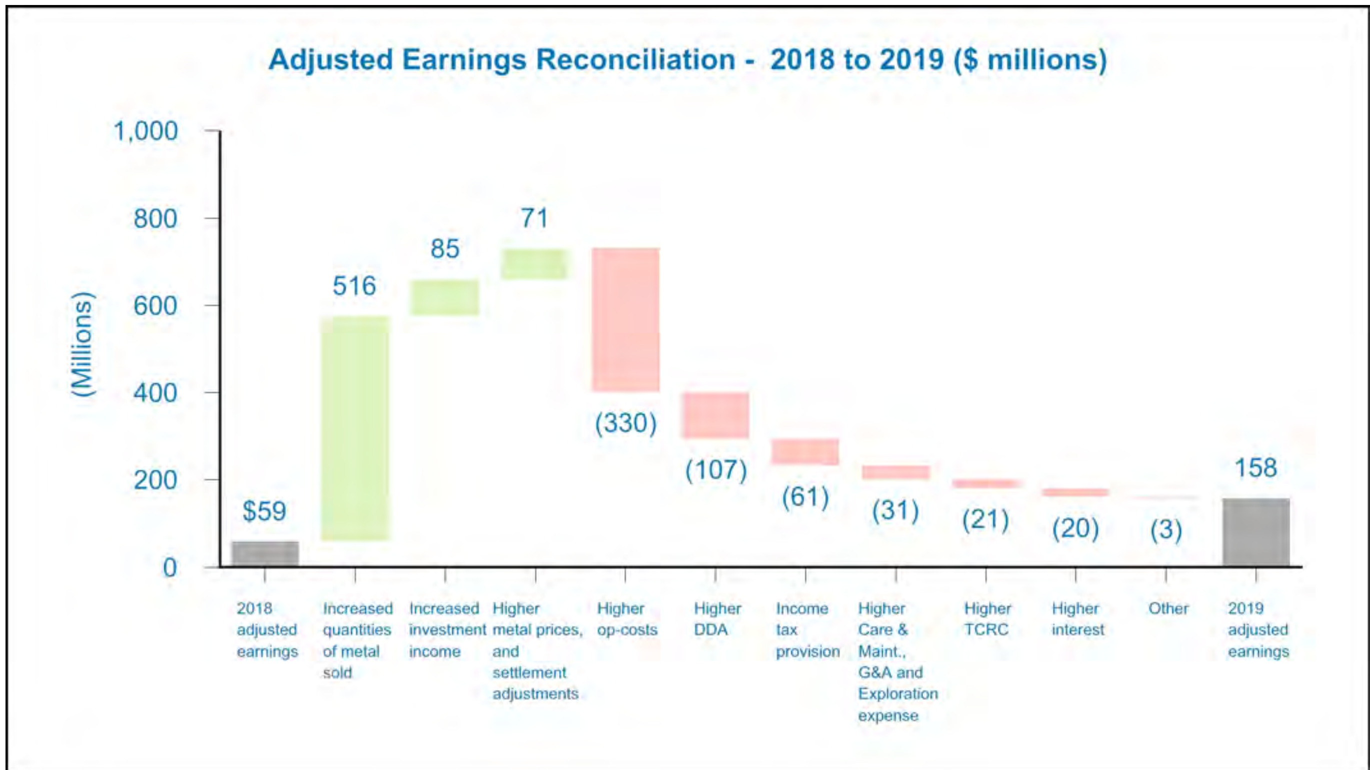
Adjusted Earnings: 2019 versus 2018

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 2019 Financial Statements.

Adjusted Earnings in 2019 were $158.0 million, representing a basic adjusted earnings per share of $0.78, which was $98.6 million, or $0.39 per share, higher than 2018 adjusted earnings of $59.4 million, and basic adjusted earnings per share of $0.39, respectively.

The following chart illustrates the key factors leading to the change in adjusted earnings from 2018 to 2019:



Income Statement: Q4 2019 versus Q4 2018

Net earnings of $51.7 million was recorded in Q4 2019 compared to net loss of $63.6 million in Q4 2018, which corresponds to basic earnings per share of $0.25 and basic loss per share of $0.42, respectively.

The following table highlights the key items driving the difference between the net earnings in Q4 2019 as compared to the net loss recorded in Q4 2018:

Net loss, three months ended December 31, 2018 (in thousands of USD)		**$ (63,577)**	**Note**
Increased revenue:			
Increased realized metal prices	$ 62,320		
Higher quantities of metal sold	180,560		
Increased direct selling costs	(6,862)		
Decreased positive settlement adjustments	(4,996)		
Total increase in revenue		**$ 231,022**	**(1)**
Increased cost of sales:			
Increased production costs and increased royalty charges	$ (96,752)		**(2)**
Increased depreciation and amortization	(30,994)		**(3)**
Total increase in cost of sales		**$ (127,746)**	
Increased investment income net of other expense		32,210	**(4)**
Increased income tax expense		(19,914)	**(5)**
Increased share of income from associate and dilution gain		14,428	**(6)**
Increased impairment charges		(12,261)	**(7)**
Decreased transaction costs		10,426	**(8)**
Increased mine care and maintenance		(8,008)	**(9)**
Increased interest and finance expense		(6,022)	**(10)**
Increased general and administrative expense		(4,559)	
Increased foreign exchange gains		2,564	
Increased net gain on asset sales, commodity contracts and derivatives		2,196	
Decreased exploration and project development expense		947	
Net earnings, three months ended December 31, 2019		**$ 51,706**	

1. ***Revenue*** for Q4 2019 was $404.4 million, a $231.0 million increase from $173.4 million in Q4 2018. The major factors for the increase were: a $180.6 million variance primarily from increased quantities of precious metals sold due to the additional gold sales from the Acquired Mines and higher silver sales from higher production from the Mexican operations, a $62.3 million price variance from higher realized metal prices for silver, gold and lead; slightly offset by increased direct selling costs, primarily from favorable changes in contract terms relating to concentrate treatment and refining charges, and negative 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,	
	2019	2018	**2019**	2018
Silver[(1)] – koz	**$ 17.84**	$ 14.35	**6,392**	5,299
Gold[(1)] – koz	**$ 1,479**	$ 1,232	**171.0**	36.6
Zinc[(1)] – kt	**$ 2,325**	$ 2,508	**15.1**	15.6
Lead[(1)] – kt	**$ 2,078**	$ 1,914	**6.1**	5.4
Copper[(1)] – kt	**$ 5,840**	$ 6,098	**1.9**	2.1

(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.

Increased quarter-over-quarter realized silver, gold, and lead prices of 24%, 20% and 9%, respectively, had the most significant impact on revenues. Zinc and copper price decreases of 7% and 4%, respectively, negatively impacted Q4 2019 revenue.

Sales volumes increased for all metals except zinc and copper. The quantities of silver, gold and lead sold in Q4 2019 were 21%, 367% and 12%, respectively, while quantities of zinc and copper sold decreased by 3% and 6%, respectively.

2. ***Production and royalty costs variances*** were comprised of a $3.3 million increase in royalty costs, largely due to new royalties at the Timmins mines, and a $93.4 million increase in production costs. The quarter-over-quarter production increase reflects new production costs from the Acquired Mines and higher production costs at the Silver Segment mines, mainly Morococha and San Vicente, which was only partially offset by a $12.7 million quarter-over-quarter decrease in cost-increasing NRV inventory adjustments.

3. ***D&A* expense** of $68.2 million in Q4 2019 was $31.0 million higher than in Q4 2018, largely the result of D&A on the Acquired Mines, which totaled $24.0 million, and increased D&A at Dolores on account of higher depreciable asset-bases, as well as from increased quantities of silver sold.

4. ***Investment income*** in Q4 2019 was $33.7 million compared to a loss of $1.4 million in Q4 2018, the increase reflects the fair value mark-to-market adjustment of the Company's equity investments for which prices appreciated during 2019, primarily the Company's investment in New Pacific.

5. ***Income tax expense*** in Q4 2019 was $26.0 million compared to $6.0 million in Q4 2018. The $19.9 million increase was largely attributable to the increase in net earnings before tax and to foreign exchange movements which positively impacted tax assets.

6. ***Share of income from associate and dilution gains*** were $14.2 million in Q4 2019 compared to a $0.2 million expense in Q4 2018, and relate to the Company's investment in Maverix Metals Inc. ("Maverix") which is accounted for using the equity method whereby the Company records its portion of Maverix's net income based on Pan American's fully diluted ownership interest. The quarter over quarter increase was attributable to Maverix issuing common shares in Q4 2019 to acquire certain royalty assets which diluted Pan American's ownership in Maverix and resulted in the recognition of a $13.6 million dilution gain. Maverix did not have a comparable transaction in Q4 2018.

7. ***Impairment charges*** of $40.1 million were recorded in Q4 2019, compared to impairment charges of $27.8 million recorded in Q4 2018. The impairment charges in each quarter related to the previously discussed Manantial Espejo CGU.

8. ***Transactions costs*** incurred in Q4 2018 relate to the Tahoe Acquisition described in the "Acquisition of Tahoe" section of this MD&A. Transaction and integration costs incurred for the Tahoe Acquisition were substantially completed in the third quarter of 2019, and as such there were no comparable costs in Q4 2019.

9. ***Care and maintenance costs*** totaled $8.0 million in Q4 2019 and related primarily to the Company's Escobal mine where operations are currently suspended. The Escobal mine was acquired in February 2019 as part of the Tahoe acquisition and therefore there were no comparable expenses in Q4 2018.
10. ***Interest and finance costs*** of $8.3 million in Q4 2019 increased by $6.0 million from Q4 2018, reflecting the interest expense relating to the debt drawn on the Credit Facility, and increased interest expense related to IFRS 16 leases.

Statement of Cash Flows: Q4 2019 versus Q4 2018

Cash flow from operations in Q4 2019 totaled $129.5 million, $117.5 million more than the $11.9 million generated in Q4 2018. The increase was largely the result of approximately $114.5 million higher cash mine operating earnings; and a $9.6 million increase in operating cash flows from working capital changes; partially offset by a $4.1 million increase in interest payments and a $2.4 million increase in taxes paid.

The quarter-over-quarter increase in mine operating earnings, excluding non-cash D&A and inventory adjustments, was mainly attributable to the addition of the Acquired Mines and improved cash mine operating earnings at Dolores, which was partially offset by lower operating cash flows at Manantial Espejo due to the impact of lower margins.

Working capital changes in Q4 2019 resulted in a $4.7 million source of cash, comprised mainly of accounts receivable collections and a build up in payables, partially offset by inventory buildups and increased prepaid expenses. Comparatively, working capital changes resulted in a $4.9 million use of operating cash flow in Q4 2018, comprised mainly of inventory buildups offset slightly by payables settlements.

Investing activities utilized $51.5 million in Q4 2019, inclusive of $1.8 million used on the net purchase of short-term investments. The balance of Q4 2019 investing activities related primarily to spending $50.3 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 2018, investing activities utilized $51.0 million inclusive of $10.0 million used on the net purchase of short-term investments. The majority of Q4 2018 investing activity cash flow reflected $42.3 million spent on mineral property, plant and equipment additions at the Company's various operations and projects.

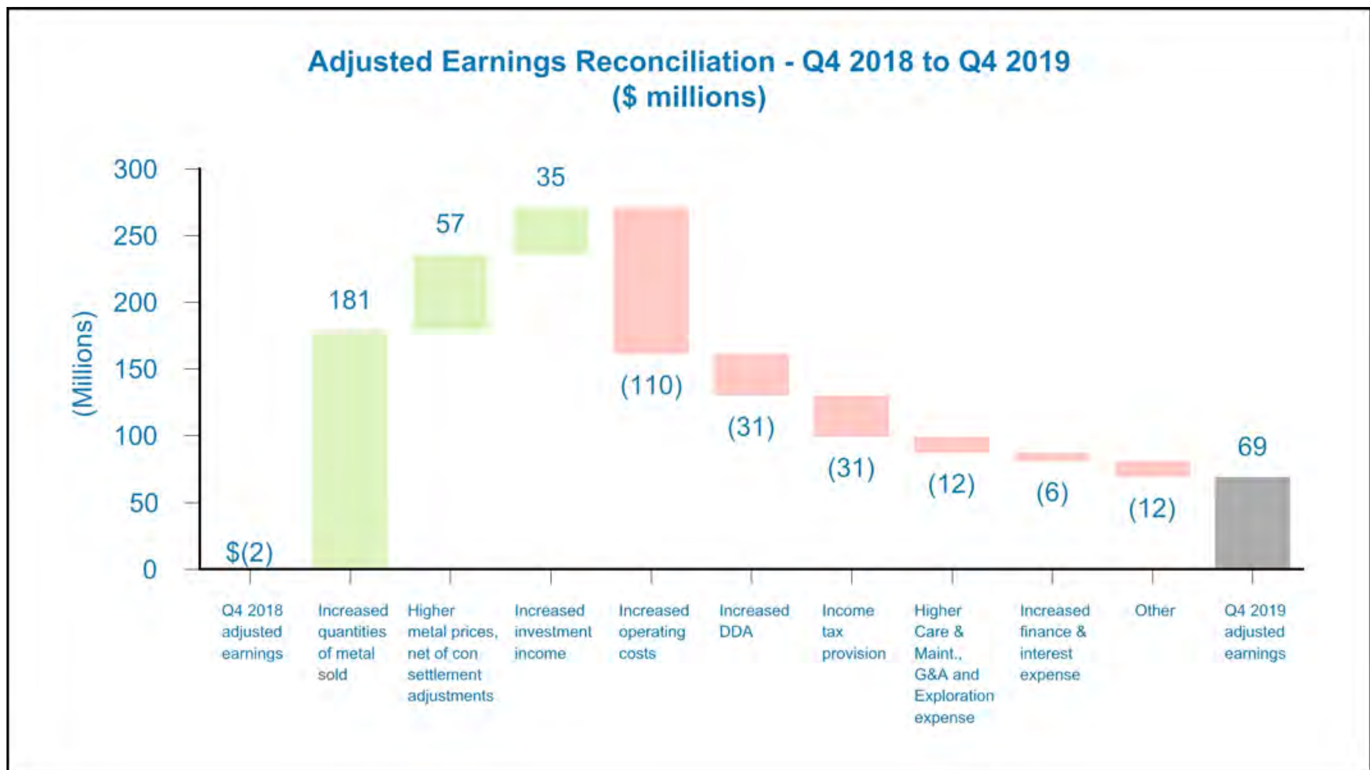
Financing activities in Q4 2019 used $51.9 million compared to $8.7 million in Q4 2018. Cash used in Q4 2019 consisted of $40.0 million of repayments on the Company's Credit Facility, $7.3 million paid as dividends to shareholders, and $5.7 million of lease repayments. In Q4 2018, cash used in financing activities consisted primarily of $5.4 million in dividends to shareholders and $2.2 million of lease repayments.

Adjusted Earnings: Q4 2019 versus Q4 2018

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 2019 Financial Statements.

Adjusted Earnings in Q4 2019 was $68.9 million, representing a basic adjusted loss per share of $0.33, which was $70.9 million, or $0.34 per share, higher than Q4 2018 adjusted loss of $2.0 million, and basic adjusted loss per share of $0.01.

The following chart illustrates the key factors leading to the change in adjusted earnings from Q4 2018 to Q4 2019:



ACQUISITION OF TAHOE

The Company completed the Tahoe Acquisition on February 22, 2019 (the "Closing Date").

In aggregate, Pan American paid Tahoe shareholders $275.0 million in cash, issued 55,990,512 Pan American shares, and issued contingent consideration in the form of 313,887,490 contingent value rights (CVRs). 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. Upon closing of the Arrangement, existing Pan American and former Tahoe shareholders owned approximately 73% and 27% of Pan American, respectively. Upon satisfaction of the payment conditions under the terms of the CVRs, Pan American and Tahoe shareholders will own approximately 68% and 32%, respectively, of the combined company (based upon the number of Pan American shares outstanding as at the Closing Date).

Revolving credit facility increase and draw-down

The Company amended and extended its revolving credit facility (the "Credit Facility"). The Credit Facility was increased by $200.0 million to $500.0 million in Q1 2019, and now matures on February 1, 2023. At Pan American's option, amounts can be drawn under the Credit 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 Credit Facility are subject to a stand-by fee of 0.4219% to 0.6188% per annum, dependent on the Company's leverage ratio.

In conjunction with the Tahoe Acquisition, the Company drew down $335.0 million on the Credit Facility in Q1 2019 under LIBOR-based interest rates to fund, in part, the cash purchase price under the Arrangement and to repay Tahoe's revolving facility, under which $125.0 million was outstanding at the date of acquisition. The Company repaid $60.0 million of the Credit Facility during 2019.

Consolidation of Tahoe

The Company reported its initial accounting for the Tahoe Acquisition during the first quarter of 2019 and had a measurement period of up to one year from the acquisition date to adjust any provisional amounts recognized and to recognize new assets and liabilities as a result of new information obtained which existed at the acquisition date. As a result, the Company recorded a deferred tax asset and made adjustments to the deferred tax liabilities and mineral property during the fourth quarter of 2019. The bargain purchase gain recognized on the acquisition date was eliminated in the fourth quarter of 2019 and retrospectively adjusted from the first quarter's results as a result of changes in the fair values of assets acquired.

Since acquisition on February 22, 2019, the assets acquired from Tahoe contributed revenue of $565.4 million and net income of $124.5 million for the year ended December 31, 2019. Acquisition-related costs of $7.5 million were expensed during the year ended December 31, 2019 were presented as transaction and integration costs.

The following table summarizes the consideration paid as part of the purchase price:

Consideration:	Shares Issued/ Issuable		Consideration
Fair value estimate of the Pan American Share consideration (1)	55,990,512	$	795,626
Fair value estimate of the CVRs (2)	15,600,208		71,916
Cash (1)	—		275,008
Fair value estimate of replacement options (3)	835,874		124
Total Consideration	**72,426,594**	**$**	**1,142,674**

(1) The Pan American Share consideration value is based on an assumed value of $14.21 per share (based on the NASDAQ closing price on February 21, 2019).

(2) Assumed fair value of the CVRs is based on the residual amount of the value of the Tahoe Shares acquired (based on the NYSE closing price closing of $3.64 on February 21, 2019) after deducting the cash consideration of $275 million and the fair value of the Company's share consideration paid (based on the February 21, 2019 NASDAQ closing price of $14.21).

(3) Assumed fair value of 3.5 million Tahoe options that upon the Tahoe Acquisition vested and converted into 835.8 thousand Pan American stock options (the "Replacement options"). The fair value of the Replacement options was determined using the Black-Scholes option pricing model, as at the Tahoe Acquisition date, using the following assumptions:

Share price at February 21, 2019 (Canadian dollars, "CAD")	$	19.01
Exercise price	$	11.67 - 97.26
Expected volatility		0.4075
Expected life (years)		0.2 - 1.0
Expected dividend yield		0.78%
Risk-free interest rate		0.93%
Fair value (CAD)	$	163,273.36
CAD to USD exchange rate at December 31, 2018	$	0.7578
Fair value (USD)	$	123,729.43

The following table summarizes the preliminary and final allocation of the purchase price to the identifiable assets and liabilities based on their estimated fair values at the date of the Tahoe Acquisition:

	Preliminary as reported March 31, 2019	Adjustments	Final as reported December 31,
Total purchase consideration paid for Tahoe	$ 1,142,674	$ —	$ 1,142,674
Cash and cash equivalents	$ 27,529	$ —	$ 27,529
Accounts receivable	17,854	300	18,154
VAT Receivable	87,268	224	87,492
Inventory	152,534	(4,325)	148,209
Other current assets	4,135	(2,754)	1,381
Mineral properties, plant and equipment	1,298,037	(58,635)	1,239,402
Other assets	3,450	3,101	6,551
Deferred tax assets	—	30,728	30,728
Accounts payable and accrued liabilities	(159,675)	10,933	(148,742)
Debt	(125,000)	—	(125,000)
Provision for closure and decommissioning liabilities	(70,119)	(7,201)	(77,320)
Net current and deferred income tax liabilities	(62,847)	(2,863)	(65,710)
Fair value of Tahoe net assets acquired	**$ 1,173,166**	**$ (30,492)**	**$ 1,142,674**
Bargain purchase gain recognized in net earnings on February 22, 2019	**$ 30,492**	**$ (30,492)**	**$ —**

We primarily used discounted cash flow models (being the net present value of expected future cash flows) to determine the fair value of the mining interests. Expected future cash flows are based on the timing of commencement of commercial production and estimates of quantities of mineral reserves and mineral resources, including expected conversions of resources to reserves, expected future production costs and capital expenditures based on the life of mine plans for the acquired mines as at the acquisition date. The discounted future cash flow models used discount rates with rates applied to the acquired mines ranging from 5% to 9%, depending on the Company's assessment of country risk, project risk, and other potential risks specific to the acquired mining interest. Further, the discounted cash flow models were based on the following estimated future metal prices:

Commodity Prices	2019-2022	2023 onwards
Gold price - $/oz.	$1,300	$1,300
Silver price - $/oz	$17.07	$18.50
Zinc - $/tonne	$2,599	$2,600
Lead - $/tonne	$2,171	$2,200

LIQUIDITY AND CAPITAL POSITION

Liquidity and Capital

Liquidity and Capital Measures (in $000s)	December 31, 2019	September 30, 2019	December 31, 2018	Q4 2019 Change	2019 Change
Cash and cash equivalents ("Cash")	**120,564**	94,713	138,510	25,851	(17,946)
Short-term Investments	**117,776**	82,310	74,004	35,466	43,772
Cash and Short-term investments	**238,340**	177,023	212,514	61,317	25,826
Working Capital	**517,249**	459,272	397,846	57,977	119,403
Credit Facility committed amount	**500,000**	500,000	300,000	—	200,000
Credit Facility amounts drawn	**275,000.0**	315,000.0	—	(40,000)	275,000
Shareholders' equity	**2,467,846**	2,450,231	1,513,349	17,615	954,497
Total debt [(1)]	**316,208**	360,492	6,676	(44,284)	309,532
Capital [(2)]	**2,545,714**	2,633,700	1,307,511	(87,986)	1,238,203

(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 cash and short-term investments increased by $61.3 million and $25.8 million during Q4 2019 and 2019, respectively. Operating cash flows in Q4 2019 of $129.5 million, which was a Company record, included $14.5 million in tax payments and a $4.7 million release of cash from working capital changes, financed all of the Company's investing and financing activities in the quarter. The significant financing and investing activity cash outflows in the quarter included $50.3 million in payments for mineral property plant and equipment, $40 million in repayment of the Credit Facility and $7.3 million in dividend payments. Additionally, the Company's investment in New Pacific Metals, classified as a short-term investment, increased by $32.1 million in the quarter.

