



PAN AMERICAN  
— SILVER —

# Management's Discussion and Analysis

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FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2018

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

November 6, 2018

## INTRODUCTION

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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, 2017 (the "2017 Financial Statements"), and the related notes contained therein, and the unaudited condensed interim consolidated financial statements for the three and nine months ended September 30, 2018 (the "Q3 2018 Financial Statements"), and the related notes contained therein. All amounts in this MD&A, the 2017 Financial Statements, and the Q3 2018 Financial Statements are expressed in United States dollars ("USD"), unless identified otherwise. The Company reports its financial position, results of operations and cash flows in accordance with International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board. Pan American's significant accounting policies are set out in Note 2 of the 2017 Financial Statements.

This MD&A refers to various non-Generally Accepted Accounting Principles ("non-GAAP") measures, such as "all-in sustaining cost per silver ounce sold", "cash costs per ounce of silver", "total debt", "working capital", "general and administrative cost per silver ounce produced", "adjusted earnings" and "basic adjusted earnings per share", which are used by the Company to manage and evaluate operating performance at each of the Company's mines and are widely reported in the mining industry as benchmarks for performance, but do not have standardized meaning under IFRS. To facilitate a better understanding of these non-GAAP measures as calculated by the Company, additional information has been provided in this MD&A. Please refer to the section of this MD&A entitled "Alternative Performance (Non-GAAP) Measures" for a detailed description of "all-in sustaining cost per silver ounce sold", "cash costs per ounce of silver", "working capital", "general and administrative cost per silver ounce produced", "adjusted earnings" and "basic adjusted earnings per share", as well as details of the Company's by-product credits and a reconciliation of these measures to the Q3 2018 Financial Statements.

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

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

## CORE BUSINESS AND STRATEGY

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Pan American engages in silver mining and related activities, including exploration, mine development, extraction, processing, refining and reclamation. The Company owns and operates silver mines located in Peru, Mexico, Argentina, and Bolivia. In addition, the Company is exploring for new silver deposits and opportunities throughout North and South America. The Company is listed on the Toronto Stock Exchange (Symbol: PAAS) and on the Nasdaq Global Select Market (“NASDAQ”) in New York (Symbol: PAAS).

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

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

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

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

## Q3 2018 HIGHLIGHTS

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### Operations

- **Silver production of 6.25 million ounces, on track to achieve annual guidance**

Consolidated silver production for the three months ended September 30, 2018 ("Q3 2018") of 6.25 million ounces was 6% more than the 5.89 million produced in the three months ended September 30, 2017 ("Q3 2017"). Silver production for the nine months ended September 30, 2018 ("YTD 2018") totaled 18.6 million ounces, which is in-line with expectations and on-track to achieve management's annual guidance for 2018 of 25.0 million to 26.5 million ounces.

- **By-product production on track to achieve annual guidance**

Consolidated gold production in Q3 2018 was 42.1 thousand ounces, 1.2 thousand ounces higher than the 40.8 thousand ounces produced in Q3 2017. YTD 2018 gold production of 141.7 thousand ounces is in-line with expected production required to achieve guidance for 2018 of 175.0 thousand to 185.0 thousand ounces.

Zinc production in Q3 2018 was 16.7 thousand tonnes, 19% higher than in the comparable quarter of 2017. Lead production was 5.7 thousand tonnes, 8% more than Q3 2017 production. Copper production of 2.6 thousand tonnes was 30% lower than in Q3 2017. YTD 2018 base metal production was 46.3 thousand tonnes of zinc, 16.1 thousand tonnes of lead, and 7.6 thousand tonnes of copper, all in-line with expectations and on-track to achieve management's guidance for 2018 of 60.0 thousand to 62.0 thousand tonnes of zinc, 21.0 thousand to 22.0 thousand tonnes of lead, and most recent guidance of 9.0 thousand to 10.4 thousand tonnes of copper. Guidance for copper was revised in the second quarter MD&A dated August 8, 2018 (the "Q2 2018 MD&A").

- **Cash Costs of \$5.24 per ounce**

Consolidated cash costs for Q3 2018 were \$5.24 per ounce, \$2.12 per ounce or 68% higher than in Q3 2017. YTD 2018 cash costs of \$2.45 per ounce were \$2.59 per ounce or 51% lower than those for the nine months ended September 30, 2017 ("YTD 2017"), and are less than the low end of management's reduced guidance range of \$2.80 to \$3.80 per ounce stated in the Q2 2018 MD&A. Cash costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed reconciliation of this measure to cost of sales.

### Financial

- **Revenue and net loss**

Revenue in Q3 2018 of \$187.7 million was down 2% from Q3 2017, mainly due to lower metal prices being largely offset by increased quantities of metal sold for all products except copper.

Net loss for Q3 2018 was \$9.2 million (\$0.06 basic loss per share) compared with earnings of \$17.8 million (\$0.11 basic earnings per share) in Q3 2017. The Q3 2018 loss reflects: decreased mine operating earnings as a result of higher production costs, driven by increased sales volumes and the inclusion of \$23.4 million of negative net realizable value ("NRV") inventory adjustments; and increased depreciation and amortization. These factors were partially offset by lower income tax expense.

Adjusted loss in Q3 2018 was \$4.7 million (\$0.03 basic adjusted loss per share) compared with \$23.3 million (\$0.15 basic adjusted earnings per share) in Q3 2017. Lower revenue from decreased metal prices, and increased production costs, driven by NRV adjustments, partially offset by lower income tax expense, were the major drivers in the quarter-over-quarter adjusted earnings decrease.

- **Liquidity and working capital position**

As at September 30, 2018, the Company had cash and short-term investment balances of \$252.7 million, working capital of \$443.6 million, and \$300.0 million available under its undrawn revolving credit facility. Total debt of \$8.4 million was related entirely to finance lease liabilities.

- **All-In Sustaining Costs per Silver Ounce Sold ("AISCOS")**

Q3 2018 AISCOS of \$13.73, inclusive of \$3.68 per ounce in NRV inventory adjustments, was \$5.04, or 58%, higher than in Q3 2017. YTD 2018 AISCOS of \$9.21 was in line with management's reduced guidance for 2018 AISCOS of

\$8.50 to \$10.00, as provided in the Q2 2018 MD&A. AISCOS is a non-GAAP measure; please refer to the section “Alternative Performance (Non-GAAP) Measures” of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

## OPERATING PERFORMANCE

The following table provides silver production and cash costs at each of Pan American’s operations for the respective three and nine-month periods ended September 30, 2018 and 2017:

	Silver Production (ounces '000s)				Cash Costs <sup>(1)</sup> (\$ per ounce)			
	Three months ended September 30,		Nine months ended September 30,		Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
La Colorada	2,020	1,825	5,543	5,186	3.50	1.71	2.13	2.68
Dolores	967	974	3,257	2,976	1.00	(0.57)	(4.12)	(0.69)
Alamo Dorado	—	—	—	608	NA	NA	NA	17.03
Huaron	922	939	2,595	2,733	3.25	0.31	1.19	1.09
Morococho <sup>(2)</sup>	758	634	2,141	1,912	(0.65)	(8.16)	(6.06)	(4.56)
San Vicente <sup>(3)</sup>	867	806	2,607	2,507	11.14	12.99	10.44	13.11
Manantial Espejo	718	715	2,505	2,477	16.50	12.73	11.19	16.10
<b>Total<sup>(4)</sup></b>	<b>6,253</b>	<b>5,893</b>	<b>18,649</b>	<b>18,400</b>	<b>5.24</b>	<b>3.12</b>	<b>2.45</b>	<b>5.04</b>

- (1) Cash costs is a non-GAAP measure. Please refer to the section “Alternative Performance (Non-GAAP) Measures” of this MD&A for a detailed description of the cash cost calculation, details of the Company’s by-product credits and a reconciliation of this measure to the Q3 2018 Financial Statements.
- (2) Morococho data represents Pan American’s 92.3% interest in the mine’s production.
- (3) San Vicente data represents Pan American’s 95.0% interest in the mine’s production.
- (4) Totals may not add due to rounding.

### Silver Production

Consolidated silver production in Q3 2018 was 0.36 million ounces more than in Q3 2017 as a result of higher production at La Colorada, Morococho, and San Vicente. La Colorada production benefited from the mine expansion completed in 2017, while San Vicente benefited from mechanization programs and improvements to ore control. The increase in production at Morococho was due to mine sequencing. Each operation’s silver production variances are further discussed in the “Individual Mine Performance” section of this MD&A.

### Cash Costs

Consolidated cash costs for Q3 2018 were \$5.24, up 68% from Q3 2017, as a result of lower by-product credits, primarily from decreased base metal prices, and higher operating costs, primarily due to the expanded operations at our Mexican mines. These factors that increased cash costs were partially offset by decreased direct selling costs from improved contract terms for concentrate treatment and refining.

### By-Product Production

The following table provides the Company’s by-product production for the three and nine-month periods ended September 30, 2018 and 2017:

	By-Product Production			
	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Gold – koz	42.1	40.8	141.7	116.3
Zinc – kt	16.7	14.1	46.3	40.6
Lead – kt	5.7	5.3	16.1	16.1
Copper – kt	2.6	3.7	7.6	10.4

The 3% increase in quarterly gold production is mostly due to better grades from mine sequencing and faster recoveries from the pulp agglomeration plant at Dolores.

Zinc production in Q3 2018 was 19% higher than Q3 2017, driven by higher grades at Morococha and San Vicente from mine sequencing, and higher throughput at the expanded La Colorada mine. Lead production in Q3 2018 was 8% higher than Q3 2017, resulting from increased grades due to mine sequencing at both Peruvian operations. Copper production in Q3 2018 was 30% lower than Q3 2017, primarily because of anticipated lower copper grades at both Peruvian mines. Each operation's by-product production variances are further discussed in the "Individual Mine Performance" section of this MD&A.

### Average Market Metal Prices

The following tables set out the average market price for each metal produced for the three and nine-month periods ended September 30, 2018 and 2017:

	Average Market Metal Prices <sup>(1)</sup>			
	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Silver \$/ounce	15.02	16.84	16.10	17.16
Gold \$/ounce	1,213	1,278	1,282	1,251
Zinc \$/tonne	2,537	2,963	3,020	2,783
Lead \$/tonne	2,104	2,334	2,337	2,259
Copper \$/tonne	6,105	6,349	6,642	5,952

(1) Average market prices for zinc, lead and copper are the London Metal Exchange cash prices for the three and nine-month periods ended September 30, 2018 and 2017. Silver and gold prices are the London Bullion Metal Association prices for the same periods.

### AISCSOS

The following table reflects the quantities of payable silver sold and AISCSOS at each of Pan American's operations for the three and nine months ended September 30, 2018, as compared to the same periods in 2017:

	Payable Silver Sold (ounces '000s)				AISCSOS <sup>(1)</sup> (\$ per ounce)			
	Three months ended September 30,		Nine months ended September 30,		Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017	2018	2017	2018	2017
La Colorada	2,258	1,642	5,289	5,006	6.27	3.48	4.20	5.04
Dolores	950	933	3,335	2,864	25.52	8.03	11.40	8.45
Alamo Dorado	—	91	—	734	—	6.38	—	17.73
Huaron	785	818	2,236	2,368	11.07	2.94	7.18	4.65
Morococha	688	576	1,978	1,791	4.52	(0.46)	0.59	2.23
San Vicente	876	632	2,551	2,384	11.11	18.62	11.92	15.47
Manantial Espejo	810	562	2,471	2,405	24.78	19.25	14.07	21.76
<b>Total</b> <sup>(2)</sup>	<b>6,366</b>	<b>5,255</b>	<b>17,860</b>	<b>17,552</b>	<b>13.73</b>	<b>8.69</b>	<b>9.21</b>	<b>10.77</b>

(1) AISCSOS is a non-GAAP measure. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of this MD&A for a detailed description of the AISCSOS calculation and a reconciliation of this measure to the Q3 2018 Financial Statements. G&A costs are included in the consolidated AISCSOS, but not allocated in calculating AISCSOS for each operation.

(2) Totals may not add due to rounding.

Consolidated AISCSOS for Q3 2018 were \$13.73, representing a 58% increase from the comparable period in 2017. The quarter-over-quarter increase was due to the following factors: (i) an increase in negative NRV adjustments of \$22.1 million, (ii) increased operating costs due to additional activity at both the expanded operations in Mexico, and (iii) increased cash sustaining capital, primarily due to the timing of cash outflows at Dolores and a tailings storage facility raise and a mine deepening project at Huaron. These increases in AISCSOS were partially offset by higher volumes of silver ounces sold and better concentrate treatment terms.

## Individual Mine Performance

An analysis of performance at each operation in Q3 2018 compared with Q3 2017 follows. The project capital amounts invested in Q3 2018 are further discussed in the Project Development Update section of this MD&A.

### La Colorado mine

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes milled - kt	191.2	175.3	538.5	484.6
Average silver grade – grams per tonne	360	355	352	366
Average zinc grade - %	2.62	2.70	2.74	2.79
Average lead grade - %	1.30	1.56	1.36	1.55
Average silver recovery - %	91.2	91.2	91.0	91.1
Average zinc recovery - %	86.4	83.1	86.1	83.6
Average lead recovery - %	87.3	86.7	87.4	87.1
Production:				
Silver – koz	2,020	1,825	5,543	5,186
Gold – koz	1.14	1.21	3.24	3.03
Zinc – kt	4.33	3.93	12.70	11.30
Lead – kt	2.17	2.37	6.40	6.53
Cash cost per ounce net of by-products <sup>(1)</sup>	\$ 3.50	\$ 1.71	\$ 2.13	\$ 2.68
AISCSOS <sup>(2)</sup>	\$ 6.27	\$ 3.48	\$ 4.20	\$ 5.04
Payable silver sold - koz	2,258	1,642	5,289	5,006
Sustaining capital - ('000s) <sup>(3)</sup>	\$ 3,902	\$ 3,680	\$ 10,097	\$ 11,394

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

(2) AISCSOS is a non-GAAP measure. Please refer to the “Alternative Performance (Non-GAAP) Measures” section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

(3) Sustaining capital expenditures exclude \$1.1 million and \$4.2 million of investing activity cash outflow for Q3 2018 and YTD 2018, respectively (Q3 2017 and YTD 2017: \$2.0 million and \$7.4 million, respectively) related to investment capital incurred on the La Colorado expansion project as disclosed in the “Project Development Update” section of this MD&A.

### Q3 2018 vs. Q3 2017

#### Production:

- Silver: 11% increase, driven primarily from improved throughput attributable to the mine expansion completed in 2017.
- By-products: 10% increase in zinc from improved throughput, partially offset by lower grades from mine sequencing; and an 8% decrease in lead production due to lower grades from mine sequencing, partially offset by the increase in throughput.

Cash costs: the 105% increase was primarily the result of increased operating costs due to higher direct unit operating costs, particularly power costs, as well as reduced by-product credits from lower base metal prices and lower lead and gold production. These factors were partially offset by the increase in zinc and silver production.

AISCSOS: the 80% increase was driven by the same factors as the increase in cash costs.

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

## Dolores mine

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes placed - kt	1,522.9	1,629.7	5,084.8	4,820.5
Average silver grade – grams per tonne	33	35	33	38
Average gold grade – grams per tonne	0.84	0.67	0.91	0.64
Average silver produced to placed ratio - %	59.8	53.5	60.2	50.3
Average gold produced to placed ratio - %	80.5	70.8	71.8	72.4
Production:				
Silver – koz	967	974	3,257	2,976
Gold – koz	33.1	25.0	107.2	71.8
Cash cost per ounce net of by-products <sup>(1)</sup>	\$ 1.00	\$ (0.57)	\$ (4.12)	\$ (0.69)
AISCOS <sup>(2)</sup>	\$ 25.52	\$ 8.03	\$ 11.40	\$ 8.45
Payable silver sold - koz	950	933	3,335	2,864
Sustaining capital - ('000s) <sup>(3)</sup>	\$ 9,971	\$ 3,812	\$ 35,587	\$ 22,768

- (1) Cash costs is a non-GAAP measure. Please refer to the “Alternative Performance (Non-GAAP) Measures” section of this MD&A for a detailed reconciliation of this measure to cost of sales.
- (2) AISCOS is a non-GAAP measure. Please refer to the “Alternative Performance (Non-GAAP) Measures” section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.
- (3) Sustaining capital expenditures exclude \$1.8 million and \$10.3 million of investing activity cash outflow for Q3 2018 and YTD 2018, respectively (Q3 2017 and YTD 2017: \$12.5 million and \$40.3 million, respectively) related to investment capital incurred on Dolores expansion projects, as disclosed in the “Project Development Update” section of this MD&A.

### Q3 2018 vs. Q3 2017

#### Production:

- Silver: 1% lower due to a reduction in stacking rates and silver grades resulting from the re-sequencing of the mine plan because of the 15-day suspension of mining activities in June and seasonal heavy rains affecting access to certain ore zones, partially offset by enhanced recoveries attributable to the pulp agglomeration plant completed in 2017. Delivery of additional plate and frame expansion kits, to maximize the capacity of the existing filter units in the pulp agglomeration plant, occurred in Q3 2018 and installation is planned for the fourth quarter of 2018.
- By-products: 33% increase in gold due to better grades from mine sequencing, and higher recoveries due to the addition of the pulp agglomeration plant and the timing of leach pad kinetics, partially offset by a reduction in stacking rates during the quarter.

**Cash costs:** increased \$1.57 per ounce due to higher operating costs associated with the pulp agglomeration plant, higher direct unit operating costs, particularly power costs, delays in the ramp up of stope mining in the underground mine, and greater waste mining due to the re-sequencing of the mine plan. These factors were partially offset by greater by-product credits from higher gold production.

**AISCOS:** increased \$17.49 per ounce, due to the following factors: (i) negative NRV adjustments that resulted in a quarter over quarter increase of \$14.20 per ounce, (ii) a \$6.2 million increase in cash sustaining capital expenditures due mostly to the timing of payables and higher pre-stripping rates to offset the mine suspension in Q2 2018, and (iii) higher direct operating costs as described above. These factors were partially offset by higher by-product credits from higher gold sales during the quarter.

**Sustaining Capital:** comprised mainly of pre-stripping and the restart of the leach pad expansions, both of which were at higher levels of activity compared to Q3 2017.

## Huaron mine

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes milled - kt	244.8	241.5	683.0	696.6
Average silver grade – grams per tonne	141	142	142	145
Average zinc grade - %	2.39	2.65	2.42	2.74
Average lead grade - %	1.29	1.11	1.17	1.26
Average copper grade - %	0.81	0.90	0.76	0.89
Average silver recovery - %	82.3	85.6	82.5	85.6
Average zinc recovery - %	75.8	77.7	75.9	77.5
Average lead recovery - %	73.8	76.8	74.3	78.1
Average copper recovery - %	79.1	80.9	76.6	79.5
Production:				
Silver – koz	922	939	2,595	2,733
Gold – koz	0.21	0.27	0.57	0.96
Zinc – kt	4.45	4.97	12.56	14.73
Lead – kt	2.33	2.03	5.88	6.74
Copper – kt	1.57	1.74	3.92	4.89
Cash cost per ounce net of by-products <sup>(1)</sup>	\$ 3.25	\$ 0.31	\$ 1.19	\$ 1.09
AISCOS <sup>(2)</sup>	\$ 11.07	\$ 2.94	\$ 7.18	\$ 4.65
Payable silver sold – koz	785	818	2,236	2,368
Sustaining capital - ('000s)	\$ 5,733	\$ 1,512	\$ 11,456	\$ 6,719

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

(2) AISCOS is a non-GAAP measure. Please refer to the “Alternative Performance (Non-GAAP) Measures” section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

### Q3 2018 vs. Q3 2017

#### Production:

- Silver: 2% lower, primarily due to lower recoveries from mine sequencing into different ore types.
- By-products: 10% decrease in both zinc and copper production, and a 14% increase in lead production as a result of mine sequencing.

Cash costs: \$2.94 per ounce higher due primarily to higher direct unit operating costs and reduced by-product credits from lower base metal prices and lower zinc and copper production, partially offset by improved concentrate treatment terms.

AISCOS: an increase of \$8.13 due to the same factors affecting quarter-over-quarter cash costs, as well as higher sustaining capital.

Sustaining Capital: related primarily to equipment replacements and refurbishments, plant and infrastructure upgrades, near-mine exploration, mine deepening and a tailings storage facility raise. The increase from Q3 2017 was related primarily to the tailings storage facility raise and mine deepening projects, both of which began in 2018.

## Morococha mine<sup>(1)</sup>

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes milled – kt	169.5	171.7	509.0	506.3
Average silver grade – grams per tonne	155	132	147	135
Average zinc grade - %	3.89	3.09	3.72	2.93
Average lead grade - %	0.90	0.70	0.87	0.76
Average copper grade - %	0.67	1.28	0.74	1.25
Average silver recovery - %	91.0	89.0	90.3	88.6
Average zinc recovery - %	87.9	79.6	87.0	79.0
Average lead recovery - %	75.4	64.0	75.6	65.0
Average copper recovery - %	76.7	84.8	78.2	84.0
Production:				
Silver – koz	758	634	2,141	1,912
Gold – koz	0.44	1.08	1.90	2.71
Zinc – kt	5.80	4.19	16.40	11.65
Lead – kt	1.14	0.75	3.29	2.46
Copper – kt	0.85	1.80	2.85	5.15
Cash cost per ounce net of by-products <sup>(2)</sup>	\$ (0.65)	\$ (8.16)	\$ (6.06)	\$ (4.56)
AISCOS <sup>(3)</sup>	\$ 4.52	\$ (0.46)	\$ 0.59	\$ 2.23
Payable silver sold (100%) - koz	688	576	1,978	1,791
Sustaining capital (100%) - ('000s)	\$ 3,509	\$ 2,995	\$ 11,801	\$ 9,266

(1) Production figures are for Pan American's 92.3% share only, unless otherwise noted.

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

(3) AISCOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

### Q3 2018 vs. Q3 2017

#### Production:

- Silver: 20% higher, primarily due to higher grades from mine sequencing.
- By-products: a 52% and 38% increase in lead and zinc production, respectively, and a 53% decrease in copper production, all related to mine sequencing.

**Cash costs:** \$7.51 per ounce higher, primarily because of lower by-product prices and higher direct unit operating costs, partially offset by higher silver production and better concentrate treatment terms.

**AISCOS:** the \$4.98 per ounce increase was primarily driven by the same factors affecting quarter-over-quarter cash costs.

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

## San Vicente mine <sup>(1)</sup>

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes milled – kt	82.9	86.6	244.7	238.6
Average silver grade – grams per tonne	354	330	358	362
Average zinc grade - %	3.12	1.79	2.45	1.91
Average lead grade - %	0.36	0.29	0.34	0.30
Average silver recovery - %	92.7	90.8	93.5	92.1
Average zinc recovery - %	82.9	65.8	77.9	65.1
Average lead recovery - %	76.1	75.5	77.6	80.4
Production:				
Silver – koz	867	806	2,607	2,507
Gold – koz	0.12	0.13	0.39	0.38
Zinc – kt	2.16	1.02	4.65	2.96
Lead – kt	0.10	0.15	0.54	0.36
Copper – kt	0.21	0.11	0.80	0.31
<b>Cash cost per ounce net of by-products <sup>(2)</sup></b>	<b>\$ 11.14</b>	<b>\$ 12.99</b>	<b>\$ 10.44</b>	<b>\$ 13.11</b>
<b>AISCOS <sup>(3)</sup></b>	<b>\$ 11.11</b>	<b>\$ 18.62</b>	<b>\$ 11.92</b>	<b>\$ 15.47</b>
<b>Payable silver sold (100%) - koz</b>	<b>876</b>	<b>632</b>	<b>2,551</b>	<b>2,384</b>
<b>Sustaining capital (100%) - ('000s)</b>	<b>\$ 1,731</b>	<b>\$ 2,400</b>	<b>\$ 5,321</b>	<b>\$ 6,207</b>

(1) Production figures are for Pan American's 95.0% share only, unless otherwise noted.

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

(3) AISCOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

## Q3 2018 vs. Q3 2017

### Production:

- Silver: 8% higher due to a 7% increase in head grades and better recoveries, partially offset by a decrease in throughput while enhancing the mechanization of the mine. The increase in head grades was attributable to efforts to improve mining dilution through better ore control.
- By-products: 112% and 91% increases in zinc and copper, respectively, and a 40% decrease in lead were the result of overall better base metal grades due to mine sequencing and reduced mining dilution.

**Cash costs:** 14% lower due to increased base metal quantities, improved concentrate terms, and increased silver production; partially offset by higher direct unit operating costs, largely due to the transition to more mechanized mining methods, and wage increases.

**AISCOS:** a 40% reduction due to the same factors affecting quarter-over-quarter cash costs, as well as lower royalty expenses due to the timing of revenue and royalty expense recognition, which had negatively impacted the comparable period.

**Sustaining Capital:** Q3 2018 expenditures primarily relate to mine equipment replacements and rehabilitations, near-mine exploration, tailings storage facility expansion, and mine site and camp infrastructure.

## Manantial Espejo mine

	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Tonnes milled - kt	206.1	206.1	605.9	588.3
Average silver grade – grams per tonne	121	119	148	143
Average gold grade – grams per tonne	1.12	2.05	1.56	1.97
Average silver recovery - %	87.5	89.4	87.6	90.8
Average gold recovery - %	94.1	93.9	93.5	93.9
Production:				
Silver – koz	718	715	2,505	2,477
Gold – koz	7.06	13.18	28.37	35.36
Cash cost per ounce net of by-products <sup>(1)</sup>	\$ 16.50	\$ 12.73	\$ 11.19	\$ 16.10
AISCSOS <sup>(2)</sup>	\$ 24.78	\$ 19.25	\$ 14.07	\$ 21.76
Payable silver sold - koz	810	562	2,471	2,405
Sustaining capital - ('000s)	\$ 763	\$ 1,025	\$ 2,391	\$ 2,288

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

(2) AISCSOS is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of this MD&A for a detailed description of the calculation and a reconciliation of this measure to the Q3 2018 Financial Statements.

### Q3 2018 vs. Q3 2017

#### Production:

- Silver: comparable due to slightly better grades, partially offset by lower recoveries.
- By-products: 46% decrease in gold production due to processing of lower grade stockpile ore, as planned.

Cash costs: a \$3.77 per ounce increase as a result of lower by-product credits due to lower gold production and prices, partially offset by lower direct unit operating costs from the devaluation in the Argentine peso and the termination of open pit mining at the end of Q3 2017.

AISCSOS: a 29% increase due to a \$7.3 million increase in negative NRV inventory adjustments and lower by-product credits, partially offset by lower operating costs.

Sustaining Capital: primarily related to near-mine exploration.

## 2018 ANNUAL OPERATING OUTLOOK

All 2018 forecast amounts in this section refer to the management's annual forecasts for 2018, as provided in the Company's 2017 Annual MD&A dated March 22, 2018, and the revised annual forecast for 2018 cash costs, AISCOS and copper production, as provided in the Q2 2018 MD&A (together, the "2018 Forecast").

### Production:

The following table summarizes the YTD 2018 metal production compared to the respective 2018 Forecast amounts:

	YTD 2018 Actual	2018 Forecast	% of 2018 Forecast <sup>(1)</sup>
Silver – Moz	18.65	25.00 - 26.50	72%
Gold – koz	141.7	175.0 - 185.0	79%
Zinc – kt	46.3	60.0 - 62.0	76%
Lead – kt	16.1	21.0 - 22.0	75%
Copper – kt <sup>(2)</sup>	7.6	9.0 - 10.4	78%

(1) Percentage calculated based on mid-point of the related 2018 guidance range.

(2) 2018 Forecast amount per as disclosed in the Q2 2018 MD&A.

Based on year-to-date production results and the expected production for the remainder of the year, management reaffirms the 2018 Forecast annual consolidated metal production, as shown in the table above.

### Cash Costs and AISCOS:

The following table summarizes YTD 2018 cash costs and AISCOS for each operation compared to the respective 2018 Forecast amounts.

For the purposes of these comparisons, the symbols have the following meanings:

- ✓✓ Actual results were better than 2018 Forecast range
- ✓ Actual results met 2018 Forecast range
- ✗ Actual results were short of 2018 Forecast range

	Cash Costs <sup>(1)</sup> (\$ per ounce)			AISCOS <sup>(1)</sup> (\$ per ounce)		
	2018 Forecast <sup>(2)</sup>	YTD 2018 Actual		2018 Forecast <sup>(2)</sup>	YTD 2018 Actual	
La Colorada	1.90 - 2.50	\$2.13	✓	4.80 - 5.70	\$4.20	✓✓
Dolores	(2.00) - (2.50)	(4.12)	✓✓	7.25 - 8.25	\$11.40	✗
Huaron	1.25 - 2.00	1.19	✓✓	7.35 - 8.35	\$7.18	✓✓
Morococha	(4.70) - (3.40)	(6.06)	✓✓	3.20 - 5.20	\$0.59	✓✓
San Vicente	10.25 - 11.25	10.44	✓	12.00 - 13.25	\$11.92	✓✓
Manantial Espejo	10.75 - 14.50	11.19	✓	9.00 - 12.75	\$14.07	✗
<b>Total</b>	<b>2.80 - 3.80</b>	<b>\$2.45</b>	<b>✓✓</b>	<b>8.50 - 10.00</b>	<b>\$9.21</b>	<b>✓</b>

(1) Cash Costs and AISCOS 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 Q3 2018 Financial Statements.

(2) 2018 Forecast amount as disclosed in Q2 2018 MD&A.

Based on YTD 2018 cash costs and AISCOS, and the expected results for the remainder of 2018, management is reaffirming the annual 2018 cash costs and AISCOS forecasts, as provided in the Q2 2018 interim MD&A dated August 8, 2018 and presented in the table above. These estimates are largely influenced by management's assumptions for commodity prices and currency exchange rates.

## Capital Expenditures:

The following table summarizes the YTD 2018 capital expenditures compared to the respective 2018 Forecast amounts:

	2018 Capital Investment (\$ millions)		
	YTD 2018 Actual <sup>(1)</sup>	2018 Forecast	% of Annual Forecast <sup>(2)</sup>
La Colorada	10.7	16.5 – 17.0	64%
Dolores	33.5	47.5 – 49.0	69%
Huaron	10.7	17.0 – 17.5	62%
Morococha	11.3	12.0 – 12.5	92%
San Vicente	5.3	6.0 – 7.0	82%
Manantial Espejo	2.4	1.0 – 2.0	160%
<b>Sustaining Capital Sub-total</b>	<b>73.9</b>	<b>100.0 - 105.0</b>	<b>72%</b>
Morococha projects	—	2.0	—%
Mexico projects	13.1	13.0	101%
Joaquin and COSE projects	16.4	35.0	47%
<b>Project Capital Sub-total</b>	<b>29.4</b>	<b>50.0</b>	<b>59%</b>
<b>Total Capital</b>	<b>103.3</b>	<b>150.0 – 155.0</b>	<b>68%</b>

(1) Total sustaining capital investments capitalized in YTD 2018 were \$2.8 million less than the \$76.7 million of sustaining capital cash outflows referenced in the individual mine tables and included in the YTD 2018 AISCOS calculations, shown in the “Alternative Performance (Non-GAAP) Measures” section of this MD&A. In addition, project capital investments in YTD 2018 were \$2.1 million less than the \$31.6 million of YTD 2018 project capital cash outflows. These differences are due to the timing between the cash payment of capital investments compared with the period in which the investments are capitalized.

(2) Percentage calculated based on mid-point of the related 2018 guidance range.

Based on year-to-date capital expenditures and those expected for the remainder of the year, management reaffirms the 2018 Forecast for annual consolidated sustaining capital expenditures; however, management has reduced the 2018 annual consolidated project capital to \$40.0 million from \$50 million to reflect the timing of expenditures for the Morococha, Joaquin and COSE projects. The revised 2018 capital forecast is as follows:

	2018 Revised Capital Forecast (\$ millions)
La Colorada	17.5 – 18.5
Dolores	42.0 – 44.0
Huaron	17.0 – 17.5
Morococha	14.5 – 15.0
San Vicente	6.5 – 7.0
Manantial Espejo	2.5 – 3.0
<b>Sustaining Capital Sub-total</b>	<b>100.0 - 105.0</b>
Morococha projects	0
Mexico projects	15.5
Joaquin and COSE projects	24.5
<b>Project Capital Sub-total</b>	<b>40.0</b>
<b>Total Capital</b>	<b>140.0 – 145.0</b>

## PROJECT DEVELOPMENT UPDATE

The following table reflects the amounts spent at each of Pan American's major projects in Q3 2018 and YTD 2018 as compared with Q3 2017 and YTD 2017.

Project Development Investment (thousands of USD)	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Dolores projects <sup>(1)</sup>	1,633	14,040	8,324	40,904
La Colorada projects <sup>(2)</sup>	1,460	3,276	4,740	6,267
Joaquin and COSE projects <sup>(3)</sup>	5,253	607	16,380	607
<b>Total</b>	<b>8,346</b>	<b>17,923</b>	<b>29,444</b>	<b>47,778</b>

(1) As a result of periodic changes in accounts payable balances, the amounts capitalized for the projects during Q3 2018 and YTD 2018 were \$0.1 million and \$2.0 million less than the project cash outflows, respectively (Q3 and YTD 2017: \$1.5 million and \$0.6 million more, respectively).

(2) As a result of periodic changes in accounts payable balances, the amounts capitalized for the projects during Q3 2018 and YTD 2018 were \$0.4 million and \$0.5 million more than the project cash outflows, respectively (Q3 and YTD 2017: \$1.3 million more and \$1.2 million less, respectively).

(3) As a result of periodic changes in accounts payable balances, the amounts capitalized for the projects during Q3 2018 and YTD 2018 were \$0.7 million and \$0.7 million less than the project cash outflows, respectively (Q3 and YTD 2017: \$2.0 million and \$2.0 million less, respectively). Amounts in 2017 exclude: 2017 acquisition costs for the Joaquin and COSE assets which had cash components of \$15.0 million and \$7.5 million respectively; exploration expenditures included in Q3 2017 and YTD 2017 "Exploration and project development expense" of \$2.6 million and \$3.7 million, respectively; and a \$2.0 million prepaid deposit on mining equipment included in "Prepaid expenses and other current assets" as of September 30, 2017.

During Q3 2018, the Company achieved the following progress on its projects:

### Mexico:

The Company invested \$1.6 million on completing the Dolores expansion projects, the majority of which was spent on the construction of the underground mine maintenance shop and the acquisition of additional underground mobile equipment units. The underground mine crews were remobilized following the 10-week suspension of underground mining, and the mine is currently being prepared to recommence production and ramp-up in the fourth quarter of 2018.

The Company invested \$1.5 million on the La Colorada projects, primarily relating to the construction of a tailings storage facility raise and commissioning of a neutralization plant.

### Joaquin and COSE:

The Company invested \$3.7 million on the Joaquin project, primarily on the surface facilities and the initial fleet of development mining equipment. Approximately 145 metres of development were completed on the decline access for the underground mine, which was less than plan due to difficult ground being unexpectedly encountered close to surface. Subsequent to Q3 2017, the ramp passed successfully through the difficult ground conditions. The delay in developing the decline access may result in extending completion of the Joaquin project by approximately two months. The Joaquin project remains on budget.

During Q3 2018, the Company invested \$1.6 million at COSE, primarily on the decline access to the underground mine. During the quarter, 308 metres of ramp development were completed for a total of 1125 metres to date. Construction commenced on the first underground electrical substation and the fresh air raise bore. The COSE project remains on budget.

## OVERVIEW OF Q3 2018 FINANCIAL RESULTS

### Selected Annual and Quarterly Information

The following tables set out selected quarterly results for the past eleven quarters as well as selected annual results for the past two 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 2017 included an impairment reversal to Morococha and Calcatreu.

2018 (In thousands of USD, other than per share amounts)	Quarter Ended		
	March 31	June 30	September 30
Revenue	\$ 206,961	\$ 216,460	\$ 187,717
Mine operating earnings (loss)	\$ 55,124	\$ 54,851	\$ (4,412)
Earnings (loss) for the period attributable to equity holders	\$ 47,376	\$ 36,187	\$ (9,460)
Basic earnings (loss) per share	\$ 0.31	\$ 0.24	\$ (0.06)
Diluted earnings (loss) per share	\$ 0.31	\$ 0.24	\$ (0.06)
Cash flow from operating activities	\$ 34,400	\$ 66,949	\$ 41,699
Cash dividends paid per share	\$ 0.035	\$ 0.035	\$ 0.035
<i>Other financial information</i>			
Total assets	\$ 2,004,187		
Total long-term financial liabilities <sup>(1)</sup>	\$ 84,946		
Total attributable shareholders' equity	\$ 1,576,698		

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

2017 (In thousands of USD, other than per share amounts)	Quarter Ended				Year Ended
	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
<i>Other financial information</i>					
Total assets					\$ 1,993,332
Total long-term financial liabilities <sup>(1)</sup>					\$ 90,027
Total attributable shareholders' equity					\$ 1,516,850

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

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

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

## Income Statement: Q3 2018 vs. Q3 2017

A **net loss** of \$9.2 million was recorded in Q3 2018 compared to net earnings of \$17.8 million in Q3 2017, which corresponds to a basic loss per share of \$0.06 and basic earnings per share of \$0.11, respectively.

The following table highlights the key items driving the difference between net loss in Q3 2018 compared with net earnings in Q3 2017:

Net earnings, three months ended September 30, 2017 (in thousands of USD)		\$	17,826	Note
<b>Revenue:</b>				
Decreased realized metal prices	\$	(23,836)		
Higher quantities of metal sold		31,241		
Decreased direct selling costs		5,301		
Increased negative settlement adjustments		(15,780)		
<b>Total decrease in revenue</b>			<b>(3,074)</b>	<b>(1)</b>
<b>Cost of sales:</b>				
Increased production costs and decreased royalty charges	\$	(39,870)		<b>(2)</b>
Increased depreciation and amortization		(9,286)		<b>(3)</b>
<b>Total increase in cost of sales</b>			<b>(49,156)</b>	
<b>Total decrease in mine operating earnings</b>			<b>(52,230)</b>	
Decreased income tax expense			18,409	<b>(4)</b>
Decreased exploration and project development expense			4,520	<b>(5)</b>
Increased investment income and other expense			2,762	<b>(6)</b>
Increased net gain on asset sales, commodity contracts and derivatives			1,410	<b>(7)</b>
Increased foreign exchange loss			(1,288)	<b>(8)</b>
Decreased dilution gain, net of share of income from associate			(784)	
Decreased interest and finance expense			203	
Increased general and administrative expense			(62)	
<b>Net loss, three months ended September 30, 2018</b>	<b>\$</b>		<b>(9,234)</b>	

- Revenue** for Q3 2018 was \$3.1 million lower than in Q3 2017. The major drivers for the decrease were a \$23.8 million negative variance from lower metal prices, attributable to decreased precious and base metal prices, and a \$15.8 million negative variance from provisional and final settlement adjustments for open concentrate shipments. These decreases were largely offset by increased quantities of metal sold for all metals except copper. 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 September 30,		Three months ended September 30,	
	2018	2017	2018	2017
Silver <sup>(1)</sup>	\$ 14.88	\$ 16.68	6,366	5,255
Gold <sup>(1)</sup>	\$ 1,212	\$ 1,277	44.6	35.2
Zinc <sup>(1)</sup>	\$ 2,472	\$ 2,974	13.6	11.6
Lead <sup>(1)</sup>	\$ 2,072	\$ 2,421	5.8	4.9
Copper <sup>(1)</sup>	\$ 6,105	\$ 6,351	2.5	3.6

(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. Metal quantities stated as koz for silver and gold and kt for zinc, lead and copper.

- Production costs** in Q3 2018 were \$40.8 million higher than in Q3 2017. The increase was mainly the result of negative NRV adjustments and higher costs due to the expanded operations at both Mexican mines. The NRV inventory adjustments increased Q3 2018 production costs by \$23.4 million compared to a \$1.3 million increase in Q3 2017. **Royalty expense** decreased by \$0.9 million over Q3 2017, mainly attributable to the timing of royalty payments at San Vicente.

3. **Depreciation and amortization ("D&A") expense** was \$9.3 million higher than in Q3 2017, largely because of increased D&A at Dolores and La Colorada from increased metal production and sales volumes, and a higher capital base attributable to the expansions at both operations.
4. **Income tax recovery** of \$7.9 million in Q3 2018 was \$18.4 million lower than the \$10.5 million income tax expense in Q3 2017. The lower taxes were largely attributable to the decrease in net earnings before tax, as well as the appreciation of the MXN during the quarter, which increased the MXN denominated tax assets.
5. **Exploration and project development** expenses were \$3.0 million in Q3 2018 compared to \$7.5 million in Q3 2017. The decrease was primarily related to the capitalization of expenditures for the COSE and Joaquin projects in Q3 2018, which were expensed in the comparable period, and a non-recurring \$1.9 million non-cash write-down of certain project development costs, which was recognized in Q3 2017. The remaining expenses recorded in each quarter primarily related to exploration and project development activities near the Company's existing mines and at select greenfield projects, and the holding and maintenance costs associated with the Navidad project. Approximately \$1.0 million was spent on the Navidad project in Q3 2018 compared to approximately \$0.5 million in Q3 2017 due to increased permitting and community relations activities.
6. **Other expense** for Q3 2018 was \$0.3 million compared to \$3.3 million in Q3 2017. The expenses recorded in each quarter were primarily related to adjustments in the closure and decommissioning liability for the Alamo Dorado property.
7. **Gain on commodity and foreign currency contracts** for Q3 2018 was \$1.8 million compared to a \$0.3 million loss in Q3 2017. The gain in Q3 2018 reflects the impact of lower base metal prices on commodity contracts.
8. **Foreign exchange ("FX") losses** in Q3 2018 were \$3.1 million compared to \$1.9 million in Q3 2017. Losses in Q3 2018 resulted primarily from the effect of the approximately 43% depreciation of the Argentine peso ("ARS") on the Company's ARS denominated monetary assets. FX losses in Q3 2017 resulted primarily from the effect of the approximately 4% depreciation of the ARS on ARS denominated monetary assets.

### Statement of Cash Flows: Q3 2018 vs. Q3 2017

**Cash flow from operations** in Q3 2018 totaled \$41.7 million, \$22.1 million less than the \$63.8 million generated in Q3 2017. The reduction was largely from an approximately \$20.8 million decrease in cash flows from lower mine operating earnings and a \$7.1 million increase in income tax payments, partially offset by decreased exploration and project development costs.

Working capital changes in Q3 2018 resulted in a \$4.2 million source of cash compared with a \$6.9 million source of cash in Q3 2017. The Q3 2018 changes were comprised mainly of a reduction in accounts receivables, partially offset by inventory build-ups.

**Investing activities** utilized \$35.3 million in Q3 2018, inclusive of \$3.5 million for the net purchase of short-term investments. The balance related primarily to \$33.6 million on mineral properties, plant and equipment at the Company's mines and projects, as previously described in the "Operating Performance" section of this MD&A. Investing cash flows in Q3 2018 included \$1.5 million in proceeds from commodity derivative contracts. In Q3 2017, investing activities utilized \$44.9 million inclusive of \$12.5 million used for the net purchase of short-term investments, with \$32.0 million spent on mineral properties, plant and equipment at the Company's mines and projects.

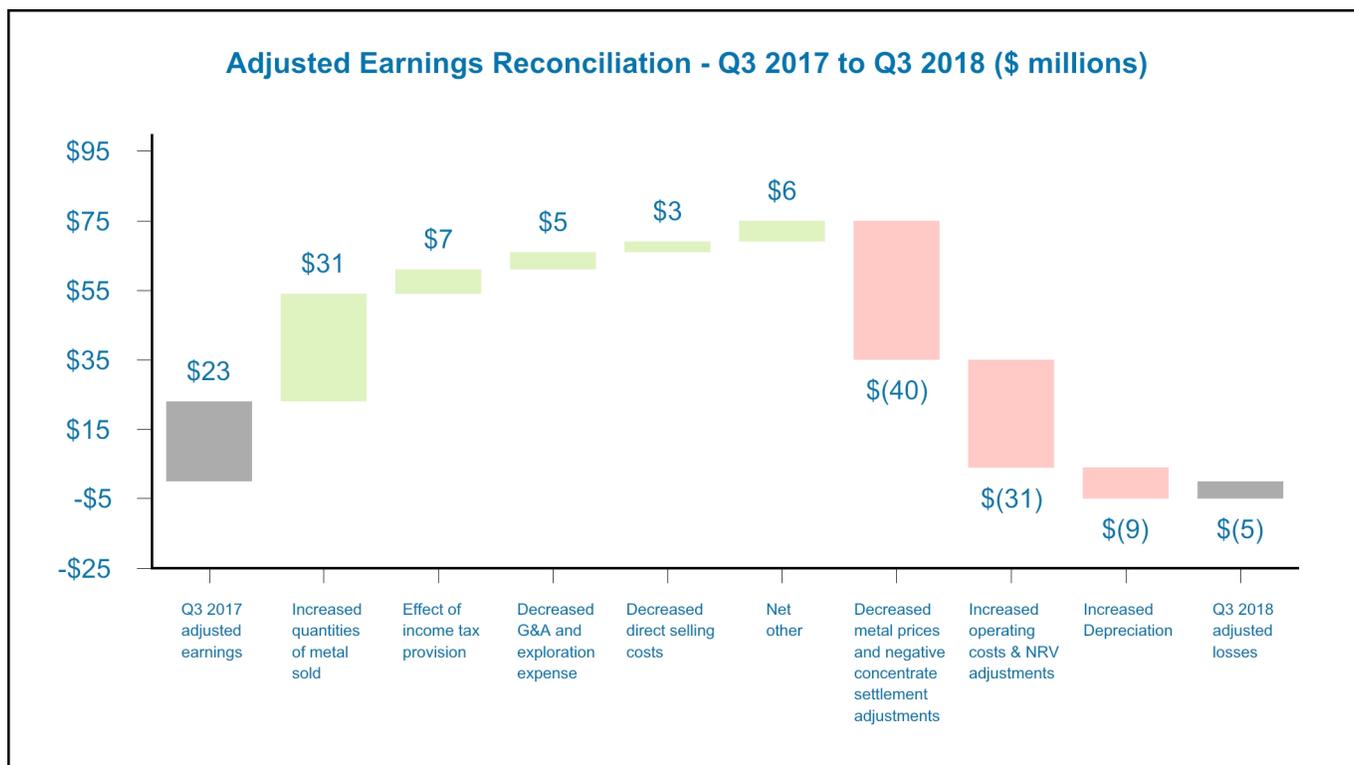
**Financing activities** in Q3 2018 used \$7.4 million compared to \$43.7 million in Q3 2017. Cash used in Q3 2018 mainly consisted of \$5.4 million paid as dividends to shareholders and \$2.2 million of lease repayments. In Q3 2017, cash used in financing activities consisted primarily of \$38.7 million in repayments of short-term debt and \$3.8 million in dividends to shareholders.

## Adjusted Earnings (Loss): Q3 2018 vs Q3 2017

Adjusted earnings (loss) is a non-GAAP measure. 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 Q3 2018 Financial Statements.

**Adjusted Loss** in Q3 2018 was \$4.7 million, representing basic adjusted loss per share of \$0.03, which was \$28.0 million, or \$0.18 per share, lower than Q3 2017 adjusted earnings of \$23.3 million, and basic adjusted earnings per share of \$0.15, respectively.

The following chart illustrates the key factors leading to the change in adjusted earnings from Q3 2017 to Q3 2018:



## Income Statement: YTD 2018 vs. YTD 2017

**Net earnings** of \$75.6 million were recorded in YTD 2018 compared to \$73.8 million in YTD 2017, which corresponds to basic earnings per share of \$0.48 and \$0.47, respectively.

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

Net earnings, nine months ended September 30, 2017 (in thousands of USD)		\$	73,787	Note
<b>Revenue:</b>				
Decreased realized metal prices	\$	(4,681)		
Higher quantities of metal sold		33,146		
Decreased direct selling costs		11,431		
Increased negative settlement adjustments		(19,555)		
<b>Total increase in revenue</b>			<b>20,341</b>	<b>(1)</b>
<b>Cost of sales:</b>				
Increased production costs and increased royalty charges	\$	(18,857)		<b>(2)</b>
Increased depreciation and amortization		(21,396)		<b>(3)</b>
<b>Total increase in cost of sales</b>			<b>(40,253)</b>	
<b>Total decrease in mine operating earnings</b>			<b>(19,912)</b>	
Increased foreign exchange loss			(10,503)	<b>(4)</b>
Increased dilution gain, net of share of loss from associate			12,068	<b>(5)</b>
Increased net gain on asset sales, commodity contracts and derivatives			7,985	<b>(6)</b>
Decreased exploration and project development expense			7,857	<b>(7)</b>
Decreased income tax expense			4,717	<b>(8)</b>
Increased investment income and other expense			1,155	
Increased interest and finance expense			(1,002)	
Increased general and administrative expense			(534)	
<b>Net earnings, nine months ended September 30, 2018</b>	<b>\$</b>		<b>75,618</b>	

- Revenue** for YTD 2018 was \$20.3 million higher than in YTD 2017. The major factor for the increase was a \$33.1 million quantity variance, which was attributable to increased gold, zinc, and silver sales volumes, partially offset by lower copper sales. Decreased direct selling costs of \$11.4 million, primarily from favorable changes in contract terms relating to concentrate treatment and refining charges, also contributed to the increase in revenues. Partially offsetting these factors were a \$19.6 million increase in negative provisional and final settlement adjustments on concentrate shipments, and a \$4.7 million decrease to revenue from lower metal prices. The following table reflects the metal prices realized by the Company and the quantities of metal sold during each period:

	Realized Metal Prices		Quantities of Metal Sold	
	Nine months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Silver <sup>(1)</sup>	\$ 15.98	\$ 17.12	17,860	17,552
Gold <sup>(1)</sup>	\$ 1,283	\$ 1,250	137.3	111.9
Zinc <sup>(1)</sup>	\$ 2,981	\$ 2,801	39.1	34.8
Lead <sup>(1)</sup>	\$ 2,286	\$ 2,309	15.2	15.5
Copper <sup>(1)</sup>	\$ 6,641	\$ 5,992	7.1	9.7

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

- Production and royalty costs** in YTD 2018 were \$18.5 million and \$0.4 million higher, respectively, than in YTD 2017. The higher production costs were mainly the result of: (i) a \$14.2 million increase in direct operating costs from higher sales volumes and the addition of the pulp agglomeration plant at Dolores, partially offset

by a decrease in production costs from the cessation of Alamo Dorado production, and lower costs at Manantial Espejo driven by the devaluation of the Argentine peso; and (ii) a \$4.3 million increase in negative NRV inventory adjustments at Manantial Espejo and Dolores. The NRV inventory adjustments increased production costs in YTD 2018 by \$11.1 million compared with a \$6.8 million increase in YTD 2017.

3. **D&A expense** was \$21.4 million higher than in YTD 2017, largely the result of increased D&A at Dolores and La Colorada, due to increased metal production and sales volumes, and at Morococha on account of the impairment reversal in the fourth quarter of 2017, which increased the mine's depreciable assets.
4. **FX losses** in YTD 2018 were \$9.7 million compared to FX gains of \$0.8 million in YTD 2017. Losses in YTD 2018 resulted primarily from the effect of the devaluation of the ARS on the Company's ARS denominated monetary assets. The YTD 2017 gains were driven largely by the appreciation of the MXN on the Company's MXN denominated cash and tax receivables.
5. **Share of income from associate and dilution gain** for YTD 2018 was \$12.1 million higher than in YTD 2017. The increase was driven primarily by a \$13.4 million dilution gain recognized in relation to Maverix Metals Inc. issuing common shares to acquire certain royalty assets in Q2 2018.
6. **Gain on sale of mineral properties, plant and equipment** was \$7.0 million higher in YTD 2018 than in YTD 2017. The YTD 2018 gain was attributable to the Q1 2018 sale of 100% of the Company's shares in Minera Aquiline Argentina SA, which owned the Calcatreu project in Argentina.
7. **Exploration and project development** expenses for YTD 2018 were \$7.6 million compared to \$15.5 million in YTD 2017. The reduction was primarily the result of the following: (i) reduced greenfield exploration in response to decreased metal prices; (ii) expenditures at the COSE and Joaquin projects, which were expensed in the comparable period and are now being capitalized; and (iii) a non-recurring \$1.9 million non-cash write-down of certain project development costs, which impacted the prior period.
8. **Income tax expense** in YTD 2018 was \$4.7 million lower than in YTD 2017. The decrease was largely attributable to deferred tax assets of approximately \$11.7 million recorded in Q2 2018 as a result of the restructuring of certain inter-company debts. This decrease was partially offset by fluctuations in the MXN, which appreciated significantly more in the first nine months of 2017 than during the same period in 2018, thus the corresponding future income tax expense resulting from the increased MXN denominated tax asset base in 2018 was significantly less than in 2017.

### Statement of Cash Flows: YTD 2018 vs. YTD 2017

**Cash flow from operations** in YTD 2018 totaled \$143.0 million, \$2.2 million less than the \$145.3 million generated in YTD 2017. The decrease was mainly due to a \$22.4 million increase in income tax payments, largely offset by a \$4.1 million increase in cash flows from working capital changes, a \$7.9 million reduction in exploration and project development expenditures, and an approximately \$5.7 million increase in cash mine operating earnings from higher revenues net of increased operating costs.

Working capital changes in YTD 2018 resulted in a \$0.6 million source of cash, comprised mainly of a reduction in accounts receivable balances, largely offset by accounts payable and accrued liability pay-downs, reclamation expenditures at Alamo Dorado, and a build-up in inventories. Comparatively, working capital changes reduced operating cash flows by \$3.5 million in YTD 2017, comprised mainly of inventory build-ups and reclamation expenditures being partially offset by a build-up in accounts payable and accrued liabilities.

**Investing activities** utilized \$108.1 million in YTD 2018, inclusive of \$15.5 million for the net purchase of short-term investments. The balance related primarily to \$102.0 million on mineral properties, plant and equipment additions at the Company's mines and projects, \$7.5 million disbursed for the final payment for the acquisition of the COSE project, partially offset by \$15.8 million in proceeds received from asset sales (the majority from the sale of the Company's shares in Minera Aquiline SA, which owned the Calcatreu project). In YTD 2017, investing activities utilized \$141.0 million inclusive of \$13.6 million for the net purchase of short-term investments, \$105.8 million spent on mineral properties, plant and equipment at the Company's mines and projects, and \$20.2 million for the acquisition of the COSE and Joaquin projects.

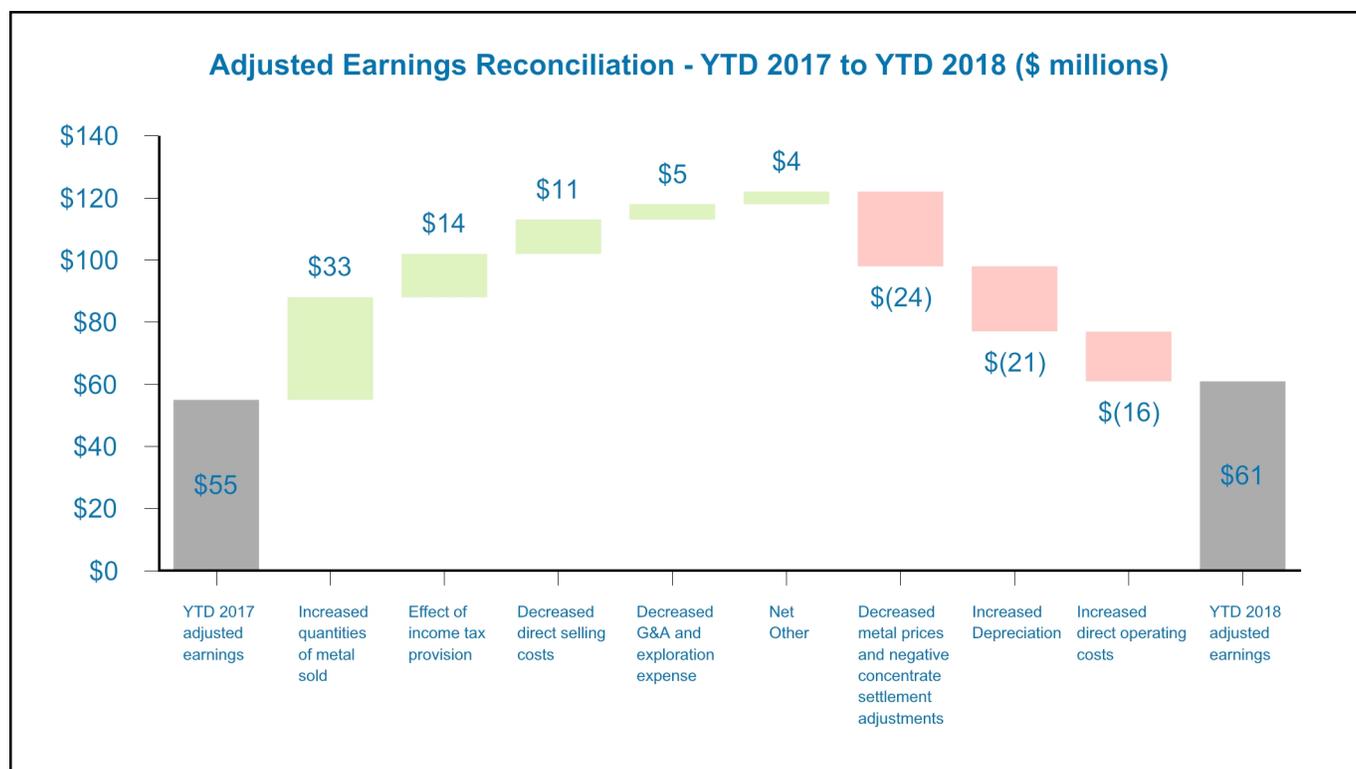
**Financing activities** in YTD 2018 used \$24.4 million compared to \$49.0 million in YTD 2017. Cash used in YTD 2018 consisted of \$15.9 million paid as dividends to shareholders, \$5.7 million of lease repayments and \$3.0 million used to repay short-term loans, partially offset by \$1.1 million generated on the issuance of shares related to the exercise of stock options. In YTD 2017, cash used in financing activities consisted of a \$36.2 million repayment of the revolving credit facility, \$11.5 million in dividends to shareholders and \$3.2 million of lease repayments, partially offset by \$2.6 million generated on the issuance of shares related to the exercise of stock options.

### Adjusted Earnings: YTD 2018 vs YTD 2017

Adjusted earnings is a non-GAAP measure. 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 Q3 2018 Financial Statements.

**Adjusted Earnings** in YTD 2018 were \$61.5 million, representing basic adjusted earnings per share of \$0.40, which was \$6.8 million, or \$0.04 per share, higher than YTD 2017 adjusted earnings of \$54.6 million, and basic adjusted earnings per share of \$0.36.

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



## LIQUIDITY AND CAPITAL POSITION

Liquidity and Capital Measures (in \$000s)	September 30, 2018	June 30, 2018	Dec 31, 2017	Q3 2018 Change	YTD 2018 Change
Cash and cash equivalents ("Cash")	186,424	187,403	175,953	(979)	10,471
Short-term Investments ("STI")	66,233	62,845	51,590	3,388	14,643
Cash and STI	252,657	250,248	227,543	2,409	25,114
Working Capital	443,586	463,096	410,756	(19,510)	32,830
Revolving Credit Facility ("RCF")	300,000	300,000	300,000	—	—
Amount drawn on RCF	—	—	—	—	—
Total debt <sup>(1)</sup>	8,439	9,700	10,559	(1,261)	(2,120)

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

The Company's net liquidity position increased by \$2.4 million during Q3 2018. Operating cash flows of \$41.7 million, which included \$12.9 million in tax payments and a \$4.2 million source of cash from working capital changes, more than funded the Company's investing and financing activities in the quarter.

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 of Directors"), 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 September 30, 2018 decreased by \$19.5 million from June 30, 2018 working capital of \$463.1 million. The decrease was mainly attributable to a decrease in inventories, which were negatively impacted by \$23.4 million in negative NRV adjustments in the quarter.

The Company's four-year, \$300.0 million secured revolving credit facility that matures on April 15, 2020 (the "RCF") remained undrawn as of September 30, 2018, and the Company was in compliance with all covenants required by the RCF.

The Company's financial position at September 30, 2018, and the operating cash flows that are expected over the next twelve months, lead management to believe that the Company's liquid assets are sufficient to satisfy our 2018 working capital requirements, 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.

In the normal course of business, the Company enters into contracts that give rise to commitments for future minimum payments, details of which are described in Note 7(e) of the 2017 Financial Statements, and in the Contractual Commitments and Contingencies section of the Company's annual 2017 Management Discussion and Analysis (the "2017 Annual MD&A"). Since December 31, 2017, there have been no significant changes to these contractual obligations and commitments.

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.

## CLOSURE AND DECOMMISSIONING COST PROVISION

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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 September 30, 2018 was \$126.6 million (December 31, 2017 - \$142.2 million) using inflation rates of between 2% and 29% (2017 - between 2% and 25%). The inflated and discounted provision on the statement of financial position as at September 30, 2018, using discount rates between 3% and 29% (December 31, 2017 - between 2% and 24%), was \$57.9 million (December 31, 2017 - \$65.4 million). Spending with respect to decommissioning obligations at Alamo Dorado and Manantial Espejo began in 2016, while the remainder of the obligations are expected to be paid through 2040, or later if the mine lives are extended. Revisions made to the reclamation obligations in Q3 2018 were primarily a result of increased site disturbance from the ordinary course of operations at the mines, reclamation activities at Alamo Dorado, as well as revisions to the estimates based on periodic reviews of closure plans and related costs, actual expenditures incurred, and closure activities completed. These obligations will be funded from operating cash flows, reclamation deposits, and cash on hand.

The accretion of the discount charged in Q3 2018 and YTD 2018 as finance expense was \$1.6 million and \$4.9 million, respectively (Q3 2017 and YTD 2017, \$1.5 million and \$4.5 million, respectively). Reclamation expenditures incurred during Q3 2018 and YTD 2018 were \$1.3 million and \$5.8 million, respectively (Q3 2017 and YTD 2017, \$0.9 million and \$4.1 million, respectively).

## RELATED PARTY TRANSACTIONS

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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 Metals Inc. have been disclosed in Note 9 of the Q3 2018 Financial Statements. These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the parties.

## ALTERNATIVE PERFORMANCE (NON-GAAP) MEASURES

### • AISCOS

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

(In thousands of USD, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Direct operating costs	\$ 127,165	\$ 108,493	\$ 368,392	\$ 354,161
NRV inventory adjustments	A 23,432	1,336	11,067	6,812
Production costs	\$ 150,597	\$ 109,829	\$ 379,459	\$ 360,973
Royalties	3,652	4,550	16,072	15,701
Direct selling costs <sup>(1)</sup>	12,434	17,735	38,505	49,936
Less by-product credits <sup>(1)</sup>	(115,177)	(114,620)	(375,857)	(330,984)
<b>Cash cost of sales net of by-products <sup>(2)</sup></b>	<b>\$ 51,506</b>	<b>\$ 17,494</b>	<b>\$ 58,179</b>	<b>\$ 95,626</b>
Sustaining capital <sup>(3)</sup>	\$ 25,610	\$ 15,424	\$ 76,653	\$ 58,642
Exploration and project development	3,008	5,630	7,629	13,588
Reclamation cost accretion	1,631	1,493	4,893	4,480
General and administrative expense	5,675	5,613	17,199	16,665
<b>All-in sustaining costs <sup>(2)</sup></b>	<b>B \$ 87,430</b>	<b>\$ 45,654</b>	<b>\$ 164,553</b>	<b>\$ 189,001</b>
<b>Payable ounces sold (in thousands)</b>	<b>C 6,366</b>	<b>5,255</b>	<b>17,860</b>	<b>17,552</b>
<b>All-in sustaining cost per silver ounce sold, net of by-products</b>	<b>B/C \$ 13.73</b>	<b>\$ 8.69</b>	<b>\$ 9.21</b>	<b>\$ 10.77</b>
<b>All-in sustaining cost per silver ounce sold, net of by-products (excludes NRV inventory adjustments)</b>	<b>(B-A)/C \$ 10.05</b>	<b>\$ 8.43</b>	<b>\$ 8.59</b>	<b>\$ 10.38</b>

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

(2) Totals may not add due to rounding.

(3) Please refer to the table below. Further, Q3 2018 and YTD 2018 sustaining capital cash outflows included in this table were \$1.3 million and \$2.8 million more than the \$24.3 million and \$73.9 million capitalized in Q3 2018 and YTD 2018, respectively, as shown in the Capital Expenditures table included in the "2018 Operating Outlook" Section of this MD&A. The difference is due to the timing between the cash payment of capital investments compared with the period in which investments are capitalized.

Sustaining capital is included in AISCOS 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 AISCOS measure reflects the capital costs associated with current ounces sold as opposed to project capital, which is expected to increase future production. The project capital excluded in the reconciliation below is further described in the "Project Development Update" section of this MD&A.

Reconciliation of payments for mineral properties, plant and equipment and sustaining capital (in thousands of USD)	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Payments for mineral properties, plant and equipment <sup>(1)</sup>	\$ 33,555	\$ 31,999	\$ 102,046	\$ 105,759
Add/(Subtract)				
Assets acquired by finance lease	920	745	6,578	3,615
Investment (non-sustaining) capital	(8,865)	(17,320)	(31,971)	(50,732)
<b>Sustaining Capital <sup>(2)</sup></b>	<b>\$ 25,610</b>	<b>\$ 15,424</b>	<b>\$ 76,653</b>	<b>\$ 58,642</b>

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

(2) Totals may not add due to rounding.

Three months ended September 30, 2018								
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	22,255	36,817	19,700	17,953	10,054	20,389		127,165
NRV inventory adjustments	—	16,301	—	—	—	7,130		23,432
Production costs	22,255	53,118	19,700	17,953	10,054	27,519		150,597
Royalties	150	1,897	—	—	1,207	398		3,652
Direct selling costs	2,168	32	5,537	3,274	1,152	271		12,434
Less by-product credits	(14,505)	(41,512)	(22,449)	(21,891)	(4,475)	(10,344)		(115,177)
<b>Cash cost of sales net of by-products<sup>(1)</sup></b>	<b>10,068</b>	<b>13,535</b>	<b>2,788</b>	<b>(664)</b>	<b>7,938</b>	<b>17,844</b>		<b>51,506</b>
Sustaining capital	3,902	9,971	5,733	3,509	1,731	763		25,610
Exploration and project development	74	384	14	174	—	749	1,613	3,008
Reclamation cost accretion	114	351	152	87	63	708	156	1,631
General & administrative expense	—	—	—	—	—	—	5,675	5,675
<b>All-in sustaining costs<sup>(1)</sup></b>	<b>14,158</b>	<b>24,241</b>	<b>8,687</b>	<b>3,106</b>	<b>9,732</b>	<b>20,064</b>	<b>7,444</b>	<b>87,430</b>
<b>Payable ounces sold (thousand)</b>	<b>2,258</b>	<b>950</b>	<b>785</b>	<b>688</b>	<b>876</b>	<b>810</b>		<b>6,366</b>
<b>AISCOS</b>	<b>\$ 6.27</b>	<b>\$ 25.52</b>	<b>\$ 11.07</b>	<b>\$ 4.52</b>	<b>\$ 11.11</b>	<b>\$ 24.78</b>		<b>\$ 13.73</b>
<b>AISCOS (excludes NRV inventory adjustments)</b>	<b>\$ 6.27</b>	<b>\$ 8.36</b>	<b>\$ 11.07</b>	<b>\$ 4.52</b>	<b>\$ 11.11</b>	<b>\$ 15.97</b>		<b>\$ 10.05</b>

(1) Totals may not add due to rounding.

Nine months ended September 30, 2018								
(In thousands of USD, except as noted)	La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	53,301	114,934	55,673	51,971	26,479	66,034		368,392
NRV inventory adjustments		13,127				(2,060)		11,067
Production costs	53,301	128,061	55,673	51,971	26,479	63,974		379,459
Royalties	486	6,349	—	—	7,388	1,848		16,072
Direct selling costs	6,487	97	15,266	10,789	5,635	231		38,505
Less by-product credits	(48,693)	(134,475)	(67,459)	(74,129)	(14,598)	(36,503)		(375,857)
<b>Cash cost of sales net of by-products<sup>(1)</sup></b>	<b>11,580</b>	<b>32</b>	<b>3,480</b>	<b>(11,368)</b>	<b>24,904</b>	<b>29,550</b>		<b>58,179</b>
Sustaining capital	10,097	35,587	11,456	11,801	5,321	2,391		76,653
Exploration and project development	168	1,353	653	475	—	694	4,286	7,629
Reclamation cost accretion	343	1,054	457	260	189	2,124	467	4,893
General & administrative expense	—	—	—	—	—	—	17,199	17,199
<b>All-in sustaining costs<sup>(1)</sup></b>	<b>22,189</b>	<b>38,026</b>	<b>16,046</b>	<b>1,168</b>	<b>30,414</b>	<b>34,759</b>	<b>21,952</b>	<b>164,553</b>
<b>Payable ounces sold (thousand)</b>	<b>5,289</b>	<b>3,335</b>	<b>2,236</b>	<b>1,978</b>	<b>2,551</b>	<b>2,471</b>		<b>17,860</b>
<b>AISCOS</b>	<b>\$ 4.20</b>	<b>\$ 11.40</b>	<b>\$ 7.18</b>	<b>\$ 0.59</b>	<b>\$ 11.92</b>	<b>\$ 14.07</b>		<b>\$ 9.21</b>
<b>AISCOS (excludes NRV inventory adjustments)</b>	<b>\$ 4.20</b>	<b>\$ 7.47</b>	<b>\$ 7.18</b>	<b>\$ 0.59</b>	<b>\$ 11.92</b>	<b>\$ 14.90</b>		<b>\$ 8.59</b>

(1) