



PAN AMERICAN  
— SILVER —

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# Q1 2020 Earnings Review

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# Cautionary Note

## Non-GAAP Measures

This presentation 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 “AISC”, “cash costs per ounce sold”, “adjusted earnings” and “basic adjusted earnings per share”, “total debt”, “capital”, “operating margin”, “cumulative operating margin” and “working capital”. 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. Silver segment 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 Cash Costs and AISC are calculated net of credits for realized silver revenues, 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.

Readers should refer to the “Alternative Performance (Non-GAAP) Measures” section of the Company’s Management’s Discussion and Analysis (“MD&A”) for the three months ended March 31, 2020, available at [www.sedar.com](http://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 Pan American 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 three months ended March 31, 2020.

## Cautionary Note Regarding Forward Looking Statements and Information

Certain of the statements and information in this presentation 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 presentation 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; the sufficiency of the Company’s current working capital, anticipated operating cash flow or its ability to raise necessary funds; our expectations with respect to future metal prices and exchange rates; the impact of the Escobal mine on the Company’s performance in the future; 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 discovery; the estimated cost of and availability of funding necessary for sustaining capital; the assumed or actual value of the Company’s portfolio assets; the implementation of certain environmental management protocols; the reporting and timing of our climate-related disclosure; the Company’s plans and expectations for its properties, operations and exploration projects; the duration or extent of the suspensions or voluntary reduction of activities at our operations, and the effect that any such reductions or suspensions may have on our operations and our financial and operational results; the ability of the Company to continue with any operations in Canada, or to successfully maintain our other operations on care and maintenance, or to restart or ramp-up these operations efficiently or economically, or at all; whether the Company is able to maintain a strong financial condition and have sufficient capital, or have access to capital through our credit facility or otherwise, to sustain our business and operations; the presence and impact of COVID-19 on our workforce, suppliers and other essential resources and what effect those impacts, if they occur, would have on our business; and whether we will be successful and able to continue with our efforts to protect our personnel, communities and others in respect of our business.

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# Cautionary Note

These forward-looking statements and information reflect Pan American's current views with respect to future events and are necessarily based upon a number of assumptions that, while considered reasonable by Pan American, are inherently subject to significant operational, business, economic and regulatory uncertainties and contingencies. These assumptions include: 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; our ability to comply with environmental, health and safety laws, particularly given the potential for modifications and expansion of such laws; the worldwide economic and social impact of COVID-19 is managed; and the duration and extent of the coronavirus pandemic is minimized or not long-term. 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 presentation and the Company has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: fluctuations in silver, gold, and base metal prices; fluctuations in prices for energy inputs; fluctuations in currency markets (such as the PEN, MXN, ARS, BOL, GTQ and CAD versus the USD); operational risks and hazards inherent with the business of mining (including environmental accidents and hazards, industrial accidents, equipment breakdown, unusual or unexpected geological or structural formations, cave-ins, flooding and severe weather); risks relating to 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; risk of liability relating to our past sale of the Quiruvilca mine in Peru; 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; 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, such as those in Chubut, Argentina, the risk of expropriation, and the constitutional court-mandated ILO 169 consultation process in Guatemala; 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; the duration and effects of the coronavirus and COVID-19, and any other pandemics on our operations and workforce, and the effects on global economies and society; 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.

## Technical Information

Scientific and technical information contained in this presentation 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 presentation 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](http://www.sedar.com) for further information on Pan American's material mineral properties as at December 31, 2019, 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 releases dated October 23, 2018, February 21, 2019, May 8, 2019, August 1, 2019, October 30, 2019, December 11, 2019 and February 13, 2020 with respect to the La Colorada skarn exploration results.

The mineral reserves and resources of Pan American in this presentation reflect our mineral reserves and resources estimates as at June 30, 2019, as announced in our news release dated September 4, 2019. See presentation appendix for more detailed information.

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

This presentation 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 this presentation have been prepared in accordance with Canadian *National Instrument 43-101 – Standards of Disclosure for Mineral Projects* (“NI 43-101”) and the Canadian Institute of Mining, Metallurgy and Petroleum classification system. 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 United States Securities and Exchange Commission (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 presentation uses the terms “measured resources”, “indicated resources” and “inferred resources”. U.S. investors are advised that, while such terms are recognized and required by Canadian securities laws, the SEC has not recognized them under Industry Guide 7 prior to the adoption of the modernization of Property Disclosure for Mining Registrants. The requirements of NI 43-101 for identification of “reserves” has 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 or extracted at the time the reserve determination is made. U.S. investors are cautioned not to assume that any part of a “measured resource” or “indicated resource” will ever be converted into a “reserve”. U.S. investors should also understand that “inferred resources” have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of “inferred resources” exist, are economically or legally mineable or will ever be upgraded to a higher category. Under Canadian securities laws, estimated “inferred resources” may not form the basis of feasibility or pre-feasibility studies except in rare cases. Disclosure of “contained ounces” in a mineral resource is permitted disclosure under Canadian securities laws. However, the SEC has previously only permitted issuers to report mineralization that does not constitute “reserves” by SEC standards as in place tonnage and grade, without reference to unit measures. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

# COVID-19: Our Response

*Priority is the health and safety of our people and the communities where we live and work*

- Adopting health and safety protocols consistent with those recommended by local health authorities, best management practices and the World Health Organization across all our operating sites and corporate offices.
- Enhancing the screening of people entering our mine sites; include pre-screening before arrival at site, temperature checks and completion of personal health questionnaires.
- Promoting physical distancing by reducing the number of personnel permitted at one time in certain areas.
- Instituting work from home protocols for employees and contractors in our corporate and country offices, where possible.
- Suspending non-essential domestic and international company travel.
- Demobilizing potential at-risk personnel from certain remote sites where medical care facilities for respiratory illnesses are not readily accessible.
- Requiring employees and contractors to stay home if they are not feeling well.
- Requiring employees or contractors who may have been exposed to the COVID-19 virus or have recently completed international travel to quarantine for 14 days.
- Donating ~\$2 million of food and hygiene supplies to our local communities, as well as facilitating access to health care.

# COVID-19: Our Response

## *Business continuity planning*

- Engaged cross-functional team to proactively plan and manage issues.
- Monitoring supply and logistical chains, establishing alternatives, as necessary.
- Instituted corporate-wide spending controls.
- Reduced management pay, including a 20% salary reduction for the executive.
- Deferred certain capital expenditures and exploration spending.
- Care and maintenance activities for suspended operations aimed at sustaining appropriate safety and environmental systems and ensuring operational readiness to restart operations.
- Withdrew 2020 guidance.

# Managing COVID-19 Impact

*Pan American is well positioned to manage the impact of COVID-19*



## Strong financial position

\$147.8M of cash and cash equivalents, as at March 31, 2020

\$240.0M available on Credit Facility, as at March 31, 2020<sup>(1)</sup>



## Experienced management team



## Geographically diversified operations

### Tail-winds

- Rising gold price
- Local currency depreciation
- Lower energy costs

### Head-winds

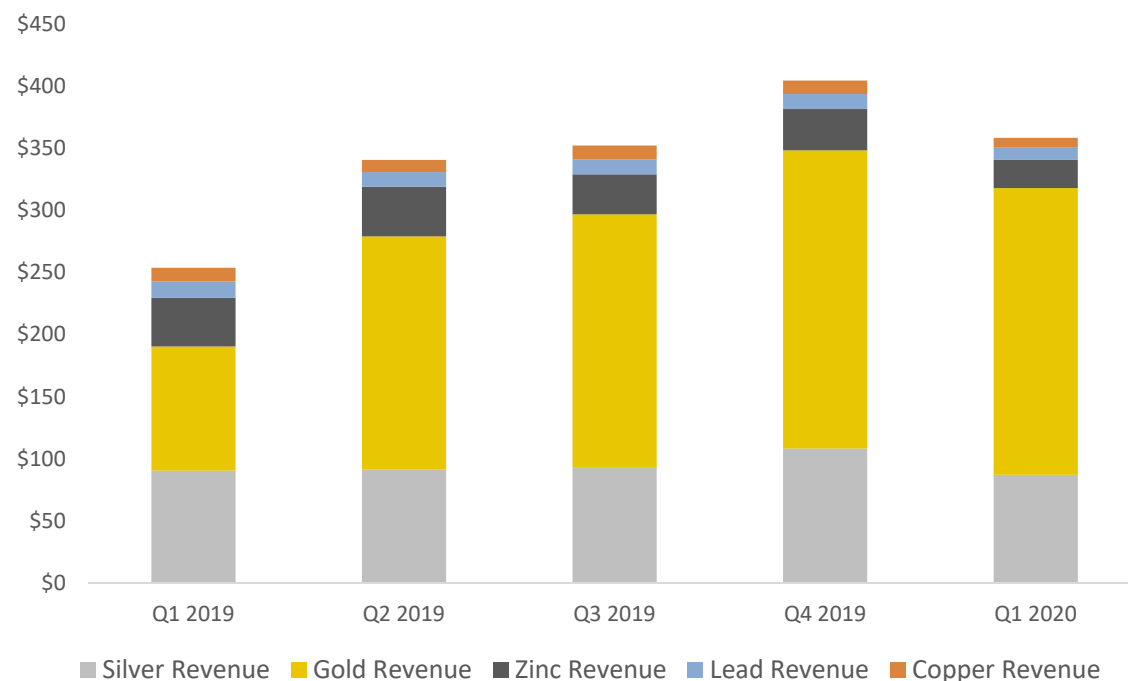
- Mandated business suspensions
- Refinery and smelting disruptions
- Transport disruptions (personnel, supply chain and sales)

(1) In April 2020, the Company increased its cash and cash equivalent holdings with an \$80.0 million draw on its Credit Facility.

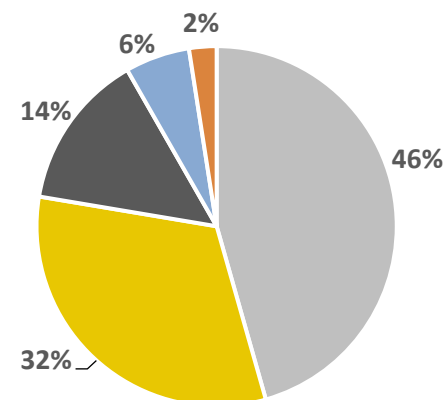
# Growth in Quarterly Revenues

*Q1 2020 to Q1 2019 increase in revenues from increased gold sales and increased price of gold sold*

Total revenues in US\$ millions<sup>(1)</sup>



Reserves by Metal<sup>2</sup>



(1) Revenue by metal is based on the average realized metal prices and metal quantities sold in each period.

(2) The reserves by metal reflect reserve values based on the Company's 2019 mineral reserve estimates, as announced in the news release dated Sept. 4, 2019, and metal price assumptions of \$17.00/oz for silver, \$1,300/oz for gold, \$2,500/tonne for zinc, \$2,100/tonne for lead, and \$6,000/tonne for copper. See presentation Appendix for more detailed information on the Company's reserves and resources.



# Consolidated Q1 2020 Highlights

- Cash flow from operations of \$114.1 million
- Net loss of \$77.2M, or \$0.37/share
  - \$52.7M tax expense, mostly from non-cash devaluations of tax assets in foreign currencies
  - \$28.3M investment loss, mostly from non-cash unrealized mark-to-market adjustments
  - \$16.0M care and maintenance costs
  - \$8.8 M losses on commodity and F/X contracts
- Adjusted loss of \$7.6M, or \$0.04/share
- Silver and gold production of 5.6 Moz and 156.1 koz, respectively
- Silver segment Cash Costs and AISC of \$8.18 and \$15.26/oz silver sold<sup>(1)</sup>
- Gold segment Cash Costs and AISC of \$757 and \$969/oz gold sold<sup>(1)</sup>
  - Consolidated AISC of \$3.49/oz silver sold (net of by-product credits, incl. gold production)<sup>(1)</sup>
- Project capital expenditures of \$8.7M for exploration drilling at La Colorada, development at COSE and expansion at Bell Creek mine and plant

<sup>(1)</sup> Cash Costs and AISC are non-GAAP measures. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of the MD&A for the period ended March 31, 2020 for a detailed description of these measures and where appropriate a reconciliation of the measures to the Q1 2020 Financial Statements.

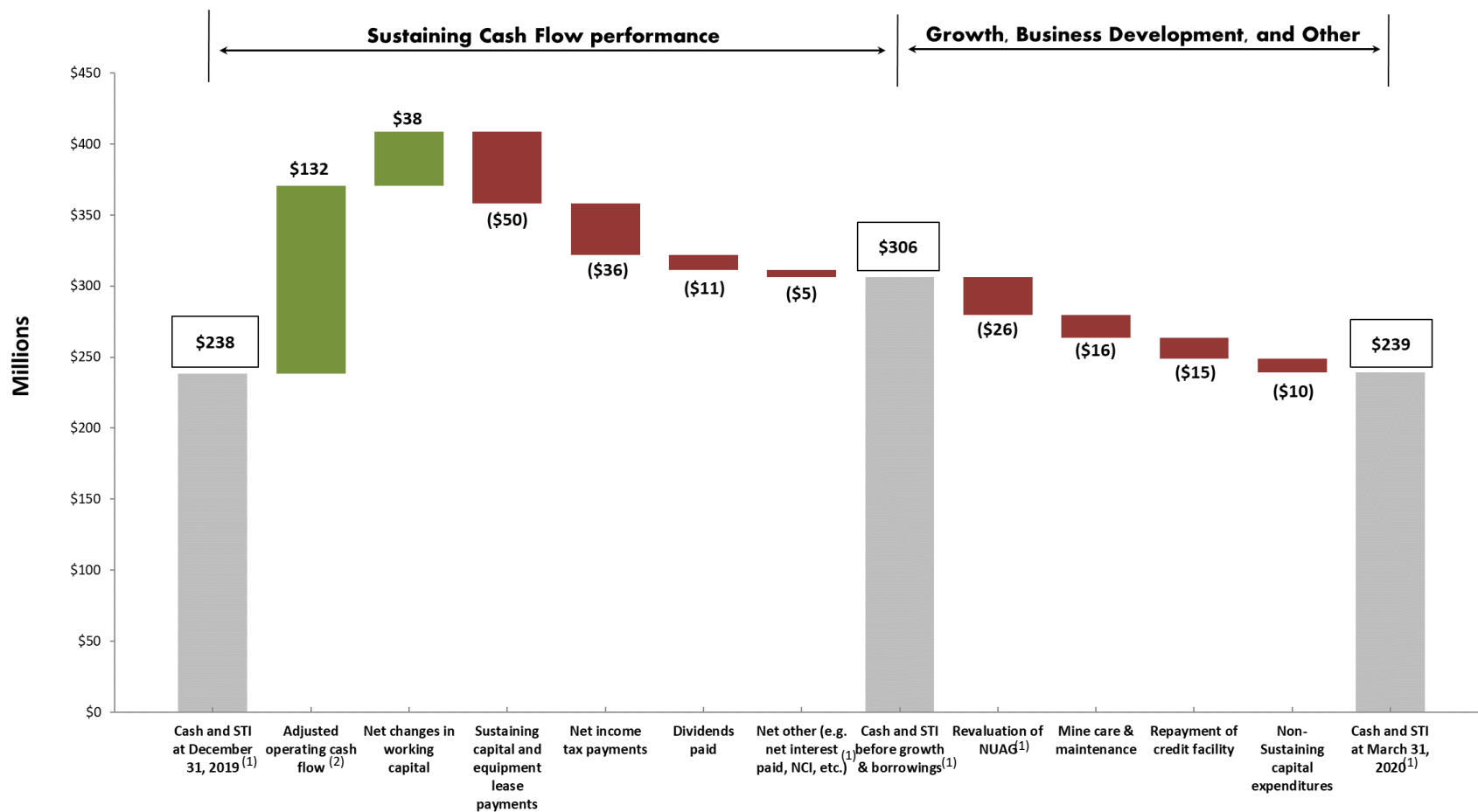
# Consolidated Financial Results

Unaudited in millions of US\$, except per share amounts	Q1 2020	Q1 2019
Revenue	358.4	253.7
Mine operating earnings	50.1	15.8
Net (loss) earnings	(77.2)	3.3
Basic (loss) per share <sup>(1)</sup>	(0.37)	0.02
Adjusted (loss) earnings <sup>(2)</sup>	(7.6)	4.5
Basic adjusted (loss) per share <sup>(1)</sup>	(0.04)	0.03
Net cash generated from operating activities	114.1	(12.9)

(1) Per share amounts are based on basic weighted average common shares.

(2) Adjusted earnings is a non-GAAP financial measure; see the "Non-GAAP Measures" section of our Cautionary Note on page 2 of this presentation.

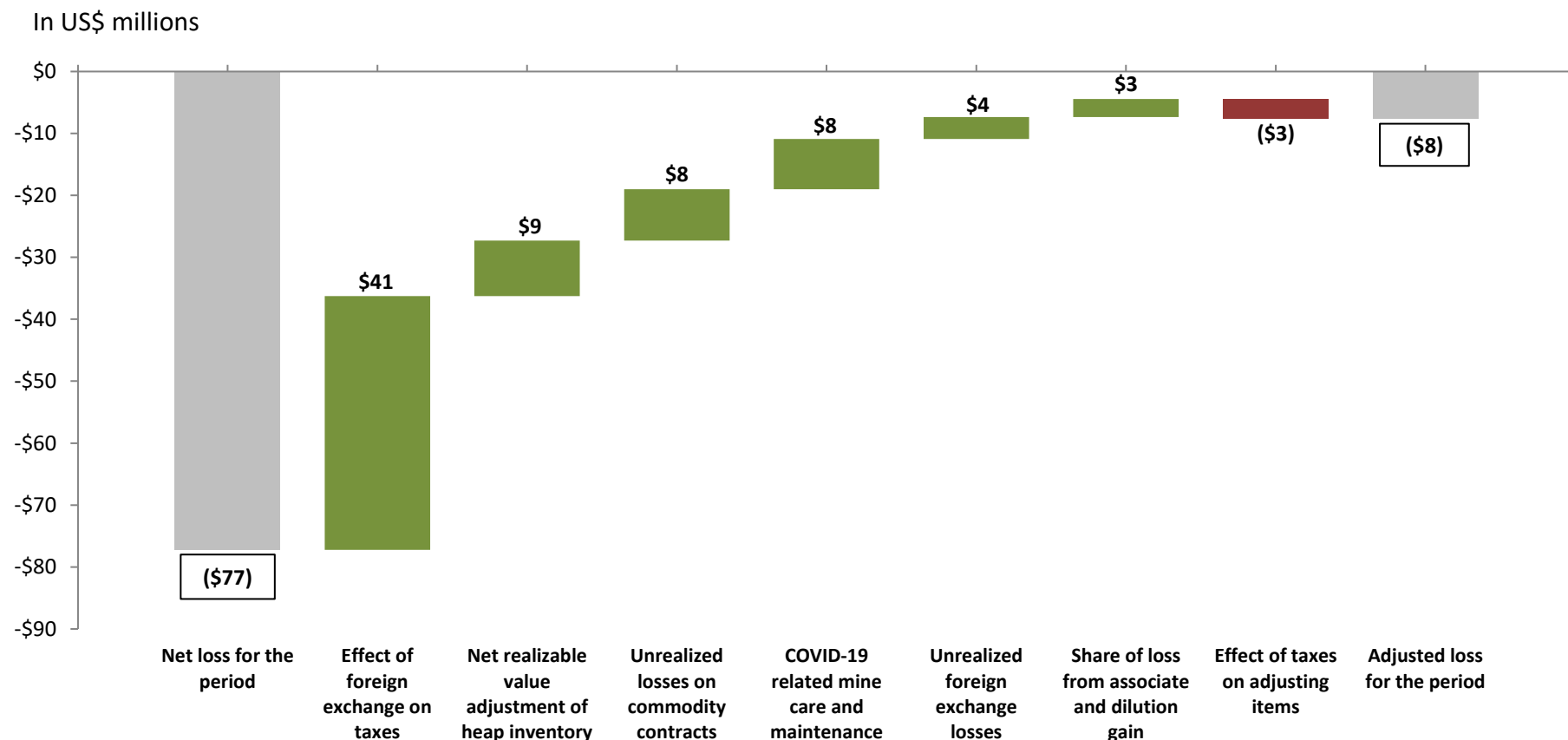
# Q1 2020 Consolidated Cash Flows



(1) "STI" means short-term investments, "NCI" means non-controlling interests, and "NUAG" means New Pacific Metals Corp.

(2) Net cash generated from operating activities before changes in working capital, interest and income taxes paid, and mine care and maintenance.

# Reconciliation of adjusted (loss) earnings to GAAP net (loss) earnings



Q1 2020 Adjusted Net Loss \$0.04 / Basic Share

# Liquidity and Capital Position

US\$ Millions	March 31, 2020
Cash and Short-term Investments	239.2
Working Capital <sup>(1)</sup>	488.0
Amount drawn on Revolving Credit Facility <sup>(2)</sup>	260.0
Total debt <sup>(3)</sup>	299.2

(1) Working capital is a non-GAAP measure calculated as current assets less current liabilities. The Company and certain investors use this information to evaluate whether the Company is able to meet its current obligations using its current assets.

(2) In April 2020, the Company increased its cash and cash equivalent holdings with an \$80.0 million draw on its Credit Facility.

(3) Total debt is a non-GAAP measure calculated as the total of amounts drawn on the Company's \$500 million revolving credit facility, finance lease liabilities and loans payable. See the "Non-GAAP Measures" section of our Cautionary Note on page 2 of this presentation.

# Production

	Silver Production (ounces '000s)		Gold Production (ounces '000s)	
	Q1 2020	Q1 2019	Q1 2020	Q1 2019
<b>Silver Segment:</b>				
La Colorada	1,593	1,990	1.1	1.0
Dolores	1,230	1,112	27.1	30.0
Huaron	771	937	0.2	0.2
Morococha <sup>(1)</sup>	457	697	0.3	0.6
San Vicente <sup>(2)</sup>	738	851	0.1	0.1
Manantial Espejo/COSE/Joaquin	695	524	6.5	4.9
<b>Gold Segment:</b>				
Shahuindo <sup>(3)</sup>	64	10	48.9	14.5
La Arena <sup>(3)</sup>	8	3	28.7	14.7
Timmins <sup>(3)/(4)</sup>	5	2	43.3	14.4
<b>Total<sup>(5)</sup></b>	<b>5,561</b>	<b>6,125</b>	<b>156.1</b>	<b>80.5</b>

(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) Reflects production results subsequent to the February 22, 2019 closing date of the acquisition of these mines pursuant to the Tahoe Resources Inc. transaction.

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

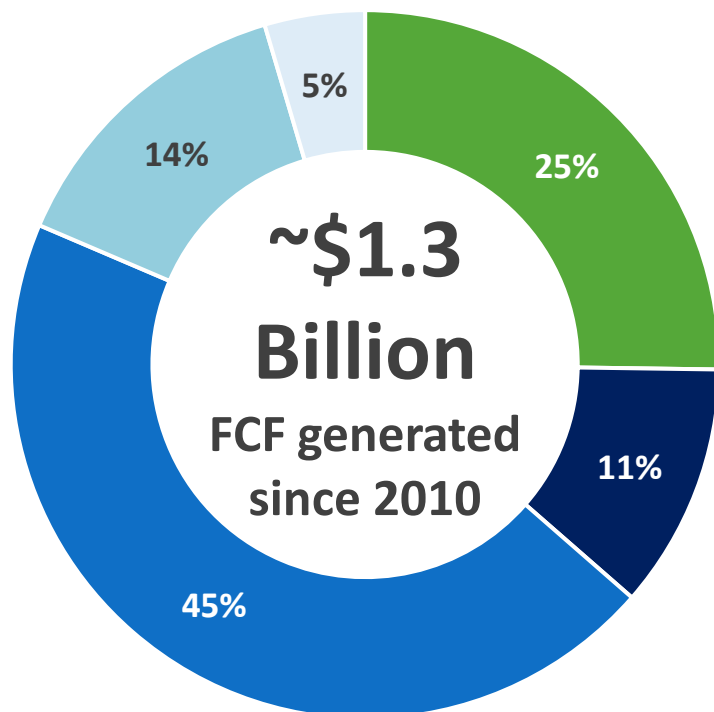
(5) Totals may not add due to rounding.

# Cash Cost and AISC

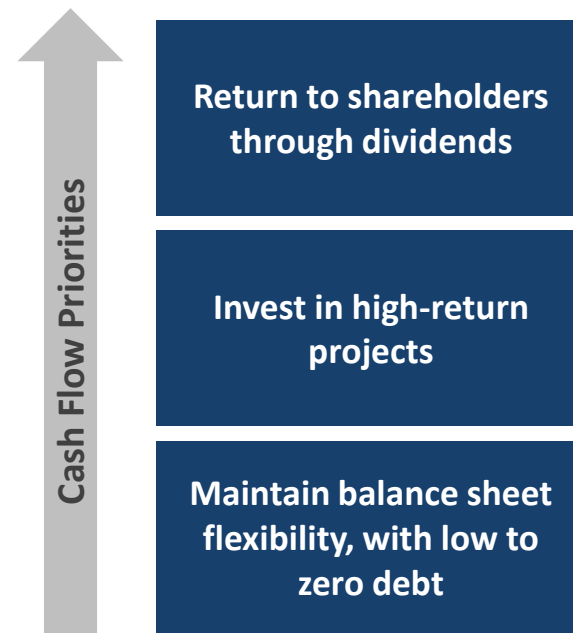
	Cash Costs <sup>(1)</sup> (\$ per ounce)		AISC <sup>(1)</sup> (\$ per ounce)	
	Q1 2020	Q1 2019	Q1 2020	Q1 2019
La Colorada	7.23	2.16	9.98	3.37
Dolores	0.07	3.34	23.29	26.45
Huaron	7.95	4.38	10.56	8.54
Morococho	12.29	(1.01)	20.23	2.20
San Vicente	14.71	10.25	17.08	11.20
Manantial Espejo	13.69	27.53	14.85	27.94
<b>Silver Segment Consolidated<sup>(2)</sup></b>	<b>8.18</b>	5.46	<b>15.26</b>	10.83
Shahuindo	617	616	775	657
La Arena	725	642	1,212	1,263
Timmins <sup>(3)</sup>	945	999	1,051	1,137
<b>Gold Segment Consolidated<sup>(2)(3)</sup></b>	<b>757</b>	777	<b>969</b>	1,091
<b>Consolidated metrics per silver ounce sold<sup>(3)(4)</sup>:</b>				
All Operations			3.49	10.51
All Operations before NRV inventory adjustments			1.41	9.18

- (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 Q1 2020 Financial Statements.
- (2) 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 AISC is 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").
- (3) 2019 Timmins, Gold Segment, and Consolidated AISC were adjusted to reflect amounts recast, and presented, for the three months ended March 31, 2019 as if Timmins had not been classified as held for sale.
- (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.

# Free Cash Flow Allocation<sup>(1,2)</sup>



- Dividends
- Expansion Capital
- Business Development, net of treasury drawdown
- Share Repurchases
- Debt Repayment



**\$463 M cumulative cash returned to shareholders (dividends and share buy-backs) since 2010**  
**In addition, invested \$573 M in expansionary capital**

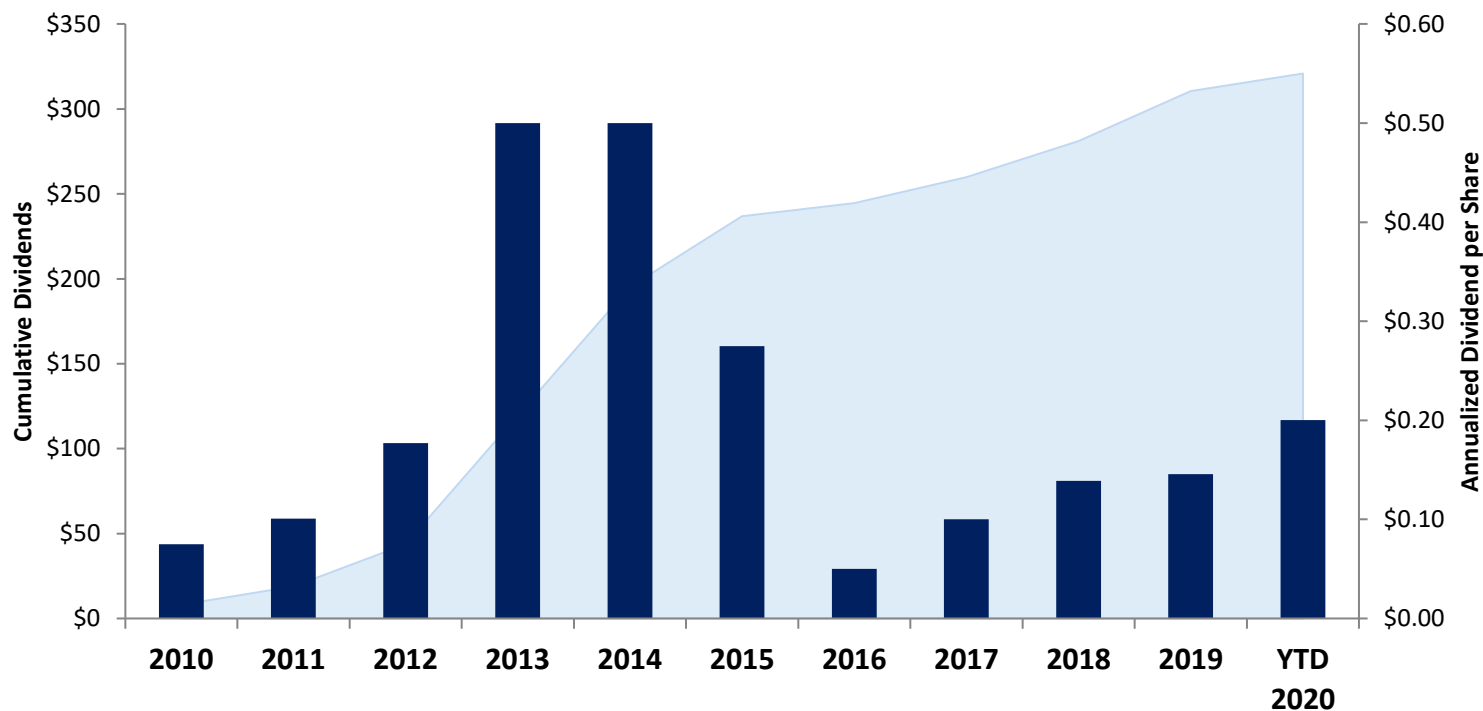
- (1) Free Cash Flow is a non-GAAP measure calculated as net increase (decrease) in cash and cash equivalents before dividend payments, share repurchases, expansion capital, M&A, short term investment payments and proceeds, debt repayments and proceeds and equity issuances. See the "Non-GAAP Measures" section of our Cautionary Note on page 2 of this presentation.
- (2) As at March 31, 2020, generated approximately \$1.27 billion in free cash flow and allocated approximately \$1.27 billion since 2010.



# Return to Shareholders

**Maintained quarterly cash dividend of \$0.05 per common share, payable on or about May 29, 2020<sup>(1)</sup>**

in US\$ millions



**~\$321M in total cumulative dividends paid since 2010**

(1) The amounts and specific distribution dates of any future dividends will be evaluated and determined by the Board of Directors on an ongoing basis.



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# Q&A

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To join the queue:

Press \* and 1 on your touch-tone telephone. You will hear a tone acknowledging your request.

If you wish to remove yourself from the queue, press \* and 2

## Pan American Silver Proven and Probable Reserves<sup>1,2</sup>

Property	Location	Classification	Tonnes (Mt)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)	Cu (%)	Contained Cu (kt)	Pb (%)	Contained Pb (kt)	Zn (%)	Contained Zn (kt)
<b>Silver Segment</b>													
Huaron	Peru	Proven	6.2	168	33.5	-	-	0.69	43.0	1.44	89.5	3.02	188.1
		Probable	3.7	170	20.1	-	-	0.33	12.3	1.55	57.1	3.00	110.2
Morococha (92.3%) <sup>(3)</sup>	Peru	Proven	4.1	147	19.5	-	-	0.38	15.5	1.38	57.1	4.03	166.7
		Probable	2.2	173	12.3	-	-	0.31	6.9	1.20	26.5	3.26	72.2
La Colorada	Mexico	Proven	4.0	395	50.8	0.33	42.0	-	-	1.72	68.9	3.11	124.4
		Probable	5.4	287	49.6	0.26	44.4	-	-	1.35	72.4	2.44	131.4
Dolores	Mexico	Proven	35.9	26	29.8	0.84	967.4	-	-	-	-	-	-
		Probable	7.8	28	6.9	0.84	210.7	-	-	-	-	-	-
Manantial Espejo	Argentina	Proven	0.8	170	4.6	1.35	36.2	-	-	-	-	-	-
		Probable	0.1	204	0.9	3.64	16.0	-	-	-	-	-	-
San Vicente (95%) <sup>(3)</sup>	Bolivia	Proven	1.4	414	18.6	-	-	0.43	6.0	0.35	4.9	3.06	42.9
		Probable	0.5	345	6.0	-	-	0.32	1.7	0.42	2.3	2.71	14.5
Joaquin	Argentina	Probable	0.5	721	11.0	0.41	6.2	-	-	-	-	-	-
COSE	Argentina	Probable	0.1	918	2.2	17.7	43.3	-	-	-	-	-	-
Escobal	Guatemala	Proven	2.5	486	39.5	0.42	34.2	-	-	1.02	25.7	1.75	44.4
		Probable	22.1	316	225.0	0.34	243.8	-	-	0.77	169.9	1.25	275.7
<b>Total Silver Segment<sup>(4)</sup></b>			<b>97.5</b>	<b>169</b>	<b>530.4</b>	<b>0.64</b>	<b>1,644.1</b>	<b>0.47</b>	<b>85.4</b>	<b>1.10</b>	<b>574.1</b>	<b>2.24</b>	<b>1,170.6</b>
<b>Gold Segment</b>													
La Arena	Peru	Proven	27.4	-	-	0.36	319.4	-	-	-	-	-	-
		Probable	9.5	-	-	0.30	90.9	-	-	-	-	-	-
Shahuindo	Peru	Proven	69.8	6	14.4	0.51	1,133.2	-	-	-	-	-	-
		Probable	42.8	6	7.8	0.46	629.9	-	-	-	-	-	-
Timmins	Canada	Proven	2.7	-	-	3.06	269.1	-	-	-	-	-	-
		Probable	7.2	-	-	3.10	718.6	-	-	-	-	-	-
La Bolsa	Mexico	Proven	9.5	10	3.1	0.67	202.9	-	-	-	-	-	-
		Probable	6.2	7	1.4	0.57	113.1	-	-	-	-	-	-
<b>Total Gold Segment<sup>(4)</sup></b>			<b>175.0</b>	<b>6</b>	<b>26.8</b>	<b>0.62</b>	<b>3,476.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Gold and Silver Segments<sup>(4)</sup></b>		<b>Proven + Probable</b>	<b>272.5</b>	<b>77</b>	<b>557.2</b>	<b>0.63</b>	<b>5,121.1</b>	<b>0.47</b>	<b>85.4</b>	<b>1.10</b>	<b>574.1</b>	<b>2.24</b>	<b>1,170.6</b>

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## Pan American Silver Measured and Indicated Resources<sup>1,2</sup>

Property	Location	Classification	Tonnes (Mt)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)	Cu (%)	Pb (%)	Zn (%)
<b>Silver Segment</b>										
Huaron	Peru	Measured	2.2	157	11.0	-	-	0.59	1.50	2.80
		Indicated	2.4	155	12.0	-	-	0.61	1.64	3.03
Morococha (92.3%) <sup>(3)</sup>	Peru	Measured	0.3	138	1.2	-	-	0.29	0.86	2.14
		Indicated	0.3	143	1.6	-	-	0.20	0.83	2.09
La Colorada	Mexico	Measured	0.5	229	3.8	0.24	4.0	-	0.65	1.16
		Indicated	1.6	185	9.6	0.15	7.8	-	0.56	1.16
Dolores	Mexico	Measured	2.0	21	1.3	0.35	22.0	-	-	-
		Indicated	1.5	28	1.4	0.56	27.1	-	-	-
Manantial Espejo	Argentina	Measured	0.1	164	0.7	1.65	7.1	-	-	-
		Indicated	0.2	241	1.4	2.86	16.5	-	-	-
San Vicente (95%) <sup>(3)</sup>	Bolivia	Measured	0.9	161	4.4	-	-	0.22	0.20	2.27
		Indicated	0.3	158	1.4	-	-	0.27	0.21	1.73
Navidad	Argentina	Measured	15.4	137	67.8	-	-	0.10	1.44	-
		Indicated	139.8	126	564.5	-	-	0.04	0.79	-
Joaquin	Argentina	Indicated	0.1	385	0.7	0.58	1.1	-	-	-
Escobal	Guatemala	Measured	2.3	251	18.6	0.23	16.7	-	0.31	0.59
		Indicated	14.2	201	91.6	0.20	93.0	-	0.38	0.66
<b>Total Silver Segment<sup>(4)</sup></b>			<b>184.0</b>	<b>134</b>	<b>792.9</b>	<b>0.27</b>	<b>195.3</b>	<b>0.06</b>	<b>0.82</b>	<b>1.21</b>
<b>Gold Segment</b>										
La Bolsa	Mexico	Measured	1.4	11	0.5	0.90	39.9	-	-	-
		Indicated	4.5	9	1.3	0.50	71.2	-	-	-
Pico Machay	Peru	Measured	4.7	-	-	0.91	137.5	-	-	-
		Indicated	5.9	-	-	0.67	127.1	-	-	-
La Arena	Peru	Measured	1.3	-	-	0.41	17.5	-	-	-
		Indicated	1.7	-	-	0.38	20.6	-	-	-
Shahuindo	Peru	Measured	3.7	7	0.8	0.53	63.2	-	-	-
		Indicated	8.4	5	1.5	0.46	123.6	-	-	-
Timmins	Canada	Measured	1.7	-	-	3.89	212.4	-	-	-
		Indicated	5.4	-	-	3.41	587.8	-	-	-
La Arena II	Peru	Measured	155.7	-	-	0.25	1,265.2	0.37	-	-
		Indicated	586.7	-	-	0.23	4,371.9	0.35	-	-
Fenn-Gib	Canada	Indicated	40.8	-	-	0.99	1,298.6	-	-	-
Whitney	Canada	Measured	1.0	-	-	7.02	218.1	-	-	-
		Indicated	2.3	-	-	6.77	490.5	-	-	-
Gold River	Canada	Indicated	0.7	-	-	5.29	117.4	-	-	-
Juby	Canada	Indicated	26.6	-	-	1.28	1,094.7	-	-	-
Marlhill	Canada	Indicated	0.4	-	-	4.52	57.4	-	-	-
Vogel	Canada	Indicated	2.2	-	-	1.75	125.0	-	-	-
<b>Total Gold Segment<sup>(4)</sup></b>			<b>854.9</b>	<b>7</b>	<b>4.1</b>	<b>0.38</b>	<b>10,439.6</b>	<b>0.35</b>	-	-
<b>Total Gold and Silver Segments<sup>(4)</sup></b>		<b>Measured + Indicated</b>	<b>1,038.8</b>	<b>122.8</b>	<b>797.0</b>	<b>0.38</b>	<b>10,634.9</b>	<b>0.30</b>	<b>0.82</b>	<b>1.21</b>

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## Pan American Silver Inferred Resources<sup>1,2</sup>

Property	Location	Classification	Tonnes (Mt)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)	Cu (%)	Pb (%)	Zn (%)
<b>Silver Segment</b>										
Huaron	Peru	Inferred	6.2	155	30.8	-	-	0.41	1.45	2.77
Morococha (92.3%) <sup>(3)</sup>	Peru	Inferred	4.5	138	19.9	-	-	0.37	1.02	3.26
La Colorada	Mexico	Inferred	8.1	133	34.5	0.12	31.6	-	2.03	4.01
Dolores	Mexico	Inferred	4.0	47	6.0	1.22	156.3	-	-	-
Manantial Espejo	Argentina	Inferred	0.5	194	3.0	2.71	41.4	-	-	-
San Vicente (95%) <sup>(3)</sup>	Bolivia	Inferred	3.0	289	27.9	-	-	0.24	0.38	3.32
Navidad	Argentina	Inferred	45.9	81	119.4	-	-	0.02	0.57	-
Joaquin	Argentina	Inferred	0.01	389	0.1	1.29	0.2	-	-	-
COSE	Argentina	Inferred	0.03	382	0.3	7.10	6.3	-	-	-
Escobal	Guatemala	Inferred	1.9	180	10.7	0.90	53.7	-	0.22	0.42
<b>Total Silver Segment<sup>(4)</sup></b>			<b>74.0</b>	<b>106</b>	<b>252.5</b>	<b>0.62</b>	<b>289.5</b>	<b>0.10</b>	<b>0.83</b>	<b>3.17</b>
<b>Gold Segment</b>										
La Bolsa	Mexico	Inferred	13.7	8	3.3	0.51	224.6	-	-	-
Pico Machay	Peru	Inferred	23.9	-	-	0.58	445.7	-	-	-
La Arena	Peru	Inferred	1.1	-	-	0.30	10.7	-	-	-
Shahuindo	Peru	Inferred	10.0	5	1.6	0.44	140.6	-	-	-
Shahuindo Sulphide	Peru	Inferred	97.4	14	45.1	0.74	2,323.3	-	-	-
Timmins	Canada	Inferred	3.7	-	-	3.74	443.8	-	-	-
La Arena II	Canada	Inferred	91.6	-	-	0.23	683.1	0.17	-	-
Fenn-Gib	Canada	Inferred	24.5	-	-	0.95	750.0	-	-	-
Whitney	Canada	Inferred	1.0	-	-	5.34	170.7	-	-	-
Gold River	Canada	Inferred	5.3	-	-	6.06	1,027.4	-	-	-
Juby	Canada	Inferred	96.2	-	-	0.94	2,908.8	-	-	-
Vogel	Canada	Inferred	1.5	-	-	3.60	168.8	-	-	-
<b>Total Gold Segment<sup>(4)</sup></b>			<b>369.8</b>	<b>13</b>	<b>50.0</b>	<b>0.78</b>	<b>9,297.6</b>	<b>0.17</b>	-	-
<b>Total Gold and Silver Segments<sup>(4)</sup></b>		<b>Inferred</b>	<b>443.8</b>	<b>48</b>	<b>302.5</b>	<b>0.78</b>	<b>9,587.1</b>	<b>0.14</b>	<b>0.83</b>	<b>3.17</b>

(1) See table below entitled "Metal price assumptions used to estimate mineral reserves and resources as at June 30, 2019".

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## Metal price assumptions used to estimate mineral reserves and resources as at June 30, 2019

Mine	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
Morococho	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			
Timmins - Timmins West	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 <sup>(1)</sup>	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.

## Mineral Resource Estimate Details

Classification	Cut-off US\$/tonne	Tonnes millions	Ag g/t	Cu %	Pb %	Zn %
Inferred	60	72.5	44	0.17	2.02	4.40

Notes:

- CIM definition standards were followed for the estimation of mineral resources.
- Mineral resources are not mineral reserves and have no demonstrated economic viability.
- Prices used to estimate mineral resources were: US\$18.50 per ounce of silver, US\$2,600 per tonne of zinc, US\$2,200 per tonne of lead, and US\$6,500 per tonne of copper.
- The mineral value per tonne was estimated using metallurgical recoveries of 91% Ag, 90% Pb, 85% Zn and 38% Cu, with mineral concentrate qualities from the testing at 60% Pb in lead concentrate, 55% Zn in zinc concentrate and 22% Cu in copper concentrate. The mineral value per tonne also includes estimates for transport and refining/selling costs based on experience and long-term views of the marketing, treating and refining of these types of mineral concentrates.
- The mineral resource estimate is undiluted and mining parameters have not been applied.
- Three million tonnes from the skarn deposit was included as inferred resources in Pan American's mineral resource and reserve estimates effective June 30, 2019.
- Totals may not add up due to rounding.
- This mineral resource estimate was prepared under the supervision of, or was 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 is a Qualified Person as that term is defined in National Instrument 43-101 ("NI 43-101").
- The effective date of the mineral resources estimate is December 11, 2019.



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# Archived recording

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