2019 annual operating cash flows of $282.0 million, which included $82.6 million in tax payments and a $27.9 million use of cash from working capital changes, was sufficient to finance the Company's investments in mineral property plant and equipment of $205.8 million, dividends of $29.3 million and lease payments of $19.3 million during the year. The other significant financing and investing activity cash outflows in the year included the cash component of the consideration paid to Tahoe shareholders of $ 247.5 million ($275 million less cash acquired of $27.5 million), proceeds from the Credit Facility of $335 million, repayment of the Tahoe credit facility of $125 million and subsequent repayments of the Credit Facility of $60 million. Additionally, the Company's investment in New Pacific Metals, classified as a short-term investment, increased by $80.6 million in the year.

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, 2019 of $517.2 million increased by $58 million from September 30, 2019. The strengthening working capital was mainly attributable to the $61.3 million liquidity increase described above, along with a $17.8 million increase in inventories, partially offset by a $11.1 million increase in current liabilities. Since December 31, 2018, working capital increased $119.4 million, primarily from: the $25.8 million liquidity increase described above; a $72.7 million increase in trade and other receivables, and $132 million higher inventory, all partially offset by a net $138.1 million increase in current 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.

In February 2019, in part related to the Tahoe Acquisition discussed in the "Tahoe Acquisition" section of this MD&A, the Company amended and extended its Credit Facility. The amended Credit Facility was 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 Credit 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$335 million under the Credit Facility, 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 repaid $60 million against the Credit Facility prior to December 31, 2019, bring the drawn balance to $275 million at the end of 2019 (2018 - $nil). The Company was in compliance with all covenants required by the Credit Facility.

The Company’s financial position at December 31, 2019, 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 2020 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. The Company has no off-balance sheet arrangements.

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 2019	Within 1 year	2 - 3 years	4- 5 years	After 5 years	Total
Financial liabilities					
Accounts payable and accrued liabilities other than:	$ 221,488	$ —	$ —	$ —	$ 221,488
Severance accrual	994	5,967	772	109	7,842
Employee compensation	2,848	—	—	—	2,848
Total accounts payable and accrued liabilities	225,330	5,967	772	109	232,178
Debt					
Credit facility	—	—	275,000	—	275,000
Interest	12,952	27,040	—	—	39,992
Provisions(1)(2)	3,979	633	1,350	967	6,929
Income taxes payable	24,770	—	—	—	24,770
Lease obligations	16,221	15,906	7,193	21,675	60,995
Future employee compensation	1,444	8,711	—	—	10,155
Total contractual obligations(2)	**$ 284,696**	**$ 58,257**	**$ 284,315**	**$ 22,751**	**$ 650,019**

(1) Total litigation provision as further discussed in Note 17 of the 2019 Financial Statements.
(2) Amounts above do not include payments related to the Company's anticipated closure and decommissioning obligation (current $3.4 million, long-term $185.1 million) as discussed in Note 17 of the 2019 Financial Statements (2018 - current $1.9 million, long-term $68.6 million), the deferred credit arising from the Aquiline acquisition ($20.8 million) (2018 - $20.8 million) discussed in Note 20 of the 2019 Financial Statements, and deferred tax liabilities of $176.8 million (2018 - $148.8 million).

Outstanding Share Amounts

As at December 31, 2019, the Company had approximately 1.1 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 $97.26 and a weighted average life of 23 months. Approximately 1.0 million of the stock options were vested and exercisable at December 31, 2019, with an average weighted exercise price of CAD $35.16 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, 2020
Common shares	210,002,117
Options (1)	498,878
Total	**210,500,995**

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.

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, 2019 was $290.4 million (December 31, 2018 - $159.1 million) using inflation rates of between 0% and 5% (2018 - between 2% and 17%). The inflated and discounted provision on the statement of financial position as at December 31, 2019, using discount rates between 2% and 9% (December 31, 2018 - between 2% and 22%), was $188.5 million (December 31, 2018 - $70.6 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 2019 were primarily a result of liabilities for the acquired Tahoe mines, 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 of the discount charged in Q4 2019 and 2019 earnings as finance expense were $2.6 million and $9.9 million, respectively (Q4 2018 and 2018 - $1.6 million and $6.5 million, respectively). Reclamation expenditures incurred during Q4 2019 and 2019 were $0.5 million and $2.3 million, respectively (Q4 2018 and 2018 - $2.0 million and $7.8 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 14 of the 2019 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

Per Ounce Measures

Cash Costs and AISC are non-GAAP financial measures that do not have any standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies.

Pan American produces by-product metals incidentally to our silver and gold mining activities. We have adopted the practice of calculating a performance measure with the net cost of producing an ounce of silver and gold, our primary payable metals, after deducting revenues gained from incidental by-product production. 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.

Silver segment Cash Costs and AISC are calculated net of credits for realized revenues from all metals other than silver ("silver segment by-product credits"), and are calculated per ounce of silver sold. Gold segment Cash Costs and AISC are calculated net of credits for realized silver revenues ("gold segment by-product credits"), and are calculated per ounce of gold sold. Consolidated Cash Costs and AISC are based on total silver ounces sold and are net of by-product credits from all metals other than silver ("silver basis consolidated by-product credits").

Prior period cash costs per ounce reported in previous news releases and MD&As were based on cash costs per ounce of payable silver produced and were net of by-product credits calculated with average market prices applied to all metals produced other than silver. Given the increased complexity of the business with the addition of the new gold operations, the Company determined that conforming the calculation of Cash Costs with a consistent method to that used for AISC, using realized by-product sales as by-product credits and based on per ounce of silver sold, would provide a more consistent per-ounce measure; as such, the comparative Cash Costs amounts in this MD&A have been quantified using the current methodology and are different from those previously reported. As shown in the detailed quantification of consolidated AISC below, corporate general and administrative expense, and exploration and project development expenses are included in the calculation of consolidated (silver basis) AISC, but are not allocated amongst the operations and thus are not included in either the silver or gold segment AISC totals. In prior years these costs were similarly included only in the consolidated all-in-sustaining costs per silver ounce sold ("AISCSOS") metrics and not allocated to each mine's AISCSOS amount; as such, consolidated AISCSOS in previous years included such costs, where total silver segment AISC in the current period does not. A detailed description of how previously reported Cash Costs were quantified is provided in the Company's prior period MD&As.

Cash costs per ounce metrics, 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. Cash costs per ounce is conceptually understood and widely reported in the mining industry.

We believe that AISC, also calculated net of by-products, is a comprehensive measure of the full cost of operating our business, given it includes the cost of replacing silver and gold 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 these measures as calculated by the Company, the following tables provide the detailed reconciliation of these measures to the applicable cost items as reported in the consolidated financial statements for the respective periods. All operating results from the mines acquired in the Tahoe acquisition only include results from February 22, 2019 to December 31, 2019 and the year-to-date amounts do not represent a full twelve months of operations.

Consolidated Cash Costs and AISC:

	Three months ended December 31, 2019				Three months ended December 31, 2018[1,2]		
(In thousands of USD, except as noted)	Silver Segment	Gold Segment	Corporate	Consolidated (silver basis)[3]	Silver Segment	Corporate	Consolidated (silver basis)
Production Costs	**136,443**	**93,151**		**229,594**	**132,334**		**132,334**
Purchase Price Allocation Inventory Fair Value Adjustment		(1,683)		(1,683)			
Net Realizable Value Adjustments	(486)	—		(486)	(13,263)		(13,263)
Direct Operating Costs	**135,957**	**91,468**		**227,425**	**119,070**		**119,070**
Royalties	6,024	1,912		7,936	4,601		4,601
Smelting, refining and other direct selling charges [4]	21,148	326		21,474	14,614		14,614
Cash Costs before By-product Credits	**163,129**	**93,706**		**256,835**	**138,285**		**138,285**
Silver segment by-product credits [4]	(113,555)	—		—	(107,468)		
Gold segment by-product credits [4]	—	(690)		—	—		
Consolidated silver basis by-product credits [4]	—	—		(312,015)	—		(107,468)
Cash Costs	**49,573**	**93,016**		**(55,180)**	**30,817**		**30,817**
Net Realizable Value Adjustments	486	—		486	13,263		13,263
Sustaining capital [1]	19,584	26,603		46,187	31,150		31,150
Exploration	929	633	1,000	2,562	1,133	2,375	3,509
Reclamation cost accretion	1,652	777	154	2,583	1,475	156	1,631
General & Administrative expense	—	—	10,009	10,009		5,450	5,450
All In Sustaining Costs	**72,225**	**121,029**	**11,163**	**6,648**	**77,839**	**7,981**	**85,821**
Silver Segment Silver Ounces Sold	6,352	—		—	5,299		—
Gold Segment Gold Ounces Sold	—	134		—	—		—
Total Silver Ounces Sold	—	—		6,392	—		5,299
Cash Costs per Ounce Sold [5]	**7.80**	**693**		**(8.63)**	**5.82**		**5.82**
All-In Sustaining Costs per Ounce Sold	**11.37**	**901**		**1.04**	**14.69**		**16.19**
All-In Sustaining Costs per Ounce Sold (Excludes NRV Adj.) [7]	**11.29**	**901**		**0.96**	**12.19**		**13.69**

(1) 2018 AISC per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the Company to calculate the 2019 AISC per ounce sold. The change in methodology relates to the sustaining capital calculation to account for the adoption of IFRS 16, and the inclusion of lease payments. Previously, leased assets were included as sustaining capital in the period of acquisition, while future related lease payments were excluded.

(2) Production costs used to calculate 2018 and Q4 2018 AISC 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.

(3) Consolidated silver basis calculated by treating all revenues from metals other than silver, including gold, as a by-product credit in Cash Costs. Total silver basis consolidated by-product credits include all silver segment by-product credits, as well as gold revenues from the Gold Segment mines as by-products. Total silver ounces sold likewise includes silver ounces sold from Gold Segment operations.

See next page for Notes 4, 5, 6, 7 and 8.

(In thousands of USD, except as noted)	Year ended December 31, 2019[6]				Year ended December 31, 2018[1,2]		
	Silver Segment	Gold Segment [6]	Corporate	Consolidated (silver basis)[3]	Silver Segment	Corporate	Consolidated (silver basis)
Production Costs	**516,642**	**324,655**		**841,297**	**511,793**		**511,793**
Purchase Price Allocation Inventory Fair Value Adjustment		(43,395)		(43,395)			
Net Realizable Value Adjustments	356	—		356	(24,330)		(24,330)
Direct Operating Costs	**516,998**	**281,260**		**798,257**	**487,462**		**487,462**
Royalties	21,413	5,308		26,721	20,673		20,673
Smelting, refining and other direct selling charges [4]	72,898	953		73,851	53,119		53,119
Cash Costs before By-product Credits	**611,309**	**287,521**		**898,829**	**561,255**		**561,255**
Silver segment by-product credits [4]	(454,472)	—		—	(483,325)		
Gold segment by-product credits [4]	—	(1,968)		—	—		
Consolidated silver basis by-product credits [4]	—	—		(1,019,548)	—		(483,325)
Cash Costs	**156,836**	**285,553**		**(120,718)**	**77,930**		**77,930**
Net Realizable Value Adjustments	(356)	—		(356)	24,330		24,330
Sustaining capital [1]	90,632	88,464		179,096	106,913		106,913
Exploration[8]	3,195	3,404	3,204	9,803	4,476	6,661	11,138
Reclamation cost accretion	6,605	2,637	661	9,903	5,902	622	6,524
General & Administrative expense			31,752	31,752		22,649	22,649
All In Sustaining Costs	**256,913**	**380,058**	**35,617**	**109,480**	**219,551**	**29,932**	**249,484**
Silver Segment Silver Ounces Sold	24,559	—		—	23,160		—
Gold Segment Gold Ounces Sold	—	401		—	—		—
Total Silver Ounces Sold	—	—		24,676	—		23,160
Cash Costs per Ounce Sold [5]	**6.39**	**712**		**(4.89)**	**3.36**		**3.36**
All-In Sustaining Costs per Ounce Sold	**10.46**	**948**		**4.44**	**9.48**		**10.77**
All-In Sustaining Costs per Ounce Sold (Excludes NRV Adj.)[7]	**10.48**	**948**		**4.45**	**8.43**		**9.72**

Notes 1, 2 and 3 provided on previous page.

(4) Included in the revenue line of the consolidated income statements. By-product credits are reflective of realized metal prices for the applicable periods.

(5) Cash costs per ounce sold are calculated based on Cash Costs, net of by-product credits divided by per ounce of silver sold and are therefore different than previously reported 2018 "Cash Costs" which were calculated based on cash costs net of by-product credits divided by payable silver ounces produced. The 2018 cash costs per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the Company to calculate the 2019 Cash Cost per ounce sold.

(6) All operating results from the mines acquired in connection with the Tahoe Acquisition are only from February 22, 2019 to December 31, 2019, and do not represent a full twelve months of operations.

(7) The Company makes net realizable value ("NRV") adjustments, when necessary, to ensure inventory costs do not exceed their estimated selling prices less the estimated costs of completion and sale.

(8) The amounts for 2019 year-to-date exclude $1.9 million from non-cash project development write-downs.

Sustaining capital is included in AISC, while capital related to growth projects or acquisitions (referred to by the Company as project or investment capital) is not. Inclusion of only sustaining capital in the AISC measure reflects the capital costs associated with current ounces sold as opposed to project capital, which is expected to increase future production.

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)	**2019**	2018	**2019**	2018
Payments for mineral properties, plant and equipment[1]	**50,319**	42,302	**205,807**	144,348
Add/(Subtract)				
Advances received for leases	**5,726**	2,223	**19,270**	7,911
Non-Sustaining capital	**(9,857)**	(13,375)	**(45,980)**	(45,346)
Sustaining Capital	**46,187**	31,150	**179,096**	106,913

(1) As presented on the unaudited interim consolidated statements of cash flows.

Silver Segment Cash Costs and AISC by mine:

SILVER SEGMENT	Three months ended December 31, 2019						
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Silver Segment
Production Costs	18,049	42,949	19,680	19,787	12,336	23,642	136,443
NRV inventory adjustments	—	(435)	—	—	—	(51)	(486)
On-site direct operating costs	**18,049**	**42,513**	**19,680**	**19,787**	**12,336**	**23,591**	**135,957**
Royalties	179	2,126	—	—	3,494	224	6,024
Smelting, refining & direct selling costs	4,775	21	5,592	4,091	4,509	2,160	21,148
Cash Costs before by-product credits	**23,003**	**44,660**	**25,272**	**23,878**	**20,339**	**25,975**	**163,128**
Silver segment by-product credits	(15,399)	(40,958)	(21,339)	(18,296)	(5,942)	(11,621)	(113,555)
Cash Costs	**7,604**	**3,702**	**3,934**	**5,582**	**14,396**	**14,354**	**49,572**
NRV inventory adjustments	—	435	—	—	—	51	486
Sustaining capital	1,957	8,106	2,834	3,945	2,048	696	19,584
Exploration and project development	565	274	—	51	—	39	929
Reclamation cost accretion	144	560	181	109	78	580	1,652
All-in sustaining costs	**10,269**	**13,077**	**6,949**	**9,687**	**16,522**	**15,720**	**72,224**
Silver segment silver ounces sold (koz)	**1,770**	**1,402**	**736**	**515**	**1,001**	**928**	**6,352**
Cash cost per ounce sold	**4.30**	**2.64**	**5.34**	**10.85**	**14.38**	**15.47**	**7.80**
AISC per ounce sold	**5.80**	**9.33**	**9.44**	**18.83**	**16.50**	**16.94**	**11.37**
AISC per ounce sold (excluding NRV inventory adjustments)	**5.80**	**9.02**	**9.44**	**18.83**	**16.50**	**16.88**	**11.29**

SILVER SEGMENT[1]	Three Months Ended December 31, 2018						
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Silver Segment
Production Costs	16,947	51,107	19,707	16,096	6,984	21,494	132,334
NRV inventory adjustments	—	(11,440)	—	—	—	(1,822)	(13,263)
On-site direct operating costs	**16,947**	**39,667**	**19,707**	**16,096**	**6,984**	**19,671**	**119,070**
Royalties	130	1,642	—	—	2,554	275	4,601
Smelting, refining & direct selling costs	2,050	31	6,061	2,524	1,816	2,132	14,614
Cash Costs before by-product credits	**19,127**	**41,340**	**25,768**	**18,620**	**11,354**	**22,078**	**138,285**
Silver segment by-product credits	(14,749)	(35,862)	(23,696)	(19,013)	(6,231)	(7,917)	(107,468)
Cash Costs	**4,378**	**5,479**	**2,073**	**(394)**	**5,123**	**14,161**	**30,817**
NRV inventory adjustments	—	11,440	—	—	—	1,822	13,263
Sustaining capital	5,364	13,255	6,099	4,357	1,637	436	31,150
Exploration and project development	711	241	7	123	—	51	1,133
Reclamation cost accretion	114	351	152	87	63	708	1,475
All-in sustaining costs	**10,567**	**30,766**	**8,331**	**4,173**	**6,823**	**17,178**	**77,839**
Silver segment silver ounces sold (koz)	**1,780**	**870**	**858**	**674**	**502**	**615**	**5,299**
Cash cost per ounce sold[2]	**2.46**	**6.30**	**2.42**	**(0.58)**	**10.20**	**23.03**	**5.82**
AISC per ounce sold	**5.93**	**35.36**	**9.71**	**6.19**	**13.59**	**27.94**	**14.69**
AISC per ounce sold (excluding NRV inventory adjustments)	**5.93**	**22.21**	**9.71**	**6.19**	**13.59**	**24.98**	**12.19**

SILVER SEGMENT	Year ended December 31, 2019						
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morocoha	San Vicente	Manantial Espejo	Consolidated Silver Segment
Production Costs	74,544	183,058	76,962	73,396	46,456	62,226	516,642
NRV inventory adjustments	—	(7,885)	—	—	—	8,240	356
On-site direct operating costs	**74,544**	**175,174**	**76,962**	**73,396**	**46,456**	**70,466**	**516,998**
Royalties	595	8,264	—	—	11,348	1,206	21,413
Smelting, refining & direct selling costs	17,420	106	21,088	15,675	11,871	6,738	72,898
Cash Costs before by-product credits	**92,559**	**183,544**	**98,050**	**89,071**	**69,675**	**78,410**	**611,309**
Silver segment by-product credits	(69,905)	(168,333)	(84,544)	(78,907)	(22,573)	(30,211)	(454,472)
Cash Costs	**22,654**	**15,211**	**13,506**	**10,164**	**47,102**	**48,200**	**156,836**
NRV inventory adjustments	—	7,885	—	—	—	(8,240)	(356)
Sustaining capital	9,721	49,660	10,936	12,599	4,960	2,757	90,632
Exploration and project development	1,445	1,105	13	327	—	305	3,195
Reclamation cost accretion	576	2,240	723	436	311	2,319	6,605
All-in sustaining costs[(1)]	**34,396**	**76,100**	**25,178**	**23,526**	**52,373**	**45,341**	**256,913**
Silver segment silver ounces sold (koz)	**7,583**	**4,924**	**3,253**	**2,335**	**4,003**	**2,460**	**24,559**
Cash cost per ounce sold	**2.99**	**3.09**	**4.15**	**4.35**	**11.77**	**19.59**	**6.39**
AISC per ounce sold	**4.54**	**15.45**	**7.74**	**10.08**	**13.08**	**18.43**	**10.46**
AISC per ounce sold (excluding NRV inventory adjustments)	**4.54**	**13.85**	**7.74**	**10.08**	**13.08**	**21.78**	**10.48**

SILVER SEGMENT[(1)]	Year ended December 31, 2018						
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morocoha	San Vicente	Manantial Espejo	Consolidated Silver Segment
Production Costs	70,248	179,165	75,382	68,068	33,461	85,468	511,793
NRV inventory adjustments		(24,567)				238	(24,330)
On-site direct operating costs	**70,248**	**154,598**	**75,382**	**68,068**	**33,461**	**85,705**	**487,462**
Royalties	616	7,991	—	—	9,943	2,124	20,673
Smelting, refining & direct selling costs	8,537	129	21,326	13,313	7,451	2,363	53,119
Cash Costs before by-product credits	**79,401**	**162,718**	**96,708**	**81,381**	**50,855**	**90,192**	**561,256**
Silver segment by-product credits	(63,442)	(170,337)	(91,155)	(93,142)	(20,829)	(44,420)	(483,325)
Cash Costs	**15,959**	**(7,618)**	**5,553**	**(11,761)**	**30,026**	**45,772**	**77,931**
NRV inventory adjustments	—	24,567	—	—	—	(238)	24,330
Sustaining capital	15,462	48,842	17,761	15,038	6,983	2,827	106,913
Exploration and project development	880	1,594	660	598	—	744	4,476
Reclamation cost accretion	457	1,405	609	347	252	2,832	5,902
All-in sustaining costs	**32,758**	**68,790**	**24,583**	**4,222**	**37,261**	**51,937**	**219,552**
Silver segment silver ounces sold (koz)	**7,069**	**4,205**	**3,094**	**2,652**	**3,054**	**3,086**	**23,160**
Cash cost per ounce sold[(2)]	**2.26**	**(1.81)**	**1.79**	**(4.43)**	**9.83**	**14.83**	**3.36**
AISC per ounce sold	**4.63**	**16.36**	**7.95**	**1.59**	**12.20**	**16.83**	**9.48**
AISC per ounce sold (excluding NRV inventory adjustments)	**4.63**	**10.52**	**7.95**	**1.59**	**12.20**	**16.91**	**8.43**

(1) 2018 AISC per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the company to calculate the 2019 AISC per ounce sold. The change in methodology relates to the sustaining capital calculation to account for the adoption of IFRS 16, and sustaining capital now includes lease payments. Previously leased assets were included as sustaining capital in the period of acquisition, while future related lease payments were excluded.

(2) Cash costs per ounce sold are calculated based on Cash Costs, net of by-product credits divided by per ounce of silver sold and are therefore different from previously reported 2018 "Cash Costs" which were calculated based on cash costs net of by-product credits divided by payable silver ounces produced. The 2018 cash costs per ounce sold included in the table above have been calculated and presented as comparative amounts to conform to the methodology used by the company to calculate the 2019 cash cost per ounce sold.

Gold Segment Cash Costs and AISC by mine:

GOLD SEGMENT	Three months ended December 31, 2019			
(In thousands of USD, except as noted)	Shahuindo	La Arena	Timmins[(1)]	Total
Production Costs	25,375	28,603	39,173	93,151
Purchase Price Allocation Inventory Fair Value Adjustment	(916)	(750)	(17)	(1,683)
NRV inventory adjustments	—	—	—	—
On-site direct operating costs	**24,459**	**27,853**	**39,156**	**91,468**
Royalties	—	—	1,912	1,912
Smelting, refining & direct selling costs	173	118	35	326
Cash Costs before by-product credits	**24,632**	**27,971**	**41,103**	**93,706**
Gold segment by-product credits	(507)	(92)	(91)	(690)
Cash Costs of Sales	**24,125**	**27,879**	**41,012**	**93,016**
NRV inventory adjustments	—	—	—	—
Sustaining capital	14,156	8,382	4,066	26,603
Exploration and project development	82	33	518	633
Reclamation cost accretion	290	447	40	777
All-in sustaining costs	**38,653**	**36,740**	**45,636**	**121,030**
Gold segment gold ounces sold	**39,849**	**48,062**	**46,400**	**134,310**
Cash cost per ounce sold	**605**	**580**	**884**	**693**
AISC per ounce sold	**970**	**764**	**984**	**901**
AISC per ounce sold (excluding NRV inventory adjustments)	**970**	**764**	**984**	**901**

GOLD SEGMENT	Year ended December 31, 2019			
(In thousands of USD, except as noted)	Shahuindo	La Arena	Timmins[(1)]	Total
Production Costs	90,877	99,915	133,863	324,655
Purchase Price Allocation Inventory Fair Value Adjustment	(14,003)	(19,978)	(9,414)	(43,395)
NRV inventory adjustments	—	—	—	—
On-site direct operating costs	**76,874**	**79,937**	**124,449**	**281,260**
Royalties	—	—	5,308	5,308
Smelting, refining & direct selling costs	501	345	107	953
Cash Costs before by-product credits	**77,375**	**80,282**	**129,864**	**287,521**
Gold segment by-product credits	(1,411)	(278)	(279)	(1,968)
Cash Costs of Sales	**75,964**	**80,004**	**129,585**	**285,553**
NRV inventory adjustments	—	—	—	—
Sustaining capital	29,873	47,557	11,035	88,464
Exploration and project development	787	358	2,259	3,404
Reclamation cost accretion	983	1,515	139	2,637
All-in sustaining costs	**107,607**	**129,434**	**143,019**	**380,059**
Gold segment gold ounces sold	**133,298**	**124,206**	**143,300**	**400,804**
Cash cost per ounce sold	**570**	**644**	**904**	**712**
AISC per ounce sold	**807**	**1,042**	**998**	**948**
AISC per ounce sold (excluding NRV inventory adjustments)	**807**	**1,042**	**998**	**948**

(1) Timmins refers to the Timmins West and Bell Creek mines.

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, 2019 and 2018, to the net earnings for each period.

	Three Months Ended December 31,		Year ended December 31,	
(In thousands of USD, except as noted)	2019	2018	2019	2018
Net earnings for the period	$ 51,706	$ (63,577)	$ 111,244	$ 12,041
Adjust for:				
Loss on derivatives	—	60	14	1,078
Impairment charges	40,050	27,789	40,050	27,789
Write-down of project development costs	—	—	1,882	—
Unrealized foreign exchange losses	(1,395)	(348)	6,057	10,337
Net realizable value adjustments to heap inventory	4,128	12,977	29,833	24,082
Unrealized gains on commodity and foreign currency contracts	(1,046)	765	(646)	(2,481)
Share of income from associate and dilution gain	(14,246)	182	(15,245)	(13,679)
Reversal of previously accrued tax liabilities	—	—	—	(1,188)
Metal inventory loss	—	4,670	—	4,670
Gains on sale of mineral properties, plant and equipment	(1,040)	56	(3,858)	(7,973)
Closure and decommissioning liability adjustment	—	2,832	—	2,832
Transaction and integration costs	(197)	10,229	7,515	10,229
Adjust for effect of taxes relating to the above	(1,455)	(5,832)	(11,208)	(9,914)
Adjust for effect of foreign exchange on taxes	(7,597)	8,175	(7,651)	1,611
Adjusted earnings for the period	$ 68,908	$ (2,022)	$ 157,987	$ 59,434
Weighted average shares for the period	209,671	153,352	201,397	153,315
Adjusted earnings per share for the period	$ 0.33	$ (0.01)	$ 0.78	$ 0.39

Total Debt

Total debt is a non-GAAP measure calculated as the total current and non-current portions of long-term debt (including amounts drawn on the Revolving Credit Facility), 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.

Capital

Capital is a non-GAAP measure and is calculated as total equity plus total debt less cash and cash equivalents and short term investments. 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 the enterprise value 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, gold, zinc, lead, and copper; 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 Canada, Peru, Mexico, Argentina, Bolivia and Guatemala; 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 2019 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 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 2019 Financial Statements under Note 9 "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:

Metal Price Fluctuations

The majority of our revenue is derived from the sale of silver, gold, zinc, copper and lead, and therefore fluctuations in the price of these metals significantly affects our operations and profitability. Our sales are directly dependent on metal prices, and metal prices have historically shown significant volatility and are beyond our control. The Board of Directors 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.

2020 Revenue Metal Price Sensitivity

		Gold Price						
		$1,225	$1,325	$1,425	$1,525	$1,625	$1,725	$1,825
Silver Price	$14.50	83%	87%	91%	95%	99%	103%	107%
	$15.50	85%	89%	93%	97%	101%	105%	109%
	$16.50	86%	90%	94%	98%	102%	106%	111%
	$17.50	88%	92%	96%	**100%**	104%	108%	112%
	$18.50	89%	94%	98%	102%	106%	110%	114%
	$19.50	91%	95%	99%	103%	107%	111%	115%
	$20.50	93%	97%	101%	105%	109%	113%	117%

Since base metal and gold revenue are treated as a by-product credit for purposes of calculating Cash Costs per ounce of silver sold and AISC, these non-GAAP measures are highly sensitive to base metal and gold prices. The table below illustrates this point by plotting the expected AISC per ounce according to our 2020 guidance against various price assumptions for the Company's two main by-product credits, zinc and gold, expressed in percentage terms:

2020 AISC Metal Price Sensitivity

		Gold Price						
		$1,225	$1,325	$1,425	$1,525	$1,625	$1,725	$1,825
Zinc Price	$2,050	260%	210%	161%	112%	62%	13%	(36)%
	$2,150	256%	206%	156%	107%	58%	9%	(40)%
	$2,250	252%	202%	153%	103%	54%	5%	(44)%
	$2,350	248%	198%	149%	**100%**	51%	2%	(47)%
	$2,450	245%	195%	146%	97%	47%	(2)%	(51)%
	$2,550	241%	192%	142%	93%	44%	(5)%	(54)%
	$2,650	238%	188%	139%	90%	41%	(9)%	(58)%

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.

In addition to general global economic conditions that can have a severely damaging effect on our business in many ways, declining market prices for 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 13 of Pan American's Audited Consolidated Financial Statements for the year ended December 31, 2019. 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.

The Board of Directors continually assesses Pan American's strategy towards our base metal exposure, depending on market conditions. 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. As at December 31, 2019 the Company had no outstanding contracts to sell base metal production.

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 of Directors may make exceptions to this approach. Such decisions could have material adverse effects upon our financial performance, financial position, and results of operations.

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. We continued to sell copper concentrates to other buyers but on inferior terms. 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, 2019, we had receivable balances associated with buyers of our concentrates of $48.8 million (2018 - $40.8 million) and receivable balances associated with buyers of our doré of $17.5 million (2018 - $nil). The vast majority of our concentrate is sold to a limited number of concentrate buyers.

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 and we are pursuing a claim to collect damages, but, like many other creditors, we may also be subject to alleged preference claims against us. As at December 31, 2019, we had approximately $58.2 million (2018 - $19.7 million) contained in precious metal inventory

at refineries. We maintain insurance coverage against the loss of precious metals at our mine sites and in-transit to 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 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 we operate. These advances represent a credit risk to us to the extent that suppliers do not deliver products or perform services as expected. As at December 31, 2019, we had made $3.4 million of supplier advances (2018 - $14.4 million), which are reflected in "Trade and other receivables" on Pan American'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.

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 our 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, we mitigate part of this currency exposure by accumulating local currencies, entering into contracts designed to fix or limit our 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.

Pan American held cash and short-term investments of $123.4 million in Canadian dollars, $5.2 million in Mexican pesos, $2.4 million in Peruvian soles, $3.7 million in Argentine pesos, $3.4 million in Bolivian bolivianos, and $0.4 million in Guatemalan quetzals as at December 31, 2019.

As at December 31, 2019, Pan American had outstanding positions on $12.0 million in foreign currency exposure of Mexican peso ("MXN") purchases, $60.0 million of Peruvian sol ("PEN") purchases, and $30.0 million of Canadian dollar ("CAD") purchases. MXN purchases had put rates of 19.50 and call rates ranging from $20.82 to $21.59 expiring between January 2020 and December 2020. PEN purchases had put rates of $3.35 and call rates ranging from $3.40 to $3.55 expiring between January 2020 and December 2020. And, CAD purchases had put rates of $1.30 and call rates of $1.37 expiring between January 2020 and December 2020.

For the year ended December 31, 2019, the Company recorded gains of $1.0 million (2018 - gains of $0.7 million), $0.7 million (2018 - $nil), and $0.3 million (2018 - $nil) on MXN, PEN, and CAD derivative contracts, respectively.

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 2020, expressed in percentage terms:

2020 Cost of Sales Exchange Rate Sensitivity

		MXN/USD						
		$18.00	$18.50	$19.00	$19.50	$20.00	$20.50	$21.00
PEN/USD	$3.04	102%	102%	102%	102%	101%	101%	101%
	$3.14	102%	102%	101%	101%	101%	101%	100%
	$3.24	101%	101%	101%	101%	100%	100%	100%
	$3.34	101%	101%	100%	**100%**	100%	100%	99%
	$3.44	100%	100%	100%	100%	99%	99%	99%
	$3.54	100%	100%	99%	99%	99%	99%	98%
	$3.64	99%	99%	99%	99%	98%	98%	98%

Our 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 our 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.

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 are required to use a portion of our cash flow to service principal and interest on 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.

Taxation Risks

In addition to the risks relating to taxation discussed under the heading "Governmental Regulation", we are also exposed to other tax related risks. In assessing the probability of realizing income tax assets recognized, we make 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 our 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 us 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 are from current or ex-employees, or employees of former or current owners of our operations such as the Quiruvilca-related claims in Peru, some of which involve claims of significant value, and include alleged improper dismissals, workplace illnesses, such as silicosis, and claims for additional profit-sharing and bonuses in prior years. In some cases, we 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 the subject of three purported class action lawsuits filed in the United States that center primarily around alleged misrepresentations. These U.S. class action lawsuits were later consolidated into one class action suit that is ongoing. 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, or environmental or social damage, and such claimants may seek sizeable monetary damages against us and/or the return of surface or mineral rights or revocation of permits and licenses 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 us. 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

In 2019, a significant portion 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, sometimes unexpectedly or as a result of precipitous events, 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;
- limitations on repatriation of operating cash flows, including legal and practical restrictions to transfer funds from foreign jurisdictions;
- unreliable or undeveloped infrastructure;
- labour unrest and scarcity;
- human rights violations including indigenous rights claims;
- 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 Guatemala and Bolivia.

Some communities and non-governmental organizations ("NGOs") have been vocal and active in their opposition to mining and exploration activities in Guatemala. In July 2017, the Escobal mining license was suspended as a result of a court proceeding initiated by an NGO in Guatemala, based upon the allegation that Guatemala's Ministry of Energy and Mines ("MEM") violated the Xinka indigenous people's right of consultation. After several decisions and appeals on the matter, a decision of the Constitutional Court of Guatemala was rendered on September 3, 2018, determining that the Escobal mining license would remain suspended until the Guatemala MEM completes an ILO 169 consultation. The consultation process is proceeding, with the pre-consultation stage underway. Normal operations at Escobal mine remain suspended. Legal challenges to the consultation process have been filed with the Guatemalan Supreme Court and the outcome of those challenges is unknown. The process and timing for completing the ILO 169 consultation remains uncertain. In addition, in June 2017, the Company's wholly owned subsidiary Minera San Rafael S.A. ("MSR") which owns the Escobal mine, filed its annual request to renew the Escobal mine's export credential with the Guatemala MEM. However, the Guatemala MEM did not renew the export credential because its renewal had become contingent on the Supreme Court's reinstatement of the Escobal mining license. The export credential therefore expired in August 2017 and has not been renewed.

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 the Mining Corporation of Bolivia "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 migration process has been delayed by COMIBOL and has not been

completed. 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.

Criminal activity and violence are also prevalent in some areas that we work in. For example, violence in Mexico is well documented and has, over time, been increasing. Conflicts between the drug cartels and violent confrontations with authorities are not uncommon. Operations at our Dolores mine were temporarily curtailed in 2018 as a result of such violence and the threat of violence on the access roads to the mine. Other criminal activity, such as kidnapping and extortion, is also an ongoing concern. Many incidents of crime and violence go unreported and efforts by police and other authorities to reduce criminal activity are challenged by a lack of resources, corruption and the pervasiveness of organized crime. Incidents of criminal activity have occasionally affected our employees and our contractors and their families, as well as the communities in the vicinity of our operations. Such incidents may prevent access to our mines or offices; halt or delay our operations and production; result in harm to employees, contractors, visitors or community members; increase employee absenteeism; create or increase tension in nearby communities; or otherwise adversely affect our ability to conduct business. We can provide no assurance that security incidents, in the future, will not have a material adverse effect on our operations.

Challenges also exist with respect to inconsistent application of the rule of law, and to sometimes unreliable and biased legal systems and judiciary. In April 2012, Pan American sold all of its interest in the Quiruvilca mine ("Quiruvilca") in Peru, which was previously owned by our subsidiary, Huaron. Since the 2012 sale, a substantial number of labour-related claims have been made by persons alleging to be former or then-current employees working at the Quiruvilca mine. Notwithstanding that an overwhelming majority of these claims were made exclusively against the subsequent owners of Quiruvilca, that Huaron has not owned or been involved with Quiruvilca for a number of years, and that Huaron was not afforded the opportunity to participate or challenge the assertions in court, the labour courts in Trujillo, Peru, have in many cases, imputed liability on Huaron. In some cases, the courts ordered seizure of monies from Huaron's local bank accounts and garnishment of funds due to Huaron from certain of its trading partners. In August 2018, the current owner of Quiruvilca declared bankruptcy, further exacerbating the situation. Huaron has challenged the basis of the labour court's decisions in Trujillo, and in the Commercial Court and Constitutional Courts of Peru. Pan American believes it has a strong legal position against liability for these claims and intends to continue to vigorously challenge them and enforce certain contractual rights to indemnification. However, there can be no assurance that the outcome of the proceedings or any enforcement of our rights will be favorable to us or that it will not have a material adverse impact on our financial position. Huaron will likely be subject to further labour-related claims, and could also be subject to, directly or indirectly, claims by creditors of the current owner of Quiruvilca and claims relating to the now abandoned mine site, which in aggregate could be material.

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.

Governmental Regulation

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 wastewater;
- 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 previous political regimes 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. While some of these restrictions had begun to ease after the elections in 2015, the government introduced a new export duty in 2018 on silver and gold doré exported from Argentina. In 2019, we paid approximately $3.5 million (2018 - $1.6 million) in export duties, representing an average rate for the export duty of approximately 6%. Following elections in 2019, the new government in Argentina has begun reinstituting some of the previous unfavourable economic policies, such as strict currency controls.

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 $2.0 million in respect of the Zacatecas Tax in 2019 (2018 - $1.2 million). The validity of the Zacatecas Tax has been challenged on constitutional grounds by various parties, including Pan American.

Community Action

The success of our business is, in many ways, dependent on maintaining positive and respectful relationships with communities in the areas where we work. There is an increasing level of public concern relating to the perceived effects of mining activities, particularly on communities and peoples impacted by such activities. Communities and NGOs have become more vocal and active with respect to mining activities at or near their communities. Some communities and NGOs have taken actions that could have a material adverse effect on our operations, such as setting up road closures and commencing lawsuits. In certain circumstances, such actions might ultimately result in the cessation of mining activities and the revocation of permits and licenses. These actions relate not only to current activities, but are often in respect of past activities by prior owners of mining properties. The manner with which we respond to civil disturbances and other activities can give rise to additional risks where those responses are perceived to be inconsistent with international standards, including those with respect to human rights.

On June 18, 2014, seven plaintiffs filed an action against Tahoe in the British Columbia Supreme Court alleging battery and negligence regarding a security incident that occurred at the Escobal mine on April 27, 2013. The plaintiffs sought compensatory and punitive damages. In April 2017, three of the seven plaintiffs settled their claims against Tahoe. On July 30, 2019, we settled, on behalf of Tahoe, the remaining four plaintiffs' claims and the British Columbia Supreme Court action was dismissed.

Since June 7, 2017, a group of protesters near the town of Casillas has blocked the primary highway that connects Guatemala City to San Rafael Las Flores and the Escobal mine that we recently acquired. Operations were reduced between June 8 and June 19, 2017 to conserve fuel, and on July 5, 2017, were ultimately ceased following the Supreme Court's provisional decision to suspend the Escobal mining license while the case against the Guatemala MEM was heard on the merits. A second roadblock was initiated in 2018 near the community of Mataquescuintla. While we have been taking steps to regain trust and repair relationships, there is no guarantee that a positive resolution will be reached.

Pan American is continuing with the implementation of the Mining Association of Canada's "Towards Sustainable Mining" ("TSM"), a program designed to enhance our community engagement processes, drive world-leading environmental practices and reinforce our commitment to the safety and health of our employees and surrounding communities. As part of TSM, we have implemented a response mechanism which helps us manage our social risks by better understanding and responding to community questions or concerns around the perceived or actual impacts of our activities. While we are committed to operating in a responsible manner, there is no assurance that our efforts will be successful at mitigating adverse impacts to our operations, and we may suffer material consequences to our business, including among other things, delays and closures, increased costs, and significant reputational damage.

Title to Assets

The validity of mining or exploration titles or claims or rights, which constitute most of our property holdings, can be uncertain and may be contested. Our properties may be subject to prior unregistered liens, agreements or transfers, indigenous land claims, or undetected title defects. In some cases, we do not own or hold rights to the mineral concessions we mine, including in Bolivia where the government has title to the concessions and our right to mine is contractual in nature. We have not conducted surveys of all the claims in which we hold direct or indirect interests and therefore, the precise area and location of such claims may be in doubt. No assurance can be given that applicable governments will not revoke or significantly alter the conditions of the applicable exploration and mining titles or claims, or that such exploration and mining titles or claims will not be challenged or impugned by third parties. We may be unable to operate our properties as expected, or to enforce our rights to our properties. Any defects in title to our properties, or the revocation of our rights to mine, could have a material adverse effect on our operations and financial condition.

For example, certain individuals have asserted community rights and land ownership over a portion of the La Colorada mine’s surface lands in the Agrarian Courts of Mexico. They have also initiated a process before the Secretariat of Agrarian, Territorial and Urban Development of Mexico’s Federal Government (“SEDATU”) in Zacatecas to declare such lands as national property. In 2019, Pan American filed an amparo against such process and obtained an injunction to protect it’s ownership of these surface rights pending the outcome of the amparo and a further review by SEDATU. If Pan American is unable to acquire or maintain access to those surface rights, there could be material adverse impacts on the La Colorada mine’s future mining operations.

Similarly, in Guatemala, the land title system is not well developed and in many cases, relies on informal, hereditary or possessory rights. Such informal systems can create significant uncertainty in obtaining and maintaining ownership or rights of access, in defining precise locations or clear boundaries to properties, and substantiating rights if challenged. It is also difficult to establish the identity of parties who may have, or purport to have, an interest in such property. Many of the surface areas on which the Escobal mine is located are based on such informal rights. MSR is subject to a legal action by an individual claiming to own title to certain lands within the Escobal mine site that MSR had previously purchased. If we are unable to maintain existing lands and access, or to obtain new lands as required, there may be significant adverse impacts to the mine and its operation.

We operate in countries with developing mining laws, and changes in such laws could materially impact our rights or interests to our properties. We are also subject to expropriation risk in a number of countries in which we operate, including the risk of expropriation or extinguishment of property rights based on a perceived lack of development or advancement. There is limited activity at our Navidad property, for example, as a result of legal restrictions relating to mining, and there is a risk that the federal or provincial governments in Argentina are dissatisfied with a lack of advancement. Expropriation, extinguishment of rights and any other such similar governmental actions would likely have a material adverse effect on our operations and profitability.

In many jurisdictions in which we operate, legal rights applicable to mining concessions are different and separate from legal rights applicable to surface lands. Accordingly, title holders of mining concessions in many jurisdictions must agree with surface land owners on compensation in respect of mining activities conducted on such land. We do not hold title to all of the surface lands at many of our operations and rely on contracts or other similar rights to conduct surface activities.

We do not own most of the surface rights to the areas that overlie our mining concessions comprising the Morococha mine, nor to the areas where administration and operations are taking place, but were used by us pursuant to a usufruct agreement. These surface rights have been the subject of various disputes over the many years of operation at the Morococha mine. In June 2010, we reached an agreement with Minera Chinalco Peru ("MCP") that clearly defines each party’s long-term surface rights and provides for the dismissal of the various judicial and administrative claims, therefore providing more certainty to the land situation for our Morococha mine. The primary focus of the agreement is on the lands and concessions around the Morococha mine and MCP’s Toromocho copper project. Under

the terms of the agreement, Argentum is required to relocate the core Morococha facilities over a 5-year period and transfer certain mineral concessions and access rights to MCP that it needs in order to proceed with the development of the Toromocho project. In exchange, Argentum is to receive periodic cash payments from MCP which would offset a portion of the capital required for the facility relocation, and a package of surface rights, easements, and mineral concessions in order to relocate the facilities and to continue uninterrupted operations. Pursuant to the agreement, the transfer of lands and rights and the cash payments would occur over a period of time and are dependent on meeting certain milestones. During the course of the agreement, however, certain adjustments have been made by the parties with respect to the timing of achieving milestones, in some cases informally, and additional adjustments will be required going forward. As of December 31, 2019, the Morococha facilities had not been relocated within the time period originally established in the agreement, and the parties had not yet agreed on a revised milestone. Although this agreement has diminished the risks associated with the Morococha land situation, there is no certainty that amended milestones can be agreed upon or achieved by the parties, that the relationship will continue in an amicable fashion, and that the future relocation and other costs associated with the commitments in the agreement will not render continued operations at the Morococha mine uneconomic.

General Economic Conditions

General economic conditions may adversely affect our growth, profitability and ability to obtain financing. Events in global financial markets in the past several years have had a profound impact on the global economy. Many industries, including the silver and gold mining industry, have been and continue to be impacted by these market conditions. Some of the key impacts of the current financial market turmoil include contraction in credit markets resulting in a widening of credit risk, devaluations, high volatility in global equity, commodity, foreign exchange and precious metal markets and a lack of market confidence and liquidity. A continued or worsened slowdown in the financial markets or other economic conditions, including but not limited to, consumer spending, employment rates, business conditions, inflation, fuel and energy costs, consumer debt levels, lack of available credit, the state of the financial markets, interest rates and tax rates, may adversely affect our growth, profitability and ability to obtain financing. A number of issues related to economic conditions could have a material adverse effect on our business, financial condition and results of operations, including:

- contraction in credit markets could impact the cost and availability of financing and our overall liquidity;
- the volatility of silver, gold and other metal prices would impact our revenues, profits, losses and cash flow;
- recessionary pressures could adversely impact demand for our production;
- volatile energy, commodity and consumables prices and currency exchange rates could impact our production costs; and
- the devaluation and volatility of global stock markets could impact the valuation of our equity and other securities.

In addition, the current outbreak of the novel coronavirus (COVID-19) that was first reported from Wuhan, China on December 31, 2019, and any future emergence and spread of similar pathogens or the existence of pandemics could have a material adverse effect on global economic conditions which may adversely impact our business and results of operations, and our employees and contractors, and the operations of our suppliers, service providers, including smelter and refining service providers, and the demand for our production. While initially the outbreak was largely concentrated in China and caused significant disruptions to its economy, it has now spread to several other countries and infections have been reported globally. To date, the coronavirus has not spread widely in areas where we have operations. If the coronavirus spreads to those areas, however, it may have a significant adverse impact on our workforce, production levels, and our ability to continue operating some of our mines. Government efforts to curtail the spread of the coronavirus may also result in temporary or long-term suspensions or shut-downs of our operations. The extent to which the coronavirus impacts our operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the outbreak, new information that

may emerge concerning the severity of the coronavirus and the actions taken to contain the coronavirus or treat its impact, among others.

Moreover, the actual and threatened spread of the coronavirus globally could also have a material adverse effect on the regional economies in which we operate, could continue to negatively impact stock markets, including the trading price of our shares, could adversely impact our ability to raise capital, could cause continued interest rate volatility and movements that could make obtaining financing or refinancing our debt obligations more challenging or more expensive and could result in any operations affected by coronavirus becoming subject to quarantine. Any of these developments, and others, could have a material adverse effect on our business and results of operations.

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 5 and Note 6 of the 2019 Financial Statements, respectively.

Readers should also refer to Note 3 of the 2019 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

IFRS 16, 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 has applied IFRS 16 using the modified retrospective approach from January 1, 2019 and has elected to record the transition date right-of-use assets at amounts equal to the present value of the minimum lease payments, on a lease by lease basis. Short-term and low-value recognition exemptions were applied, as well as certain practical expedients allowing for the use of hindsight to assess the lease term for contracts with extension options, the exclusion of initial direct costs from measurement of the Right-of-Use-Assets ("ROU Assets") and the exclusion of leases with a term of less than one year remaining at the transition date.

Policy applicable from January 1, 2019

Lease Definition

At inception of a contract, the Company assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. An identified asset may be implicitly or explicitly specified in a contract, but must be physically distinct, and must not have the ability for substitution by a lessor. The Company has the right to control an identified asset if it obtains substantially all of its economic benefits and either pre-determines, or directs how and for what purpose the asset is used.

Measurement of ROU Assets and Lease Obligations

At lease commencement, the Company recognizes a ROU Asset and a lease obligation. The ROU Asset is initially measured at cost, which comprises the initial amount of the lease obligation adjusted for any lease payments made at, or before, the commencement date, plus any initial direct costs incurred, less any lease incentives received.

The ROU Asset is subsequently amortized on a straight-line basis over the shorter of the term of the lease, or the useful life of the asset determined on the same basis as the Company's property, plant and equipment. The ROU Asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease obligation.

The lease obligation is initially measured at the present value of lease payments remaining at the lease commencement date, discounted using the Company's incremental borrowing rate. Lease payments included in the measurement of the lease obligation, when applicable, may comprise fixed payments, variable payments that depend on an index or rate, amounts expected to be payable under a residual value guarantee and the exercise price under a purchase, extension or termination option that the Company is reasonably certain to exercise.

The lease obligation is subsequently measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease obligation is remeasured, a corresponding adjustment is made to the carrying amount of the ROU Asset.

Recognition Exemptions

The Company has elected not to recognize ROU Assets and lease obligations for short-term leases that have a lease term of twelve months or less or for leases of low-value assets. Payments associated with these leases are recognized as an operating expense on a straight-line basis over the lease term within costs and expenses on the consolidated income statement.

Leases

The Company's leased assets include land, buildings, vehicles, and machinery and equipment with a carrying value of $45.8 million at December 31, 2019. Effective January 1, 2019, the Company adopted IFRS 16 as outlined in Note 18, recognizing $21.4 million of ROU assets, $18.9 million of lease obligations and deferred tax assets/liabilities of $nil.

New and amended IFRS standards not yet effective

New accounting standards and interpretations have been published that are not mandatory for the current period and have not been early adopted. These standards are not expected to have a material impact on the Company in the current or future reporting periods.

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, 2019, 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, 2019, 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, 2019, 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, 2019, 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, 2019. 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, 2019 that has materially affected or is reasonably likely to materially affect, its internal control over financial reporting.

MINERAL RESERVES AND RESOURCES

Pan American Silver Corporation Mineral Reserves as of June 30, 2019 [1,2]										
Property	**Location**	**Classification**	**Tonnes (Mt)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
Silver Segment										
Huaron	Peru	Proven	6.2	168	33.5	N/A	N/A	0.69	1.44	3.02
		Probable	3.7	170	20.1	N/A	N/A	0.33	1.55	3.00
Morococha (92.3%)[3]	Peru	Proven	4.1	147	19.5	N/A	N/A	0.38	1.38	4.03
		Probable	2.2	173	12.3	N/A	N/A	0.31	1.20	3.26
La Colorada	Mexico	Proven	4.0	395	50.8	0.33	42.0	N/A	1.72	3.11
		Probable	5.4	287	49.6	0.26	44.4	N/A	1.35	2.44
Dolores	Mexico	Proven	35.9	26	29.8	0.84	967.4	N/A	N/A	N/A
		Probable	7.8	28	6.9	0.84	210.7	N/A	N/A	N/A
Manantial Espejo	Argentina	Proven	0.8	170	4.6	1.35	36.2	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	1.4	414	18.6	N/A	N/A	0.43	0.35	3.06
		Probable	0.5	345	6.0	N/A	N/A	0.32	0.42	2.71
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
Escobal	Guatemala	Proven	2.5	486	39.5	0.42	34.2	N/A	1.02	1.75
		Probable	22.1	316	225.0	0.34	243.8	N/A	0.77	1.25
Total Silver Segment[4]			**97.5**	**169**	**530.4**	**0.64**	**1,644.1**	**0.47**	**1.10**	**2.24**
Gold Segment										
La Arena	Peru	Proven	27.4	N/A	N/A	0.36	319.4	N/A	N/A	N/A
		Probable	9.5	N/A	N/A	0.30	90.9	N/A	N/A	N/A
Shahuindo	Peru	Proven	69.8	6	14.4	0.51	1,133.2	N/A	N/A	N/A
		Probable	42.8	6	7.8	0.46	629.9	N/A	N/A	N/A
Timmins	Canada	Proven	2.7	N/A	N/A	3.06	269.1	N/A	N/A	N/A
		Probable	7.2	N/A	N/A	3.10	718.6	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
Total Gold Segment[4]			**175.0**	**6**	**26.8**	**0.62**	**3,476.9**	**N/A**	**N/A**	**N/A**
Total Gold and Silver Segments[4]		**Proven + Probable**	**272.5**	**77**	**557.2**	**0.63**	**5,121.1**	**0.47**	**1.10**	**2.24**

(1) See table below entitled "Metal price assumptions used to estimate mineral reserves and resources as at June 30, 2019".
(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. Total average grades of each element are with respect to those mines that produce the element.

Pan American Silver Corporation Measured and Indicated Mineral Resources as of June 30, 2019[1,2]										
Property	**Location**	**Classification**	**Tonnes (Mt)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
Silver Segment										
Huaron	Peru	Measured	2.2	157	11.0	N/A	N/A	0.59	1.50	2.80
		Indicated	2.4	155	12.0	N/A	N/A	0.61	1.64	3.03
Morococha (92.3%)[3]	Peru	Measured	0.3	138	1.2	N/A	N/A	0.29	0.86	2.14
		Indicated	0.3	143	1.6	N/A	N/A	0.20	0.83	2.09
La Colorada	Mexico	Measured	0.5	229	3.8	0.24	4.0	N/A	0.65	1.16
		Indicated	1.6	185	9.6	0.15	7.8	N/A	0.56	1.16
Dolores	Mexico	Measured	2.0	21	1.3	0.35	22.0	N/A	N/A	N/A
		Indicated	1.5	28	1.4	0.56	27.1	N/A	N/A	N/A
Manantial Espejo	Argentina	Measured	0.1	164	0.7	1.65	7.1	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	0.9	161	4.4	N/A	N/A	0.22	0.20	2.27
		Indicated	0.3	158	1.4	N/A	N/A	0.27	0.21	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
Joaquin	Argentina	Indicated	0.1	385	0.7	0.58	1.1	N/A	N/A	N/A
Escobal	Guatemala	Measured	2.3	251	18.6	0.23	16.7	N/A	0.31	0.59
		Indicated	14.2	201	91.6	0.20	93.0	N/A	0.38	0.66
Total Silver Segment[4]			**184.0**	**134**	**792.9**	**0.27**	**195.3**	**0.06**	**0.82**	**1.21**
Gold Segment										
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
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
La Arena	Peru	Measured	1.3	N/A	N/A	0.41	17.5	N/A	N/A	N/A
		Indicated	1.7	N/A	N/A	0.38	20.6	N/A	N/A	N/A
Shahuindo	Peru	Measured	3.7	7	0.8	0.53	63.2	N/A	N/A	N/A
		Indicated	8.4	5	1.5	0.46	123.6	N/A	N/A	N/A
Timmins	Canada	Measured	1.7	N/A	N/A	3.89	212.4	N/A	N/A	N/A
		Indicated	5.4	N/A	N/A	3.41	587.8	N/A	N/A	N/A
La Arena II	Peru	Measured	155.7	N/A	N/A	0.25	1,265.2	0.37	N/A	N/A
		Indicated	586.7	N/A	N/A	0.23	4,371.9	0.35	N/A	N/A
Fenn-Gib	Canada	Indicated	40.8	N/A	N/A	0.99	1,298.6	N/A	N/A	N/A
Whitney	Canada	Measured	1.0	N/A	N/A	7.02	218.1	N/A	N/A	N/A
		Indicated	2.3	N/A	N/A	6.77	490.5	N/A	N/A	N/A
Gold River	Canada	Indicated	0.7	N/A	N/A	5.29	117.4	N/A	N/A	N/A
Juby	Canada	Indicated	26.6	N/A	N/A	1.28	1,094.7	N/A	N/A	N/A
Marlhill	Canada	Indicated	0.4	N/A	N/A	4.52	57.4	N/A	N/A	N/A
Vogel	Canada	Indicated	2.2	N/A	N/A	1.75	125.0	N/A	N/A	N/A
Total Gold Segment[4]			**854.9**	**7**	**4.1**	**0.38**	**10,439.6**	**0.35**	**N/A**	**N/A**
Total Gold and Silver Segments[4]		**Measured + Indicated**	**1,038.8**	**123**	**797.0**	**0.38**	**10,634.9**	**0.30**	**0.82**	**1.21**

(1) See table below entitled "Metal price assumptions used to estimate mineral reserves and resources as at June 30, 2019".
(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. Total average grades of each element are with respect to those mines that produce the element.

Pan American Silver Corporation Inferred Mineral Resources as of June 30, 2019[1,2]										
Property	**Location**	**Classification**	**Tonnes (Mt)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**	**Cu (%)**	**Pb (%)**	**Zn (%)**
Silver Segment										
Huaron	Peru	Inferred	6.2	155	30.8	N/A	N/A	0.41	1.45	2.77
Morococha (92.3%)[3]	Peru	Inferred	4.5	138	19.9	N/A	N/A	0.37	1.02	3.26
La Colorada	Mexico	Inferred	8.1	133	34.5	0.12	31.6	N/A	2.03	4.01
Dolores	Mexico	Inferred	4.0	47	6.0	1.22	156.3	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	3.0	289	27.9	N/A	N/A	0.24	0.38	3.32
Navidad	Argentina	Inferred	45.9	81	119.4	N/A	N/A	0.02	0.57	N/A
Joaquin	Argentina	Inferred	—	389	0.1	1.29	0.2	N/A	N/A	N/A
COSE	Argentina	Inferred	—	382	0.3	7.10	6.3	N/A	N/A	N/A
Escobal	Guatemala	Inferred	1.9	180	10.7	0.90	53.7	N/A	0.22	0.42
Total Silver Segment[4]			**74.0**	**106**	**252.5**	**0.62**	**289.5**	**0.10**	**0.8**	**3.2**
Gold Segment										
La Bolsa	Mexico	Inferred	13.7	8	3.3	0.51	224.6	N/A	N/A	N/A
Pico Machay	Peru	Inferred	23.9	N/A	N/A	0.58	445.7	N/A	N/A	N/A
La Arena	Peru	Inferred	1.1	N/A	N/A	0.30	10.7	N/A	N/A	N/A
Shahuindo	Peru	Inferred	10.0	5	1.6	0.44	140.6	N/A	N/A	N/A
Shahuindo Sulphide	Peru	Inferred	97.4	14	45.1	0.74	2323.3	N/A	N/A	N/A
Timmins	Canada	Inferred	3.7	N/A	N/A	3.74	443.8	N/A	N/A	N/A
La Arena II	Peru	Inferred	91.6	N/A	N/A	0.23	683.1	0.17	N/A	N/A
Fenn-Gib	Canada	Inferred	24.5	N/A	N/A	0.95	750.0	N/A	N/A	N/A
Whitney	Canada	Inferred	1.0	N/A	N/A	5.34	170.7	N/A	N/A	N/A
Gold River	Canada	Inferred	5.3	N/A	N/A	6.06	1,027.4	N/A	N/A	N/A
Juby	Canada	Inferred	96.2	N/A	N/A	0.94	2,908.8	N/A	N/A	N/A
Vogel	Canada	Inferred	1.5	N/A	N/A	3.60	168.8	N/A	N/A	N/A
Total Gold Segment[4]			**369.8**	**13**	**50.0**	**0.78**	**9,297.6**	**0.17**	**N/A**	**N/A**
Total Gold and Silver Segments[4]		**Inferred**	**443.8**	**48**	**302.5**	**0.78**	**9,587.1**	**0.14**	**0.8**	**3.2**

(1) See table below entitled "Metal price assumptions used to estimate mineral reserves and resources as at June 30, 2019".
(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. Total average grades of each element are with respect to those mines that produce the element.

Metal Price Assumptions Used to Estimate Mineral Reserves and Resources as of June 30, 2019						
Property	**Category**	**Ag US$/oz**	**Au US$/oz**	**Cu US$/t**	**Pb US$/t**	**Zn US$/t**
Huaron	All categories	17.00	1,300	6,000	2,100	2,500
Morococha	All categories	17.00	1,300	6,000	2,100	2,500
La Colorada	All categories	17.00	1,300	6,000	2,100	2,500
Dolores	Reserves	17.00	1,300			
	Resources	22.00	1,400			
La Bolsa	All categories	14.00	825			
Manantial Espejo	All categories	16.00	1,300			
San Vicente	All categories	17.00	1,300	6,000	2,100	2,500
Navidad	All categories	12.52			1,100	
Pico Machay	All categories		700			
Joaquin	All categories	16.00	1,300			
COSE	All categories	16.00	1,300			
Escobal	All categories	20.00	1,300		2,204	2,424
Shahuindo	Reserves	17.00	1,300			
	Resources	22.00	1,400			
Shahuindo Sulphide	Inferred Resource	15.00	1,400			
La Arena	Reserves	17.00	1,400			
	Resources	22.00	1,500			
La Arena II	All categories		1,500	8,816		
Timmins - Bell Creek	All categories		1,300			
Fenn-Gib	Inside pit		1,190			
	Below pit		1,190			
Whitney	All categories		1,200			
Gold River	All categories		1,200			
Juby(1)	All categories					
Marlhill	All categories		1,125			
Vogel	Inside pit		1,150			
	Below pit		1,150			

(1) Estimation used a cut-off grade of 0.40% g/t Au

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, 2020, 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.

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, 2020, 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, including the Acquired Mines; future Cash Costs and AISC; the sufficiency of the Company's current working capital, anticipated operating cash flow or its ability to raise necessary funds; the anticipated amount and timing of production at each of the Company's properties and in the aggregate; our expectations with respect to future metal prices and exchange rates; the timing and disclosure of the allocation of purchase price for the Tahoe Acquisition; the duration and effect of the license suspensions and any road blocks relating to the Escobal mine; the constitutional court-mandated ILO 169 consultation process in Guatemala, and the timing and completion thereof; the anticipated timing for commencement of commercial production at our COSE and Joaquin projects; the estimated cost of and availability of funding necessary for sustaining capital; forecast capital and non-operating spending; 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; currency exchange rates remaining as estimated; capital, decommissioning and reclamation estimates; our mineral reserve and mineral 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 can be maintained; and our ability to comply with environmental, health and safety laws, particularly given the potential for modifications and expansion of such 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, BOB, GTQ 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, Guatemala or other countries where the Company may carry on business, including the risk of expropriation related to certain of our operations, particularly in Argentina and Bolivia and risks related to the constitutional court-mandated ILO 169 consultation process in Guatemala; 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 Company's ability to secure our mine sites or maintain access to our mine sites due to criminal activity, violence, or civil and labour unrest; the speculative nature of mineral exploration and development, including the risk of obtaining or retaining necessary licenses and permits and the presence of laws, regulations and other legal impediments that may impose restrictions on mining, including those currently in the province of Chubut, Argentina, or that might otherwise prevent or cause the suspension or discontinuation of mining activities; 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 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 or revise 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.

PAN AMERICAN
SILVER

Consolidated Financial Statements and Notes

FOR THE YEARS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2018

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"
Michael Steinmann
Chief Executive Officer

"signed"
A. Robert Doyle
Chief Financial Officer

March 12, 2020

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, 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of cash flows, and statements of changes in equity, for each of the two years in the period ended December 31, 2019, 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, 2019 and 2018, and its financial performance and its cash flows for each of the two years in the period ended December 31, 2019, 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, 2019, 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, 2020, 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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Tahoe Acquisition - Refer to Notes 5(e) and 8 to the financial statements

Critical Audit Matter Description

The Company completed the acquisition of Tahoe Resources Inc. ("Tahoe") on February 22, 2019. The purchase price was allocated to the assets acquired and liabilities assumed based on their fair values, which included certain mineral properties including the Escobal mine in Guatemala ("Escobal") (collectively the "Acquired Mineral Properties"). The determination of the fair value of the Acquired Mineral Properties required management to make significant estimates and assumptions.

While there are many estimates and assumptions that management makes to determine the fair value of the Acquired Mineral Properties, the assumptions with the highest degree of subjectivity are future commodity prices, discount rates, the in-situ multiples and specifically for Escobal, the ability, timing and likelihood that the mine operations will restart. Our audit procedures to evaluate the reasonableness of these estimates and assumptions required a high degree of auditor judgment and an increased extent of audit effort, including the need to involve fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the future commodity prices, discount rates, the in-situ multiples and specifically for Escobal, the ability, timing and likelihood that the mine operations will restart included the following, among others:

- Evaluated the effectiveness of the Company's controls over management's assumptions of future commodity prices, discount rates, in-situ multiples and management's assessment of the ability, timing and likelihood that the mine operations at Escobal will restart.
- With the assistance of fair value specialists:
    - Evaluated the future commodity prices by comparing forecasts to third party forecasts,
    - Evaluated the reasonableness of the discount rates by testing the source information underlying the determination of the discount rate, and
    - Evaluated the reasonableness of the in-situ multiples applied to the exploration properties.
- Evaluated and corroborated through inquiries with key executives, management's ability to estimate the ability, timing and likelihood of Escobal restarting by understanding their process to obtain the background knowledge to make such determination.
- Evaluated the ability, timing and likelihood that the mine operations at Escobal will restart by considering the information received from management and external sources.

Impairment - Assessment of Whether Indicators of Impairment or Impairment Reversal Exist within the Mineral Properties, Plant and Equipment - Refer to Notes 3 and 6 to the financial statements

Critical Audit Matter Description

The Company's determination of whether or not an indicator of impairment or impairment reversal exists at the cash generating unit levels requires significant management judgement. 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.

While there are several factors that are required to determine whether or not an indicator of impairment or impairment reversal exists, the judgements with the highest degree of subjectivity are future commodity prices (for both silver and gold), forecast production output (for both silver and gold), company performance, ability and timing to commence or restart mine operations, and the discount rate. Auditing these estimates and factors required a high degree of subjectivity in applying audit procedures and in evaluating the results of those procedures. This resulted in an increased extent of audit effort, including the involvement of fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the future commodity prices (for both silver and gold), future production output (for both silver and gold), company performance, ability and timing to commence or restart mine operations, and the discount rate in the assessment of indicators of impairment or impairment reversal included the following, among others:

- Evaluated the effectiveness of the Company's controls over management's assessment of indicators of impairment or impairment reversal.
- Evaluated management's ability to accurately forecast future production by:
    - Assessing the methodology used in management's determination of the future production and,
    - Comparing management's future production to historical data and available market trends.
- Performed independent research to assess if there have been any substantive local, political or regulatory changes impacting the jurisdictions in which the Company operates impacting the ability to commence or restart mine operations.
- Compared the company performance of the mineral properties to historical results and third-party reports.
- With the assistance of fair value specialists:
    - Evaluated the future commodity prices by comparing management forecasts to third party forecasts, and
    - Evaluated the reasonableness of the change in discount rate by testing the source information underlying the determination of the discount rate.

Impairment - Testing of Impairment of Mineral Properties, Plant and Equipment - Manantial Espejo Cash Generating Unit ("CGU") - Refer to Notes 3 and 13 to the financial statements

Critical Audit Matter Description

The Company identified an indicator of impairment for the Manantial Espejo CGU as a result of an increase in Argentina export taxes, and project delays. The Company determined that the combined CGU carrying amount of Manantial Espejo mine and the Joaquin and COSE development project and other related assets was greater than the combined estimated recoverable amount, causing the Company to recognize an impairment loss.

While there are several assumptions that go into determining the recoverable amount, the judgement with the highest degree of subjectivity in the valuation model is the commodity prices. Auditing the assumptions surrounding the commodity prices required a high degree of subjectivity in applying audit procedures and in evaluating the results of those procedures. This resulted in an increased extent of audit effort, including the involvement of fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the commodity prices used in the valuation models to determine the recoverable amount of the CGU included the following, among others:

- Evaluated the effectiveness of the controls surrounding the commodity prices.
- Evaluated the commodity prices by comparing management forecasts to third party forecasts with the assistance of fair value specialists.

/s/ Deloitte LLP

Chartered Professional Accountants
Vancouver, Canada
March 12, 2020

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

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, 2019, 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, 2019, 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, 2019, of the Company and our report dated March 12, 2020, 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, 2020

	December 31, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents (Note 25)	**$ 120,564**	$ 138,510
Short-term investments (Note 10)	**117,776**	74,004
Trade and other receivables	**168,753**	96,091
Income taxes receivable	**17,209**	13,108
Inventories (Note 11)	**346,507**	214,465
Derivative financial instruments (Note 9)	**1,272**	640
Prepaid expenses and other current assets	**16,838**	11,556
	788,919	548,374
Non-current assets		
Mineral properties, plant and equipment (Note 12)	**2,504,901**	1,301,002
Inventories (Note 11)	**24,209**	—
Long-term refundable tax	**17,900**	70
Deferred tax assets (Note 28)	**36,447**	12,244
Investment in associates (Note 14)	**84,319**	70,566
Goodwill & other assets (Note 15)	**4,987**	5,220
Total Assets	**$ 3,461,682**	$ 1,937,476
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities (Note 16)	**$ 225,330**	$ 131,743
Derivative financial instruments (Note 9)	**—**	51
Current portion of provisions (Note 17)	**7,372**	5,072
Current portion of lease obligations (Note 18)	**14,198**	5,356
Income tax payable	**24,770**	8,306
	271,670	150,528
Non-current liabilities		
Long-term portion of provisions (Note 17)	**188,012**	70,083
Deferred tax liabilities (Note 28)	**176,808**	148,819
Long-term portion of lease obligations (Note 18)	**27,010**	1,320
Debt (Note 19)	**275,000**	—
Deferred revenue (Note 14)	**12,542**	13,288
Other long-term liabilities (Note 20)	**27,754**	25,425
Share purchase warrants (Note 14)	**15,040**	14,664
Total Liabilities	**993,836**	424,127
Equity		
Capital and reserves (Note 21)		
Issued capital	**3,123,514**	2,321,498
Reserves	**94,274**	22,573
Investment revaluation reserve	**—**	208
Deficit	**(754,689)**	(836,067)
Total Equity attributable to equity holders of the Company	**2,463,099**	1,508,212
Non-controlling interests	**4,747**	5,137
Total Equity	**2,467,846**	1,513,349
Total Liabilities and Equity	**$ 3,461,682**	$ 1,937,476

Commitments and contingencies (Notes 9, 29); subsequent events (Note 31)
See accompanying notes to the consolidated financial statements
APPROVED BY THE BOARD ON MARCH 12, 2020

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

	2019	2018
Revenue (Note 26)	**$ 1,350,759**	$ 784,495
Cost of sales		
Production costs (Note 22)	**(841,297)**	(515,636)
Depreciation and amortization (Note 12)	**(253,453)**	(147,289)
Royalties	**(26,721)**	(20,673)
	(1,121,471)	(683,598)
Mine operating earnings (Note 26)	**229,288**	100,897
General and administrative	**(31,752)**	(22,649)
Exploration and project development	**(11,684)**	(11,138)
Mine care and maintenance	**(23,662)**	—
Foreign exchange losses	**(5,003)**	(9,326)
Impairment charges (Note 13)	**(40,050)**	(27,789)
Gains on commodity and foreign currency contracts (Note 9)	**3,315**	4,930
Gains on sale of mineral properties, plant and equipment (Note 12)	**3,858**	7,973
Share of income from associate and dilution gain (Note 14)	**15,245**	13,679
Transaction and integration costs (Note 8)	**(7,515)**	(10,229)
Other expense (Note 27)	**(4,936)**	(3,659)
Earnings from operations	**127,104**	42,689
Loss on derivatives (Note 9)	**(14)**	(1,078)
Investment income (loss)	**84,704**	(284)
Interest and finance expense (Note 23)	**(29,282)**	(8,139)
Earnings before income taxes	**182,512**	33,188
Income tax expense (Note 28)	**(71,268)**	(21,147)
Net earnings for the year	**$ 111,244**	$ 12,041
Attributable to:		
Equity holders of the Company	**110,738**	10,294
Non-controlling interests	**506**	1,747
	$ 111,244	$ 12,041
Earnings per share attributable to common shareholders (Note 24)		
Basic earnings per share	**$ 0.55**	$ 0.07
Diluted earnings per share	**$ 0.55**	$ 0.07
Weighted average shares outstanding (in 000's) Basic	**201,397**	153,315
Weighted average shares outstanding (in 000's) Diluted	**201,571**	153,522

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Comprehensive Income
(in thousands of U.S. dollars)

		2019		2018
Net earnings for the year	**$**	**111,244**	$	12,041
Items that may be reclassified subsequently to net earnings:				
Unrealized net gains on short-term investments (net of $nil tax in 2019 and 2018)		**—**		993
Reclassification adjustment for realized gains on short-term investments to earnings		**(208)**		(788)
Total comprehensive earnings for the year	**$**	**111,036**	$	12,246
Total comprehensive earnings attributable to:				
Equity holders of the Company	**$**	**110,530**	$	10,499
Non-controlling interests		**506**		1,747
	$	**111,036**	$	12,246

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Cash Flows
(in thousands of U.S. dollars)

	2019	2018
Cash flow from operating activities		
Net earnings for the year	**$ 111,244**	$ 12,041
Current income tax expense (Note 28)	**92,129**	53,901
Deferred income tax recovery (Note 28)	**(20,861)**	(32,754)
Interest expense (recovery) (Note 23)	**16,879**	(678)
Depreciation and amortization (Note 12)	**253,453**	147,289
Impairment charges (Note 13)	**40,050**	27,789
Accretion on closure and decommissioning provision (Note 17)	**9,903**	6,524
Unrealized foreign exchange losses	**6,057**	10,337
Gain on sale of mineral properties, plant and equipment	**(3,858)**	(7,973)
Other operating activities (Note 25)	**(96,277)**	17,724
Changes in non-cash operating working capital (Note 25)	**(27,944)**	(4,261)
Operating cash flows before interest and income taxes	**$ 380,775**	$ 229,939
Interest paid	**(16,944)**	(1,684)
Interest received	**776**	1,944
Income taxes paid	**(82,579)**	(75,221)
Net cash generated from operating activities	**$ 282,028**	$ 154,978
Cash flow from investing activities		
Payments for mineral properties, plant and equipment	**$ (205,807)**	$ (144,348)
Tahoe Resources Inc. ("Tahoe") acquisition (Note 8)	**(247,479)**	—
Acquisition of mineral interests	**(1,545)**	(7,500)
Net proceeds from sale of short-term investments	**39,727**	(25,554)
Proceeds from sale of mineral properties, plant and equipment	**10,267**	15,781
Net proceeds from commodity, diesel fuel swaps, and foreign currency contracts	**2,669**	2,449
Net cash used in investing activities	**$ (402,168)**	$ (159,172)
Cash flow from financing activities		
Proceeds from issue of equity shares	**$ 2,781**	$ 1,081
Distributions to non-controlling interests	**(924)**	(2,020)
Dividends paid	**(29,332)**	(21,284)
Proceeds from credit facility (Note 19)	**335,000**	—
Repayment of credit facility (Note 19)	**(185,000)**	—
Repayment of short-term loans	**—**	(3,000)
Payment of lease obligations	**(19,270)**	(7,911)
Net cash generated from (used in) financing activities	**$ 103,255**	$ (33,134)
Effects of exchange rate changes on cash and cash equivalents	**(1,061)**	(115)
Net decrease in cash and cash equivalents	**(17,946)**	(37,443)
Cash and cash equivalents at the beginning of the year	**138,510**	175,953
Cash and cash equivalents at the end of the year	**$ 120,564**	$ 138,510

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

	Attributable to equity holders of the Company							
	Issued shares	Issued capital	Reserves[1]	Investment revaluation reserve	Deficit	Total	Non-controlling interests	Total equity
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	—	$ —	$ —	$ (1,602)	$ 1,602	$ —	$ —	$ —
Balance, January 1, 2018	**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**
Total comprehensive earnings								
Net earnings for the year	—	—	—	—	110,738	110,738	506	111,244
Other comprehensive income	—	—	—	(208)	—	(208)	—	(208)
	—	—	—	(208)	110,738	110,530	506	111,036
Shares issued on the exercise of stock options	244,299	3,697	(916)	—	—	2,781	—	2,781
Shares issued as compensation (Note 25)	152,391	2,693	—	—	—	2,693	—	2,693
Share-based compensation on option grants	—	—	577	—	—	577	—	577
Tahoe acquisition consideration (Note 8)	55,990,512	795,626	72,040	—	—	867,666	—	867,666
Distributions by subsidiaries to non-controlling interests	—	—	—	—	(28)	(28)	(896)	(924)
Dividends paid	—	—	—	—	(29,332)	(29,332)	—	(29,332)
Balance, December 31, 2019	**209,835,558**	**$ 3,123,514**	**$ 94,274**	**$ —**	**$ (754,689)**	**$ 2,463,099**	**$ 4,747**	**$ 2,467,846**

(1) Includes reserves for share options and contingent value rights ("CVRs") (Note 8).

See accompanying notes to the consolidated financial statements.

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 a British Columbia corporation 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 are produced from mines in Canada, Peru, Mexico, Argentina and Bolivia. Additionally, the Company has project development activities in Canada, Peru, Mexico and Argentina, and exploration activities throughout the Americas. As at December 31, 2019, the Company's Escobal mine in Guatemala continues to be on care and maintenance pending satisfactory completion of an ILO 169 consultation process led by the Ministry of Energy and Mines in Guatemala.

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, 2020.

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 functional and presentation currency of the Company and each of its subsidiaries is the United States dollar ("USD").

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.

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, 2019 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
Shahuindo S.A.C	Peru	100%	Consolidated	Shahuindo mine
La Arena S.A.	Peru	100%	Consolidated	La Arena 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
Minera Argenta S.A.	Argentina	100%	Consolidated	Navidad project
Pan American Silver (Bolivia) S.A.	Bolivia	95%	Consolidated	San Vicente mine
Lake Shore Gold Corp.	Canada	100%	Consolidated	Bell Creek and Timmins West mines (together, "Timmins")
Minera San Rafael S.A. ("MSR")	Guatemala	100%	Consolidated	Escobal mine

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

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.

g) Financial instruments

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 9(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 9(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 9(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.

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) 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.

j) 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.

k) 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.

l) 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

m) 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.

A cash-generating unit ("CGU") is identified as the smallest identifiable group of assets that generate cash inflows that are largely independent of the cash inflows from other assets. An impairment review is performed, either individually or at the CGU level, when there are indicators that the carrying amount of the CGU may exceed its recoverable amount. 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.

n) 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.

o) 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 CGUs. In addition, an impairment loss is recognized for any excess of carrying amount over the recoverable amount, being the higher of its fair value less costs to sell ("FVLCTS"), or its value in use (being the net present value of expected future cash flows of the relevant CGU), of a non-current asset or disposal group held for sale. 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, closure, 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.

p) 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.

q) 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.

r) 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.

s) 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.

t) 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.

u) 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

IFRS 16, 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 has applied IFRS 16 using the modified retrospective approach from January 1, 2019 and has elected to record the transition date right-of-use assets at amounts equal to the present value of the minimum lease payments, on a lease by lease basis. Short-term and low-value recognition exemptions were applied, as well as certain practical expedients allowing for the use of hindsight to assess the lease term for contracts with extension options, the exclusion of initial direct costs from measurement of the Right-of-Use-Assets ("ROU Assets") and the exclusion of leases with a term of less than one year remaining at the transition date.

Policy applicable from January 1, 2019

Lease Definition

At inception of a contract, the Company assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. An identified asset may be implicitly or explicitly specified in a contract, but must be physically distinct, and must not have the ability for substitution by a lessor. The Company has the right to control an identified asset if it obtains substantially all of its economic benefits and either pre-determines, or directs how and for what purpose the asset is used.

Measurement of ROU Assets and Lease Obligations

At lease commencement, the Company recognizes a ROU Asset and a lease obligation. The ROU Asset is initially measured at cost, which comprises the initial amount of the lease obligation adjusted for any lease payments

made at, or before, the commencement date, plus any initial direct costs incurred, less any lease incentives received.

The ROU Asset is subsequently amortized on a straight-line basis over the shorter of the term of the lease, or the useful life of the asset determined on the same basis as the Company's property, plant and equipment. The ROU Asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease obligation.

The lease obligation is initially measured at the present value of lease payments remaining at the lease commencement date, discounted using the Company's incremental borrowing rate. Lease payments included in the measurement of the lease obligation, when applicable, may comprise fixed payments, variable payments that depend on an index or rate, amounts expected to be payable under a residual value guarantee and the exercise price under a purchase, extension or termination option that the Company is reasonably certain to exercise.

The lease obligation is subsequently measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease obligation is remeasured, a corresponding adjustment is made to the carrying amount of the ROU Asset.

Recognition Exemptions

The Company has elected not to recognize ROU Assets and lease obligations for short-term leases that have a lease term of twelve months or less or for leases of low-value assets. Payments associated with these leases are recognized as an operating expense on a straight-line basis over the lease term within costs and expenses on the consolidated income statement.

Leases

The Company's leased assets include land, buildings, vehicles, and machinery and equipment with a carrying value of $45.8 million at December 31, 2019. Effective January 1, 2019, the Company adopted IFRS 16 as outlined in Note 18, recognizing $21.4 million of ROU assets, $18.9 million of lease obligations and deferred tax assets/liabilities of $nil.

New and amended IFRS standards not yet effective

New accounting standards and interpretations have been published that are not mandatory for the current period and have not been early adopted. These standards are not expected to have a material impact on the Company.

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 13. 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 14).

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, 2019, the carrying amount of Dolores and La Arena capitalized stripping costs was $57.5 million and $19.9 million, respectively (2018 - $57.0 million and $nil, respectively).

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, 2019, the carrying amount of the deferred credit arising from the Aquiline acquisition was $20.8 million (2018 - $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 11 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 13.

- *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 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, discount rates, and the timing of the commencement of commercial production. 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 $2.5 billion as at December 31, 2019 (2018 - $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 objective with respect to capital risk management remains unchanged from the year ended December 31, 2018.

8. TAHOE ACQUISITION

On February 22, 2019, the Company completed the acquisition of 100% of the issued and outstanding shares of Tahoe (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 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 CVR for each Tahoe share. Each CVR will be exchanged for 0.0497 of a Common Share upon the first commercial shipment of concentrate following restart of operations at the Escobal mine (the "First Shipment"). The CVRs are transferable and have a term of 10 years. The First Shipment contingency is a discrete event upon which a fixed number of Common Shares will be issued. As there is no variability in the number of shares to be issued if the contingency is met, the Company has concluded that the CVR consideration meets the 'fixed-for-fixed' requirement in IAS 32 - Financial Instruments: Presentation. As such the CVRs are classified as a component of equity, recognized initially at fair value with no remeasurement, and any subsequent settlement to be accounted for within equity.

As a result of the Tahoe Acquisition, 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 Tahoe Acquisition is $1.1 billion. The Company began consolidating the operating results, cash flows and net assets of Tahoe from February 22, 2019 onwards.

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

The Company reported its initial accounting for the Tahoe Acquisition during the first quarter of 2019 and had a measurement period of up to one year from the acquisition date to adjust any provisional amounts recognized and to recognize new assets and liabilities as a result of new information obtained which existed at the acquisition date. As a result, the Company recorded a deferred tax asset with most significant adjustments made to the deferred tax liabilities and mineral property during the fourth quarter of 2019. The bargain purchase gain recognized on the acquisition date was eliminated in the fourth quarter of 2019 and retrospectively adjusted from the first quarter's results as a result of changes in the assessed fair values of assets acquired.

Since acquisition on February 22, 2019, the assets acquired from Tahoe contributed revenue of $565.4 million and pre-tax net income of $124.5 million for the year ended December 31, 2019. Had the transaction occurred January 1, 2018, Tahoe would have contributed revenue of $644.3 million and pre-tax net income of $125.5 million for the year ended December 31, 2019. Acquisition-related costs of $7.5 million were expensed during the year ended December 31, 2019 and were presented as transaction and integration costs.

The following table summarizes the consideration paid as part of the purchase price:

Consideration:	Shares Issued/ Issuable	Consideration
Fair value estimate of the Pan American Share consideration [1]	55,990,512	$ 795,626
Fair value estimate of the CVRs [2]	15,600,208	71,916
Cash [1]	—	275,008
Fair value estimate of replacement options [3]	835,874	124
Total Consideration	**72,426,594**	**$ 1,142,674**

(1) The Pan American Share consideration value is based on an assumed value of $14.21 per share (based on the NASDAQ closing price on February 21, 2019).

(2) Assumed fair value of the CVRs is based on the residual amount of the value of the Tahoe Shares acquired (based on the NYSE closing price closing of $3.64 on February 21, 2019) after deducting the cash consideration of $275 million and the fair value of the Company's share consideration paid (based on the February 21, 2019 NASDAQ closing price of $14.21).

(3) Assumed fair value of 3.5 million Tahoe options that upon the Tahoe Acquisition vested and converted into 835.8 thousand Pan American stock options (the "Replacement options"). The fair value of the Replacement options was determined using the Black-Scholes option pricing model, as at the Tahoe Acquisition date, using the following assumptions:

Share price at February 21, 2019 (Canadian dollars, "CAD")	$	19.01
Exercise price	$	11.67 - 97.26
Expected volatility		0.4075
Expected life (years)		0.2 - 1.0
Expected dividend yield		0.78%
Risk-free interest rate		0.93%
Fair value (CAD)	$	163,273.36
CAD to USD exchange rate at December 31, 2018	$	0.7578
Fair value (USD)	$	123,729.43

The following table summarizes the preliminary and final allocation of the purchase price to the identifiable assets and liabilities based on their estimated fair values at the date of the Tahoe Acquisition:

	Preliminary as reported March 31, 2019	Adjustments	Final as reported December 31, 2019
Total purchase consideration paid for Tahoe	$ 1,142,674	$ —	$ 1,142,674
Cash and cash equivalents	$ 27,529	$ —	$ 27,529
Accounts receivable	17,854	300	18,154
VAT Receivable	87,268	224	87,492
Inventory	152,534	(4,325)	148,209
Other current assets	4,135	(2,754)	1,381
Mineral properties, plant and equipment	1,298,037	(58,635)	1,239,402
Other assets	3,450	3,101	6,551
Deferred tax assets	—	30,728	30,728
Accounts payable and accrued liabilities	(159,675)	10,933	(148,742)
Debt	(125,000)	—	(125,000)
Provision for closure and decommissioning liabilities	(70,119)	(7,201)	(77,320)
Net current and deferred income tax liabilities	(62,847)	(2,863)	(65,710)
Fair value of Tahoe net assets acquired	**$ 1,173,166**	**$ (30,492)**	**$ 1,142,674**
Bargain purchase gain recognized in net earnings on February 22, 2019	**$ 30,492**	**$ (30,492)**	**$ —**

We primarily used discounted cash flow models (being the net present value of expected future cash flows) to determine the fair value of the mining interests. Expected future cash flows are based on the timing of commencement of commercial production and estimates of quantities of ore reserves and mineral resources, including expected conversions of resources to reserves, expected future production costs, and capital expenditures based on the life of

mine plans for the acquired mines as at the acquisition date. The discounted future cash flow models used discount rates with rates applied to the acquired mines ranging from 5% to 9%, depending on the Company's assessment of country risk, project risk, and other potential risks specific to the acquired mining interest. Further, the discounted cash flow models were based on the following estimated future metal prices:

Commodity Prices	2019-2022	2023 onwards
Gold price - $/oz.	$1,300	$1,300
Silver price - $/oz	$17.07	$18.50
Zinc - $/tonne	$2,599	$2,600
Lead - $/tonne	$2,171	$2,200

9. FINANCIAL INSTRUMENTS

a) Financial assets and liabilities by categories

December 31, 2019	Amortized cost	FVTPL	FVTOCI	Total
Financial Assets:				
Cash and cash equivalents	**$ 120,564**	**$ —**	**$ —**	**$ 120,564**
Trade receivables from provisional concentrates sales [(1)]	**—**	**48,767**	**—**	**48,767**
Receivable not arising from sale of metal concentrates [(1)]	**116,596**	**—**	**—**	**116,596**
Short-term investments, equity securities	**—**	**117,776**	**—**	**117,776**
Short-term investments, other than equity securities	**—**	**—**	**—**	**—**
Derivative financial assets	**—**	**1,272**	**—**	**1,272**
	$ 237,160	**$ 167,815**	**$ —**	**$ 404,975**
Financial Liabilities:				
Derivative financial liabilities	**$ —**	**$ —**	**$ —**	**$ —**
	$ —	**$ —**	**$ —**	**$ —**

(1) Included in Trade and other receivables.

December 31, 2018	Amortized cost	FVTPL	FVTOCI	Total
Financial Assets:				
Cash and cash equivalents	$ 138,510	$ —	$ —	$ 138,510
Trade receivables from provisional concentrates sales [(1)]	—	40,803	—	40,803
Receivable not arising from sale of metal concentrates [(1)]	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) 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, 2019 and 2018. Net gains (losses) on short-term investments recorded at FVTPL were as follows:

	2019	2018
Unrealized net gains (losses) on short-term investments, equity securities	$ 83,705	$ (3,298)
Realized net losses on short-term investments, equity securities	—	(49)
	$ 83,705	$ (3,347)

c) Financial assets recorded at FVTOCI

The Company's short-term investments other than equity securities are recorded at FVTOCI. The unrealized gains from short-term investments other than equity securities for the year ended December 31, 2019 and 2018 were as follows:

	2019	2018
Unrealized net gains on short-term investments, other than equity securities	$ —	$ 993
Reclassification adjustment for realized gains on short-term investments, other than equity securities	(208)	(788)
	$ (208)	$ 205

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, 2019 and 2018 were comprised of the following:

	2019	2018
Gains on foreign currency and commodity contracts:		
Realized gains on foreign currency and commodity contracts	$ 2,669	$ 2,449
Unrealized gains on foreign currency and commodity contracts	646	2,481
	$ 3,315	$ 4,930
Loss on derivatives:		
Loss on warrants	$ (14)	$ (1,078)
	$ (14)	$ (1,078)

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, 2019		At December 31, 2018	
	Level 1	Level 2	Level 1	Level 2
Assets and Liabilities:				
Short-term investments	$ 117,776	$ —	$ 74,004	$ —
Trade receivables from provisional concentrate sales	—	48,767	—	40,803
Derivative financial assets	—	1,272	—	640
Derivative financial liabilities	—	—	—	(51)
	$ 117,776	$ 50,039	$ 74,004	$ 41,392

There were no transfers between Level 1 and Level 2 during the year ended December 31, 2019. 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, 2018.

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, 2019, the Company had receivable balances associated with buyers of its concentrates of $48.8 million (2018 - $40.8 million) and receivable balances associated with buyers of its doré of $17.5 million (2018 - $nil). The vast majority of the Company's concentrate is sold to six well-known concentrate buyers.

Doré production from Shahuindo, La Arena, Timmins, 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, 2019, the Company had approximately $58.2 million (2018 - $19.7 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.

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 are sold in the spot market to various bullion traders and banks. Credit risk may arise from this activity 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, 2019, the Company had made $3.4 million (2018 - $14.4 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, 2019, the Company has recorded a loss allowance for expected credit losses in the amount of $7.6 million (2018 – $7.6 million) which relates to trade receivables 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. At December 31, 2019, the Company has also recorded a loss allowance for expected credit losses in the amount of $4.7 million (2018 - $4.7 million) 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, 2019	December 31, 2018
Cash and cash equivalents	$ 120,564	$ 138,510
Trade accounts receivable [1]	66,230	40,803
Supplier advances	3,391	14,370
Royalty receivable [1]	121	105
Employee loans [1]	392	312

(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.

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 2019				
	Within 1 year	2 - 3 years	4- 5 years	After 5 years	Total
Financial liabilities					
Accounts payable and accrued liabilities other than:	$ 221,488	$ —	$ —	$ —	$ 221,488
Severance accrual	994	5,967	772	109	7,842
Employee compensation	2,848	—	—	—	2,848
Total accounts payable and accrued liabilities	225,330	5,967	772	109	232,178
Debt					
Credit facility	—	—	275,000	—	275,000
Interest	12,952	27,040	—	—	39,992
Provisions[1][2]	3,979	633	1,350	967	6,929
Income taxes payable	24,770	—	—	—	24,770
Lease obligations	16,221	15,906	7,193	21,675	60,995
Future employee compensation	1,444	8,711	—	—	10,155
Total contractual obligations[2]	**$ 284,696**	**$ 58,257**	**$ 284,315**	**$ 22,751**	**$ 650,019**

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
Debt					
Interest	1,200	350	—	—	1,550
Loss on commodity contracts	51	—	—	—	51
Provisions(1)(2)	3,123	547	720	178	4,568
Income taxes payable	8,306	—	—	—	8,306
Capital and operating expenditure commitments	7,947	7,898	2,885	530	19,260
Future employee compensation	1,530	4,911	—	—	6,441
Total contractual obligations(2)	**$ 153,900**	**$ 17,469**	**$ 4,139**	**$ 820**	**$ 176,328**

(1) Total litigation provision (Note 17).
(2) Amounts above do not include payments related to the Company's anticipated closure and decommissioning obligation (current $3.4 million, long-term $185.1 million) discussed in Note 17 (2018 - current $1.9 million, long-term $68.6 million), the deferred credit arising from the Aquiline acquisition ($20.8 million) (2018 - $20.8 million) discussed in Note 20, and deferred tax liabilities of $176.8 million (2018 - $148.8 million).

The increase in the Company's exposure to liquidity risk during the year ended December 31, 2019 were due primarily to the draw on the credit facility to finance the Tahoe Acquisition (Note 8) and the obligations acquired.

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.

As at December 31, 2019, Pan American had outstanding positions on $12.0 million in foreign currency exposure of Mexican peso ("MXN") purchases, $60.0 million of Peruvian sol ("PEN") purchases, and $30.0 million of Canadian dollar ("CAD") purchases. MXN purchases had put rates of 19.50 and call rates ranging from $20.82 to $21.59 expiring between January 2020 and December 2020. PEN purchases had put rates of $3.35 and call rates ranging from $3.40 to $3.55 expiring between January 2020 and December 2020. And, CAD purchases had put rates of $1.30 and call rates of $1.37 expiring between January 2020 and December 2020.

For the year ended December 31, 2019, the Company recorded gains of $1.0 million (2018 - gains of $0.7 million), $0.7 million (2018 - $nil), and $0.3 million (2018 - $nil) on MXN, PEN, and CAD derivative contracts, respectively.

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, 2019 non-USD net monetary liabilities were denominated would result in an income before taxes change of about $5.1 million (2018 - $14.3 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, 2019	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	**$ 123,391**	**$ 3,897**	**$ 2,045**	**$ (23,387)**	**$ 23,640**
Mexican Peso	**5,222**	**14,215**	**7,645**	**(64,589)**	**(73,938)**
Argentine Peso	**3,652**	**18,511**	**13,737**	**(16,143)**	**—**
Bolivian Boliviano	**3,447**	**221**	**1,524**	**(8,749)**	**(9,925)**
European Euro	**3**	**—**	**—**	**—**	**—**
Peruvian Sol	**2,406**	**55,851**	**(14,660)**	**(39,884)**	**(80,138)**
Guatemala quetzal	**353**	**1,482**	**(238)**	**(669)**	**1**
	$ 138,474	**$ 94,177**	**$ 10,053**	**$ (153,421)**	**$ (140,360)**

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)
Argentine 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)

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. The average interest rate earned by the Company during the year ended December 31, 2019 on its cash and short-term investments was 0.6% (2018 - 0.9%). A 10% increase or decrease in the interest earned from financial institutions on cash and short-term investments would result in a $0.1 million increase or decrease in the Company's before tax earnings (2018 – $0.2 million).

At December 31, 2019, the Company has $275.0 million in amounts drawn on its secured revolving credit facility (the "Credit Facility"), which had an average interest rate of 4.3%. There were no amounts drawn on the Credit Facility in 2018.

At December 31, 2019, the Company has $41.2 million in lease obligations (2018 - $6.7 million), that are subject to an annualized interest rate of 9.7% (2018 - 2.2%).

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 precious metal prices, the Company's current policy is to not hedge the price of precious metal.

A 10% increase in all metal prices as at December 31, 2019, would result in an increase of approximately $139.1 million (2018 – $81.2 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 $140.1 million (2018 - $82.7 million) in the Company's revenues. The Company also enters into provisional concentrate contracts to sell the zinc, lead and copper concentrates. 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 zinc, lead, copper and silver for provisional concentrate contracts for the year ended December 31, 2019 would result in an increase of approximately $6.4 million (2018 - $6.2 million) in the Company's before tax earnings, which would be reflected in 2019 results. A 10% decrease in metal prices for the same period would result in a decrease of approximately $6.4 million (2018 - $6.2 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, 2019, the Company had no outstanding contracts to sell base metals production.

10. SHORT-TERM INVESTMENTS

	December 31, 2019			December 31, 2018		
	Fair Value	**Cost**	**Accumulated unrealized holding gains**	Fair Value	Cost	Accumulated unrealized holding gains
Short-term investments	**$ 117,776**	**$ 36,826**	**$ 80,950**	$ 74,004	$ 73,796	$ 208

11. INVENTORIES

Inventories consist of:

	December 31, 2019	December 31, 2018
Concentrate inventory	**$ 17,433**	$ 19,286
Stockpile ore [(1)]	**27,708**	3,945
Heap leach inventory and in process [(2)]	**169,751**	113,199
Doré and finished inventory [(3)]	**67,820**	30,736
Materials and supplies	**88,004**	47,299
Total inventories	**$ 370,716**	$ 214,465
Less: current portion of inventories	**$ (346,507)**	$ (214,465)
Non-current portion of inventories [(4)]	**$ 24,209**	$ —

(1) Includes an impairment charge of $5.0 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines (2018 – $11.2 million at Manantial Espejo mine).
(2) Includes an impairment charge of $39.3 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines (2018 - $28.9 million at Manantial Espejo and Dolores mines).
(3) Includes an impairment charge of $2.9 million to reduce the cost basis of inventory to NRV at Manantial Espejo and Dolores mines at December 31, 2019. (2018 - $7.5 million at Manantial Espejo mine).
(4) Inventories at Escobal mine, which include $16.9 million in supplies with the remainder attributable to metals, have been classified as non-current pending the restart of operations.

The costs of inventories recognized as expense for the year ended December 31, 2019 amounted to $1.1 billion (2018 – $683.6 million), of which $841.3 million (2018 – $515.6 million) and $253.5 million (2018 – $147.3 million) were included in production costs and depreciation and depletion in the Consolidated Income Statements, respectively.

During the year ended December 31, 2019 a $0.4 million NRV recovery (2018 - $24.3 million NRV loss) was recognized, primarily driven by increased production costs, and included in production costs (Note 22). Inventories held at NRV amounted to $151.5 million (2018 - $143.6 million).

A portion of the stockpile ore amounting to $1.2 million (2018 - $2.5 million) and a portion of the heap leach inventory amounting to $74.5 million (2018 - $75.3 million) are expected to be recovered or settled after more than twelve months.

12. 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.

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, 2019					
Net of accumulated depreciation	$ 678,489	$ 73,375	$ 249,231	$ 299,907	$ 1,301,002
Additions	152,033	42,487	549	68,664	263,733
Tahoe acquisition (Note 8)	314,604	274,817	194,900	455,080	1,239,401
Disposals	(2,461)	(13)	—	(2,010)	(4,484)
Depreciation and amortization	(113,067)	—	—	(140,386)	(253,453)
Depreciation charge captured in inventory	(33,810)	—	—	—	(33,810)
Impairment charge	—	(33,245)	(6,805)	—	(40,050)
Transfers	(77,598)	(25,872)	13,051	90,419	—
Closure and decommissioning – changes in estimate (Note 17)	32,562	—	—	—	32,562
As at December 31, 2019	**$ 950,752**	**$ 331,549**	**$ 450,926**	**$ 771,674**	**$ 2,504,901**
Cost as at December 31, 2019	$ 2,429,815	$ 398,485	$ 876,859	$ 1,476,170	$ 5,181,329
Accumulated depreciation and impairments	**(1,479,063)**	**(66,936)**	**(425,933)**	**(704,496)**	**(2,676,428)**
Carrying value – December 31, 2019	**$ 950,752**	**$ 331,549**	**$ 450,926**	**$ 771,674**	**$ 2,504,901**

	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 (Note 17)	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**

	December 31, 2019			December 31, 2018		
	Cost	**Accumulated Depreciation and Impairment**	**Carrying Value**	Cost	Accumulated Depreciation and Impairment	Carrying Value
Huaron, Peru	**$ 215,109**	**$ (126,301)**	**$ 88,808**	$ 207,360	$ (114,288)	$ 93,072
Morococha, Peru	**258,862**	**(164,501)**	**94,361**	243,603	(149,120)	94,483
Shahuindo, Peru [1]	**498,960**	**(39,668)**	**459,292**	—	—	—
La Arena, Peru [1]	**112,014**	**(22,853)**	**89,161**	—	—	—
Alamo Dorado, Mexico	**71,724**	**(71,724)**	**—**	126,960	(126,960)	—
La Colorada, Mexico	**305,357**	**(143,232)**	**162,125**	301,706	(121,940)	179,766
Dolores, Mexico	**1,608,334**	**(1,091,862)**	**516,472**	1,529,751	(981,948)	547,803
Manantial Espejo, Argentina	**371,677**	**(367,901)**	**3,776**	367,105	(362,293)	4,812
San Vicente, Bolivia	**143,251**	**(95,360)**	**47,891**	137,394	(86,663)	50,731
Timmins, Canada [1]	**292,986**	**(42,672)**	**250,314**	—	—	—
Other	**27,711**	**(17,485)**	**10,226**	23,994	(16,265)	7,729
Total	**$ 3,905,985**	**$ (2,183,559)**	**$ 1,722,426**	$ 2,937,873	$ (1,959,477)	$ 978,396
Land and Non-Producing Properties:						
Land	**$ 5,528**	**$ (1,267)**	**$ 4,261**	$ 4,677	$ (1,096)	$ 3,581
Navidad, Argentina	**566,577**	**(376,101)**	**190,476**	566,577	(376,101)	190,476
Escobal, Guatemala [1]	**249,353**	**—**	**249,353**	—	—	—
Timmins, Canada [1]	**87,747**	**—**	**87,747**	—	—	—
Shahuindo, Peru [1]	**15,586**	**—**	**15,586**	—	—	—
La Arena, Peru [1]	**117,000**	**—**	**117,000**	—	—	—
Minefinders, Mexico	**83,079**	**(36,975)**	**46,104**	91,362	(36,975)	54,387
La Colorada, Mexico	**15,544**	**—**	**15,544**	—	—	—
Morococha, Peru	**7,213**	**—**	**7,213**	9,674	—	9,674
Projects, Argentina [2]	**95,851**	**(66,859)**	**28,992**	69,774	(24,939)	44,835
Other	**31,866**	**(11,667)**	**20,199**	30,908	(11,255)	19,653
Total non-producing properties	**$ 1,275,344**	**$ (492,869)**	**$ 782,475**	$ 772,972	$ (450,366)	$ 322,606
Total mineral properties, plant and equipment	**$ 5,181,329**	**$ (2,676,428)**	**$ 2,504,901**	$ 3,710,845	$ (2,409,843)	$ 1,301,002

(1) Acquired as part of the Tahoe Acquisition (Note 8).
(2) Comprised of the Joaquin and COSE projects.

Held for Sale Assets

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 ($6 million, net of tax expense) on the sale of Calcatreu included in gain on sale of mineral properties, plant and equipment.

13. IMPAIRMENT OF NON-CURRENT ASSETS

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. 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

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, 2019, impairment charges totaling $40.1 million (2018 - charges of $27.8 million) were required on Manantial Espejo.

2019 Impairment - Manantial Espejo

A recent increase in Argentina export taxes, announced in January 2020, combined with the delayed commencement of production from the COSE and Joaquin deposits, and the deteriorated Argentina economy led management to conclude that there was an indication of impairment to its Argentine operating assets, namely the Manantial Espejo mine, and the COSE and Joaquin projects. As at December 31, 2019, the Company determined that the combined CGU 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 $63.6 million was higher than the combined estimated recoverable amount of $23.5 million when using a 9.75% 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 $40.1 million ($40.1 million, net of tax).

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 CGU 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).

Key assumptions and sensitivity

The metal prices used to calculate the recoverable amounts at December 31, 2019, and December 31, 2018 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, 2019:

Metal Prices	2020-2022 average
Silver price - $/oz.	$17.94
Gold price - $/oz.	$1,474

Metal prices used at December 31, 2018:

Metal Prices	2019-2022 average
Silver price - $/oz.	$17.07
Gold price - $/oz.	$1,300

In 2019, 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 3.7% (2018 – 5.3%), with rates applied to the various mines and projects ranging from 4.0% to 12.3% (2018 - 4.5% to 9.8%), 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, 2019, the Company performed a sensitivity analysis on all key assumptions that assumed a 10% adverse change to each individual assumption while holding the other assumptions constant.

At December 31, 2019, 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 Shahuindo, La Arena, Timmins, 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 10% adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

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 10% adverse change in any one key assumption would reduce the recoverable amount below the carrying amount.

14. INVESTMENT IN ASSOCIATES

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

	2019	2018
Balance of investment in Maverix, December 31,	**$ 69,116**	$ 53,567
Dilution gains [(1)]	**13,438**	15,158
Income in associate	**1,765**	391
Balance of investment in Maverix, December 31,	**$ 84,319**	$ 69,116
Balance of investment in other [(2)]	**$ —**	$ 1,450
	$ 84,319	$ 70,566

(1) Includes adjustment for change in ownership interest.
(2) The Company sold its interest in an equity investee for $5 million in May 2019 resulting in a gain of $3.6 million recorded in gains (losses) on sale of mineral, properties, plant and equipment on the Consolidated Income Statements.

Investment in Maverix:

The Company's warrant liability representing in substance ownership interest in Maverix was $15.0 million as at December 31, 2019 (2018 - $14.7 million). The Company's share of Maverix income was recorded based on its fully diluted ownership which averaged 26% for the year ended December 31, 2019 (2018 - 34%).

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. As at December 31, 2019, the deferred revenue liability was $12.5 million (December 31, 2018 - $13.3 million).

The Company recognized $0.7 million during the year ended December 31, 2019 (2018 - $0.6 million), for the delivery of 3,758 ounces (2018 - 3,968 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 $13.5 million for the year ended December 31, 2019 (2018 - gains of $13.3 million) recorded in share of loss from associate and dilution gain.

For the year ended December 31, 2019, the Company also recognized its share of income from associate of $1.8 million (2018 - $0.4 million income), which represents the Company's proportionate share of Maverix's income (loss) during the year.

15. GOODWILL AND OTHER ASSETS

Goodwill and other assets consist of:

	December 31, 2019	December 31, 2018
Goodwill	$ 3,057	$ 3,057
Other assets	1,930	2,163
	$ 4,987	$ 5,220

16. ACCOUNTS PAYABLE

Accounts payable and accrued liabilities consist of:

	December 31, 2019	December 31, 2018
Trade accounts payable(1)	$ 66,924	$ 52,201
Royalties payable	16,108	2,004
Other accounts payable and trade related accruals	59,295	32,896
Payroll and related benefits	47,221	26,817
Severance accruals	994	1,791
Refundable tax payable	9,844	4,044
Other taxes payable	24,944	11,990
	$ 225,330	$ 131,743

(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.

17. PROVISIONS

	Closure and Decommissioning	Litigation	Total
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 24)	6,524	—	6,524
December 31, 2018	$ 70,587	$ 4,568	$ 75,155
Revisions in estimates and obligations incurred	**32,909**	**—**	**32,909**
Acquired from Tahoe (Note 8)	**77,320**	**732**	**78,052**
Charged (credited) to earnings:			
-new provisions	**—**	**2,551**	**2,551**
-change in estimate	**—**	**(252)**	**(252)**
-exchange gains on provisions	**—**	**(265)**	**(265)**
Charged in the year	**—**	**(405)**	**(405)**
Reclamation expenditures	**(2,264)**	**—**	**(2,264)**
Accretion expense (Note 24)	**9,903**	**—**	**9,903**
December 31, 2019	**$ 188,455**	**$ 6,929**	**$ 195,384**

Maturity analysis of total provisions:	**December 31, 2019**	December 31, 2018
Current	**$ 7,372**	$ 5,072
Non-Current	**188,012**	70,083
	$ 195,384	$ 75,155

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 $290.4 million (2018 - $159.1 million), which has been inflated using inflation rates of between 0% and 5% (2018 – between 2% and 17%). The total provision for closure and decommissioning cost is calculated using discount rates of between 2% and 9% (2018 - between 2% and 22%). Revisions made to the reclamation obligations in 2019 were primarily a result of the newly acquired Tahoe mines, 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 2019 earnings as finance expense was $9.9 million (2018 - $6.5 million). Reclamation expenditures paid during the current year were $2.3 million (2018 - $7.8 million).

Litigation Provision

The litigation provision, as at December 31, 2019 and 2018, consists primarily of amounts accrued for labour claims at several of the Company's mine operations. The balance of $6.9 million at December 31, 2019 (2018 - $4.6 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. LEASES

a. ROU Assets

The following table summarizes changes in ROU Assets for the year ended December 31, 2019, which have been recorded in property, plant and equipment on the Consolidated Statements of Financial Position:

		December 31, 2019
Cost		
Balance, January 1, 2019 [1]	$	34,983
Additions after January 1, 2019	$	33,895
Assets acquired from Tahoe (Note 8)	$	8,520
Transfer out	$	(16,619)
Balance, December 31, 2019		60,779
Accumulated Depreciation		
Balance at January 1, 2019	$	(4,780)
Amortization	$	(17,674)
Transfer out	$	7,465
Balance, December 31, 2019		(14,989)
Carrying Amounts		
At January 1, 2019		30,203
At December 31, 2019	$	45,790

(1) Includes $21.4 million in newly recognized ROU assets.

b. Lease obligations

The following table presents a reconciliation of the Company's undiscounted cash flows at December 31, 2019 and December 31, 2018 to their present value for the Company's lease obligations:

		December 31, 2019		December 31, 2018
Within one year	$	16,221	$	5,488
Between one and five years		23,099		1,335
Beyond five years		21,675		—
Total undiscounted lease obligations		60,995		6,823
Less: future interest charges		(19,787)		(147)
Total discounted lease obligations	$	41,208	$	6,676
Less: current portion of lease obligations		(14,198)		(5,356)
Non-current portion of lease obligations	$	27,010	$	1,320

When measuring lease liabilities, the Company discounted lease payments using its incremental borrowing rate at January 1, 2019. The weighted average rate applied was 9.7% (2018 - 2.2%), which resulted in interest charges of $3.4 million for the year ended December 31, 2019 (2018 - $0.2 million).

The following table reconciles the Company's lease commitments disclosed in the consolidated financial statements as at and for the year ended December 31, 2019, to the lease obligations recognized on initial application of IFRS 16:

Operating lease commitments at December 31, 2018	$	19,260
Discounted using the incremental borrowing rate at January 1, 2019	$	(2,819)
Recognition exemptions for short-term and low-value leases	$	(455)
Variable payments not included in lease liabilities	$	(233)
Lease obligations recognized at January 1, 2019 related to operating lease commitments at December 31, 2018	$	15,753

19. DEBT

	December 31, 2019	December 31, 2018
Credit Facility	$ 275,000	$ —

The Company's four-year, $300.0 million secured revolving credit facility, which was due to mature on April 15, 2020, was increased to $400.0 million on February 1, 2019, and increased to $500.0 million on February 22, 2019, with maturity on February 1, 2023, and resulted in additional upfront costs of $2.0 million. These amendments were made as part of the Tahoe Acquisition.

The upfront costs have been recorded as an asset under the classification "Prepaid expenses and other current assets" and are being amortized over the life of the Credit Facility. The Credit Facility can be drawn down at any time to finance the Company's working capital requirements, acquisitions, investments and for general corporate purposes.

The financial covenants required the Company to maintain a tangible net worth (exclusive of any prospective write-downs of certain assets) of greater than $1,036.4 million plus 50% of the positive net income from and including the fiscal quarter ended March 31, 2016. As part of the amendment, after March 31, 2019, the financial covenants require the Company to maintain a minimum tangible net worth (exclusive of any prospective write-downs of certain assets) of greater than 70% of its tangible net worth as of March 31, 2019 plus 50% of positive net income from and including the fiscal quarter ended June 30, 2019. In addition, the financial covenants continue to include the requirement for the Company to maintain: (i) a leverage ratio less than or equal to 3.5:1; and (ii) an interest coverage ratio more than or equal to 3.0:1. As of December 31, 2019, the Company was in compliance with all covenants required by the Credit Facility.

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 Credit Facility remained undrawn in 2018. During the year ended December 31, 2019, the Company drew down $335 million, and repaid $60 million, under the Credit Facility, under LIBOR-based interest rates, to fund, in part, the cash purchase price for the Tahoe Acquisition and to repay, in full, and cancel Tahoe's second amended and restated revolving facility, under which $125 million had been drawn.

During the year ended December 31, 2019, the average interest rate incurred by the Company on the Credit Facility was 4.3%. The Credit Facility was not drawn in 2018. During the year ended December 31, 2019, the Company incurred $0.9 million (2018 - $1.4 million) in standby charges on undrawn amounts and $11.6 million (2018 - $nil) in interest on drawn amounts under this Facility.

20. OTHER LONG TERM LIABILITIES

Other long term liabilities consist of:

	December 31, 2019	December 31, 2018
Deferred credit[(1)]	**$ 20,788**	$ 20,788
Other income tax payable	**118**	227
Severance accruals	**6,848**	4,410
	$ 27,754	$ 25,425

(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.

21. SHARE CAPITAL AND STOCK-BASED COMPENSATION

a. Stock options and Common Shares issued as compensation ("Compensation Shares")

For the year ended December 31, 2019, the total share-based compensation expense relating to stock options and Compensation Shares was $4.4 million (2018 - $3.0 million) and is presented as a component of general and administrative expense.

i. Stock options

During the year ended December 31, 2019, the Company granted 22,788 (2018 – 149,163 stock options) stock options.

During the year ended December 31, 2019, the Company issued 244,299 common shares (2018 – 125,762 shares) in connection with the exercise of stock options.

ii. Replacement options

Following completion of the Tahoe Acquisition (Note 8), the Company issued 835,874 replacement options to eligible Tahoe option holders. These replacement options were fully vested with 12 months of remaining contractual life upon issuance and various exercise prices between CAD $20.52 and CAD $97.26.

iii. Compensation shares

During the year ended December 31, 2019, 22,335 common shares were issued to Directors in lieu of Directors fees of $0.2 million (2018 - 10,338 shares in lieu of fees of $0.2 million).

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, 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**
Granted	22,788		26.54
Granted pursuant to the Tahoe Acquisition (Note 8)	835,874	$	48.47
Exercised	(244,299)	$	15.10
Expired	(141,604)		58.45
Forfeited	(27,798)	$	34.00
As at December 31, 2019	**1,143,348**	**$**	**33.84**

The following table summarizes information about the Company's stock options outstanding at December 31, 2019:

	Options Outstanding				Options Exercisable		
Range of Exercise Prices CAD$	Number Outstanding as at December 31, 2019	Weighted Average Remaining Contractual Life (months)		Weighted Average Exercise Price CAD$	Number Exercisable as at December 31, 2019		Weighted Average Exercise Price CAD$
$9.76 - $23.61	**476,368**	47.33	$	14.96	**401,790**	$	14.48
$23.62 - $35.21	**150,614**	14.30	$	27.72	**127,826**	$	27.94
$35.22 - $46.53	**179,488**	4.34	$	41.72	**179,488**	$	41.72
$46.54 - $54.15	**189,106**	2.05	$	51.60	**189,106**	$	51.60
$54.16 - $97.26	**147,772**	2.34	$	68.63	**147,772**	$	68.63
	1,143,348	22.93	$	33.84	**1,045,982**	$	35.16

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:

		2019		2018
Expected life		**4.0**		4.0
Expected volatility		**37.1%**		43.8%
Expected dividend yield		**1.0%**		2.1%
Risk-free interest rate		**2.0%**		2.5%
Weighted average exercise price (CAD$)	**$**	**26.54**	$	17.53
Weighted average fair value (CAD$)	**$**	**8.34**	$	5.90

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 75,311 PSUs for 2019 with a share price of CAD $24.88 (2018 - 117,328 PSUs approved at a share price of CAD $17.48). Compensation expense for PSUs was $2.2 million for the year ended December 31, 2019 (2018 - $1.0 million) and is presented as a component of general and administrative expense.

At December 31, 2019, the following PSUs were outstanding:

PSU	Number Outstanding	Fair Value
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**
Granted	75,311	1,784
Paid out	(38,119)	(903)
Forfeited	—	—
Change in value	—	1,924
As at December 31, 2019	**247,601**	**$ 5,896**

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 $2.5 million for the year ended December 31, 2019 (2018 – $1.7 million) and is presented as a component of general and administrative expense.

At December 31, 2019, the following RSUs were outstanding:

RSU	Number Outstanding	Fair Value
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**
Granted	146,594	3,891
Paid out	(157,584)	(3,140)
Forfeited	(18,617)	(441)
Change in value	—	3,173
As at December 31, 2019	**299,216**	**$ 7,107**

d. Issued share capital

The Company is authorized to issue 400,000,000 Common Shares without par value.

e. Dividends

The Company declared the following dividends for the years ended December 31, 2019 and 2018:

Declaration Date	Record date	Dividend per common share
February 19, 2020 [1]	March 2, 2020	$ 0.0500
November 6, 2019	November 18, 2019	$ 0.0350
August 7, 2019	August 19, 2019	$ 0.0350
May 8, 2019	May 21, 2019	$ 0.0350
February 20, 2019	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

(1) These dividends were declared subsequent to the year end and have not been recognized as distributions to owners during the period presented.

22. PRODUCTION COSTS

Production costs are comprised of the following:

	2019	2018
Consumption of raw materials and consumables	**$ 311,812**	$ 184,484
Employee compensation and benefits expense [1]	**271,684**	167,879
Contractors and outside services	**117,018**	88,475
Utilities	**41,674**	26,320
Other expenses	**74,469**	31,417
Changes in inventories [2]	**24,640**	17,061
	$ 841,297	$ 515,636

(1) Employee compensation and benefits expense is comprised of:

	2019	2018
Wages, salaries and bonuses	**$ 288,015**	$ 181,957
Share-based compensation	**4,448**	2,957
Total employee compensation and benefit expenses	**292,463**	184,914
Less: Expensed within General and Administrative expenses	**(16,156)**	(13,919)
Less: Expensed within Exploration expenses	**(4,623)**	(3,116)
Employee compensation and benefits expenses included in production costs	**$ 271,684**	$ 167,879

(2) Includes NRV adjustments to inventory to reduce production costs by $0.4 million for the year ended December 31, 2019 (2018 - increase by $24.3 million).

23. INTEREST AND FINANCE EXPENSE

	2019	2018
Interest expense (recovery)	**$ 16,879**	$ (678)
Finance fees	**2,500**	2,293
Accretion expense (Note 17)	**9,903**	6,524
	$ 29,282	$ 8,139

24. EARNINGS PER SHARE (BASIC AND DILUTED)

For the year ended December 31,	2019			2018		
	Earnings (Numerator)	**Shares (000's) (Denominator)**	**Per-Share Amount**	Earnings (Numerator)	Shares (000's) (Denominator)	Per-Share Amount
Net earnings [1]	**$ 110,738**			$ 10,294		
Basic EPS	**$ 110,738**	**201,397**	**$ 0.55**	$ 10,294	153,315	$ 0.07
Effect of Dilutive Securities:						
Stock Options	**—**	**174**		—	207	
Diluted EPS	**$ 110,738**	**201,571**	**$ 0.55**	$ 10,294	153,522	$ 0.07

(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, 2019 were 711,662 out-of-the-money options (2018 – 45,705).

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	2019	2018
Adjustments for non-cash income statement items:		
Share-based compensation expense	**$ 4,448**	$ 2,957
(Gain) loss on securities held	**(83,705)**	3,298
Gains on commodity and foreign currency contracts (Note 9)	**(3,315)**	(4,930)
Loss on derivatives (Note 9)	**14**	1,078
Loss on inventory	**—**	4,670
Share of income from associate and dilution gain (Note 14)	**(15,245)**	(13,679)
Net realizable value adjustment for inventories (Note 22)	**(356)**	24,330
Project development write-down	**1,882**	—
	$ (96,277)	$ 17,724

Changes in non-cash operating working capital items:	2019	2018
Trade and other receivables	**$ 1,545**	$ 6,256
Inventories	**22,753**	(12,128)
Prepaid expenses	**(4,093)**	1,878
Accounts payable and accrued liabilities	**(43,527)**	8,053
Provisions	**(4,622)**	(8,320)
	$ (27,944)	$ (4,261)

Significant non-cash items:	2019	2018
Assets acquired by finance lease	**$ 51,181**	$ 7,028
Share-based compensation issued to employees and directors	**$ 2,693**	$ 1,879

Cash and Cash Equivalents	December 31, 2019	December 31, 2018
Cash in banks	**$ 120,564**	$ 77,735
Short-term money market investments	**—**	60,775
Cash and cash equivalents	**$ 120,564**	$ 138,510

26. SEGMENTED INFORMATION

Operating segments are determined by the way information is reported and used by the Company's Chief Operating Decision Maker ("CODM") to review operating performance. The Company has determined that each producing mine and significant development property represents a reportable segment. The Company has organized its reportable segments by significant revenue streams and geographic regions.

Significant information relating to the Company's reportable segments is summarized in the table below:

For the year ended December 31, 2019

Segment/Country	Mine	Revenue	Production costs and royalties	Depreciation	Mine operating earnings	Capital expenditures
Silver Segment:						
Mexico	Dolores	$ 248,744	$ 191,320	$ 104,701	$ (47,277)	$ 47,722
	La Colorada	177,698	75,139	23,175	79,384	20,139
Peru	Huaron	117,118	76,962	13,638	26,518	8,013
	Morococha	101,549	73,396	15,482	12,671	10,703
Bolivia	San Vicente	76,968	57,805	9,449	9,714	4,938
Argentina	Manantial Espejo	63,289	63,432	5,854	(5,997)	23,909
Guatemala	Escobal	—	—	—	—	1,107
Total Silver Segment		785,366	538,054	172,299	75,013	116,531
Gold Segment:						
Peru	Shahuindo	189,372	90,877	28,649	69,846	31,239
	La Arena	174,803	99,915	14,873	60,015	47,557
Canada	Timmins	201,218	139,172	36,302	25,744	10,346
Total Gold Segment		565,393	329,964	79,824	155,605	89,142
Other segment:						
Canada	Pas Corp	—	—	488	(488)	125
Argentina	Navidad	—	—	—	—	9
Other	Other	—	—	842	(842)	—
Total		$ 1,350,759	$ 868,018	$ 253,453	$ 229,288	$ 205,807

For the year ended December 31, 2018

Segment/Country	Mine	Revenue	Production costs and royalties	Depreciation	Mine operating earnings	Capital expenditures
Silver Segment:						
Mexico	Dolores	$ 236,835	$ 187,920	$ 83,620	$ (34,705)	$ 59,480
	La Colorada	164,050	70,864	22,567	70,619	22,473
Peru	Huaron	114,739	75,382	12,867	26,490	14,551
	Morococha	117,517	68,066	15,476	33,975	10,370
Bolivia	San Vicente	60,503	43,405	6,200	10,898	6,949
Argentina	Manantial Espejo	90,851	90,672	6,084	(5,905)	29,881
Total Silver Segment		784,495	536,309	146,814	101,372	143,704
Other segment:						
Canada	Pas Corp	—	—	145	(145)	440
Argentina	Navidad	—	—	—	—	39
Other	Other	—	—	330	(330)	165
Total		$ 784,495	$ 536,309	$ 147,289	$ 100,897	$ 144,348

A reconciliation of segment mine operating earnings to the Company's earnings before income taxes per the Consolidated Income Statements is as follows:

		2019		2018
Mine operating earnings		**229,288**		100,897
General and administrative	$	(31,752)	$	(22,649)
Exploration and project development	$	(11,684)	$	(11,138)
Mine care and maintenance	$	(23,662)	$	—
Foreign exchange losses	$	(5,003)	$	(9,326)
Impairment charges (Note 13)	$	(40,050)	$	(27,789)
Gains on commodity and foreign currency contracts (Note 9)	$	3,315	$	4,930
Gains on sale of mineral properties, plant and equipment (Note 12)	$	3,858	$	7,973
Share of income from associate and dilution gain (Note 14)	$	15,245	$	13,679
Transaction and integration costs (Note 8)	$	(7,515)	$	(10,229)
Other expense (Note 27)	$	(4,936)	$	(3,659)
Earnings from operations	$	**127,104**	$	42,689
Loss on derivatives (Note 9)	$	(14)	$	(1,078)
Investment income (loss)	$	84,704	$	(284)
Interest and finance expense (Note 23)	$	(29,282)	$	(8,139)
Earnings before income taxes		**182,512**		33,188

At December 31, 2019							
Segment/Country	Mine		Assets		Liabilities		Net assets
Silver Segment:							
Mexico	Dolores	$	763,301	$	137,396	$	625,905
	La Colorada	$	223,416	$	46,476	$	176,940
Peru	Huaron	$	110,642	$	39,962	$	70,680
	Morococha	$	128,280	$	36,754	$	91,526
Bolivia	San Vicente	$	76,418	$	35,331	$	41,087
Argentina	Manantial Espejo	$	77,635	$	27,455	$	50,180
Guatemala	Escobal	$	293,178	$	19,340	$	273,838
Total Silver Segment			**1,672,870**		**342,714**		**1,330,156**
Gold Segment:							
Peru	Shahuindo	$	600,096	$	162,821	$	437,275
	La Arena	$	282,978	$	90,472	$	192,506
Canada	Timmins	$	429,060	$	50,171	$	378,889
Total Gold Segment			**1,312,134**		**303,464**		**1,008,670**
Other segment:							
Canada	Pas Corp	$	229,814	$	304,184	$	(74,370)
Argentina	Navidad	$	193,034	$	—	$	193,034
	Other	$	53,830	$	43,474	$	10,356
Total		$	**3,461,682**	$	**993,836**	$	**2,467,846**

At December 31, 2018							
Segment/Country	Mine		Assets		Liabilities		Net assets
Silver Segment:							
Mexico	Dolores	$	791,485	$	150,003	$	641,482
	La Colorada	$	230,736	$	56,206	$	174,530
Peru	Huaron	$	119,015	$	44,055	$	74,960
	Morococha	$	126,755	$	40,183	$	86,572
Bolivia	San Vicente	$	83,686	$	38,169	$	45,517
Argentina	Manantial Espejo	$	20,839	$	24,994	$	(4,155)
			1,372,516		353,610		1,018,906
Other segment:							
Canada	Pas Corp	$	247,792	$	30,221	$	217,571
Argentina	Navidad	$	193,777	$	1,546	$	192,231
	Other	$	123,391	$	38,750	$	84,641
		$	1,937,476	$	424,127	$	1,513,349

Product Revenue	2019	2018
Refined silver and gold	**894,202**	348,717
Zinc concentrate	**134,992**	155,412
Lead concentrate	**183,343**	150,832
Copper concentrate	**78,865**	86,599
Silver concentrate	**59,357**	42,935
Total	**1,350,759**	784,495

The Company has 23 customers that account for 100% of the concentrate and silver and gold sales revenue. The Company has 7 customers that accounted for 15%, 15%, 13%, 13%, 9%, 8%, and 8% of total sales in 2019, and 7 customers that accounted for 28%, 14%, 13%, 10%, 8%, 8%, and 5% of total sales in 2018. The loss of certain of these customers or curtailment of purchases by such customers could have a material adverse effect on the Company's financial performance, financial position, and cash flows.

27. OTHER INCOME AND (EXPENSES)

		2019		2018
Change in closure and decommissioning estimates	$	**(221)**	$	(2,968)
Royalties income		**909**		631
Other expense		**(5,624)**		(1,322)
Total	$	**(4,936)**	$	(3,659)

28. INCOME TAXES

Components of Income Tax Expense

	2019	2018
Current tax expense (recovery)		
Recognized in profit or loss in current year	**$ 95,219**	$ 59,056
Adjustments recognized in the current year with respect to prior years	**(3,090)**	(5,155)
	92,129	53,901
Deferred tax expense (recovery)		
Deferred tax recovery recognized in the current year	**(13,079)**	(13,256)
Adjustments recognized in the current year with respect to prior years	**(5,003)**	(1,098)
Recognition of previously unrecognized deferred tax assets	**—**	(6,140)
Benefit from previously unrecognized losses, and other temporary differences	**—**	(3,600)
Decrease in deferred tax liabilities due to tax impact of NRV charge to inventory	**(2,779)**	(8,660)
	(20,861)	(32,754)
Income tax expense	**$ 71,268**	$ 21,147

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, 2019 and the comparable period of 2018 were foreign exchange fluctuations, changes in non-recognition of certain deferred tax assets, mining taxes paid, withholding taxes on payments from foreign subsidiaries, and the addition to taxable income from the acquired Tahoe assets. The Company continues to expect that these and other factors will continue to cause volatility in effective tax rates in the future.

Reconciliation of Effective Income Tax Rate

	2019	2018
Earnings before taxes and non-controlling interest	**$ 182,512**	$ 33,188
Statutory Canadian income tax rate	**27.00%**	27.00%
Income tax expense based on above rates	**$ 49,278**	$ 8,961
Increase (decrease) due to:		
Non-deductible expenditures	**7,271**	3,929
Foreign tax rate differences	**2,507**	(2,160)
Change in net deferred tax assets not recognized:		
- Argentina exploration expenditures	**3,117**	3,372
- Other deferred tax assets	**(11,211)**	1,168
Non-taxable portion of net earnings of affiliates	**(132)**	(3,254)
Effect of other taxes paid (mining and withholding)	**21,307**	14,371
Effect of foreign exchange on tax expense	**(7,651)**	1,611
Non-taxable impact of foreign exchange	**4,158**	(351)
Change in non-deductible portion of reclamation liabilities	**8,207**	—
Change in current tax expense estimated for prior years	**(6,694)**	(5,030)
Other	**1,111**	(1,470)
Income tax expense	**$ 71,268**	$ 21,147
Effective income tax rate	**39.05%**	63.72%

Deferred tax assets and liabilities

The following is the analysis of the deferred tax assets (liabilities) presented in the consolidated financial statements:

	2019	2018
Net deferred tax liability, beginning of year	**$ (136,575)**	$ (168,549)
Initial deferred tax liability associated with the Tahoe Acquisition	**(24,080)**	—
Recognized in net earnings in the year	**20,861**	32,754
Reduction due to Mexican de-consolidation payments applied to current tax	**(705)**	(697)
Other	**138**	(83)
Net deferred liability, end of year	**$ (140,361)**	$ (136,575)
Deferred tax assets	**36,447**	12,244
Deferred tax liabilities	**(176,808)**	(148,819)
Net deferred tax liability	**$ (140,361)**	$ (136,575)

Components of deferred tax assets and liabilities

The deferred tax assets (liabilities) are comprised of the various temporary differences, as detailed below:

	2019	2018
Deferred tax assets (liabilities) arising from:		
Closure and decommissioning costs	**$ 16,002**	$ 9,105
Tax losses, resource pools and mining tax credits	**112,188**	29,195
Deductible Mexican mining taxes	**2,701**	2,974
Tax credit resulting from Mexican de-consolidation	**—**	698
Accounts payable and accrued liabilities	**16,865**	6,726
Trade and other receivables	**17,194**	15,756
Provision for doubtful debts and inventory adjustments	**(7,145)**	(11,752)
Mineral properties, plant, and equipment	**(278,707)**	(169,703)
Estimated sales provisions	**(23,026)**	(19,746)
Other temporary differences and provisions	**3,567**	172
Net deferred tax liability	**$ (140,361)**	$ (136,575)

At December 31, 2019, the net deferred tax liability above included the deferred tax benefit of $112.2 million due to tax losses ($49.6 million) and resource pools ($62.6 million). The significant increase in these deferred tax assets from the prior year was primarily related to the Tahoe Acquisition. The losses will begin to expire after the 2024 year end, if unused.

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.

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:

	2019	2018
Tax loss (revenue in nature)	**$ 239,216**	$ 131,179
Net tax loss (capital in nature)	**34,646**	14,456
Resource pools and other tax credits	**260,413**	18,266
Financing fees	**2,849**	785
Mineral properties, plant, and equipment	**118,380**	22,669
Closure and decommissioning costs	**141,018**	33,835
Exploration and other expenses not currently deductible	**53,595**	51,175
Intercompany debt	**11,339**	10,160
Doubtful debt and inventory	**23,895**	24,840
Payroll and vacation accruals	**1,055**	827
Other temporary differences	**3,399**	8,217
	$ 889,805	$ 316,409

Included in the above amounts are operating losses, which if not utilized will expire as follows:

At December 31, 2019

	Canada	US	Peru	Mexico	Barbados	Argentina	Total
2020	—	79	2,110	—	7	1	2,197
2021	—	318	28	—	7	2	355
2022 – and after	215,374	13,185	1,778	2,792	106	3,429	236,664
Total tax losses	**$ 215,374**	**$ 13,582**	**$ 3,916**	**$ 2,792**	**$ 120**	**$ 3,432**	**239,216**

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**

Taxable temporary differences associated with investment in subsidiaries

As at December 31, 2019, taxable temporary differences of $376.5 million (2018 – $85.2 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, 2019.

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. Environment

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, 2019, $188.5 million (2018 - $70.6 million) was accrued for reclamation costs relating to mineral properties. See also Note 17.

c. 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. Argentina

Unanticipated or drastic changes in laws and regulations have affected our operations in the past. For example, under previous political regimes 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. While some of these restrictions had begun to ease after the elections in 2015, the government introduced a new export duty in 2018 on silver and gold doré exported from Argentina (Note 29(h)). Following elections in 2019, the new government in Argentina has begun reinstituting some of the previous unfavorable economic policies, such as strict currency controls.

e. 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 migration process has been delayed by COMIBOL and has not been completed. 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.

f. Other Legal

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 are from current or ex-employees, or employees of former or current owners of our operations such as the Quiruvilca-related claims in Peru, some of which involve claims of significant value, and include alleged improper dismissals, workplace illnesses, such as silicosis, and claims for additional profit-sharing and bonuses in prior years. In some cases, we 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 the subject of three purported class action lawsuits filed in the United States that center primarily around alleged misrepresentations. These U.S. class action lawsuits were later consolidated into one class action suit that is ongoing. 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, or environmental or social damage, and such claimants may seek sizeable monetary damages against us and/or the return of surface or mineral rights or revocation of permits and licenses 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 us. 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.

g. Title

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. Any defects in title to our properties, or the revocation of our rights to mine, could have a material adverse effect on our operations and financial condition.

h. Royalty 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 14), Maverix acquired from the Company a portfolio of royalties, precious metals streams and payment agreements, in exchange for a 54% interest in Maverix (26% fully diluted as at December 31, 2019). 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 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 doré exported, and at ARS 3 per USD $1 of silver doré exported. As a result, the Company paid approximately $3.5 million (2018 - $1.6 million) in export duties, representing an average rate for the export duty of approximately 6% (2018 - 8%).

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 20.

Manantial Espejo

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

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, 2019, the Company incurred approximately $5.1 million in COMIBOL royalties (2018 - incurred $4.8 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, 2019 the royalties paid to EMUSA amounted to approximately $0.8 million (2018 - $0.7 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, 2019, the royalty amounted to $5.5 million (2018 - $4.4 million).

Dolores

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 $7.0 million for the year ended December 31, 2019 (2018 – $6.8 million).

Escobal

Some communities and non-governmental organizations ("NGOs") have been vocal and active in their opposition to mining and exploration activities in Guatemala. In July 2017, the Escobal mining license was suspended as a result of a court proceeding initiated by an NGO in Guatemala, based upon the allegation that Guatemala's Ministry of Energy and Mines ("MEM") violated the Xinka indigenous people's right of consultation. After several decisions and appeals on the matter, a decision of the Constitutional Court of Guatemala was rendered on September 3, 2018, determining that the Escobal mining license would remain suspended until the Guatemala MEM completes an ILO 169 consultation. The consultation process is proceeding, with the pre-consultation stage underway. Normal operations at the Escobal mine remain suspended. Legal challenges to the consultation process have been filed with the Guatemalan Supreme Court and the outcome of those challenges is unknown. The process and timing for completing the ILO 169 consultation remains uncertain. In addition, in June 2017, MSR filed its annual request to renew the Escobal mine's export credential with the Guatemala MEM. However, the Guatemala MEM did not renew the export credential because its renewal had become contingent on the Supreme Court's reinstatement of the Escobal mining license. The export credential therefore expired in August 2017 and has not been renewed.

In addition, since June 7, 2017, a group of protesters near the town of Casillas have blocked the primary highway that connects Guatemala City to San Rafael Las Flores and the Escobal mine. Tahoe's operations were reduced between June 8, 2017 and June 19, 2017 to conserve fuel, and on July 5, 2017, were ceased following the Supreme Court's provisional decision to suspend the Escobal mining license while the case against the Guatemala MEM was heard on the merits. A second roadblock was initiated in 2018 near the community of Mataquescuintla. MSR representatives have been pursuing engagement with community leaders, government agencies, and NGOs to develop a dialogue process aimed at resolving this protracted dispute and reaching a peaceful conclusion to the roadblocks, but there is no guarantee that a positive conclusion will be reached.

Navidad

As a result of uncertainty over the zoning, regulatory and tax laws, the Company has 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, 2019 and 2018 have been disclosed in these consolidated financial statements. Transactions with Maverix, an associate of the Company, have been disclosed in Note 14 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.

Remuneration of key management personnel

The remuneration of directors and other members of key management personnel during the year was as follows:

	2019	2018
Salaries and short-term benefits [(1)]	**$ 14,180**	$ 13,863
Post-employment benefits [(2)]	**1,287**	535
Share-based payments [(3)]	**3,195**	2,446
	$ 18,662	$ 16,844

(1) Includes annual salary and short-term incentives or bonuses earned in the year.
(2) Includes annual contributions to retirement savings plans made by the Company.
(3) Includes annual RSUs, PSUs, stock option and common share grants.

Corporate Information

CORPORATE OFFICE

1440 - 625 Howe Street
Vancouver, British Columbia
Canada V6C 2T6
604-684-1175
info@panamericansilver.com

BOARD OF DIRECTORS AND EXECUTIVE TEAM

(As at December 31, 2019)

Ross J. Beaty[1] – *Chair*

Michael Carroll[1,2] – *Director*

Neil de Gelder[2,3] – *Director*

Charles Jeannes[4,5] – *Director*

Kevin McArthur[1] – *Director*

Walter Segsworth[4,5,6] – *Director*

Gillian Winckler[2,3,5] – *Director*

Michael Steinmann[1,4] – *Director, President & Chief Executive Officer*

Steve Busby – *Chief Operating Officer*

Robert Doyle – *Chief Financial Officer*

Christopher Lemon – *General Counsel*

Brent Bergeron – *Senior Vice President, Corporate Affairs & Sustainability*

Andres Dasso – *Senior Vice President, Mining Operations*

Christopher Emerson – *Vice President, Business Development & Geology*

George Greer – *Senior Vice President, Project Development*

Sean McAleer – *Senior Vice President & Managing Director, Guatemala*

Martin Wafforn – *Senior Vice President, Technical Services & Process Optimization*

(1) Finance Committee member
(2) Audit Committee member
(3) Nominating & Governance Committee member
(4) Health, Safety, Environment & Communities Committee member
(5) Human resources & Compensation Committee member
(6) Lead Independent Director

AUDITORS

Deloitte LLP, Chartered Professional Accountants
2800 – 1055 Dunsmuir Street
Vancouver, British Columbia
Canada V7X 1P4

REGISTRAR AND TRANSFER AGENT

Computershare Investor Services Inc.
100 University Ave. 9th Floor
Toronto, Ontario
Canada M5J 2Y1
1-800-564-6253
service@computershare.com

EXTERNAL LEGAL COUNSEL

Borden Ladner Gervais LLP
1200 – 200 Burrard Street
Vancouver, British Columbia
Canada V7X 1T2

SHARE INFORMATION

NASDAQ: PAAS
TSX: PAAS
Common shares outstanding
at December 31, 2019: 209.8 million

INVESTOR CONTACT

Siren Fisekci
Vice President, Investor Relations & Corporate Communications
T: 604-684-1175
E: ir@panamericansilver.com

PANAMERICANSILVER.COM

ANNUAL MEETING

Wednesday, May 6, 2020 – 3:00pm (PST)
1200 Waterfront Centre
200 Burrard Street
Vancouver, British Columbia
Canada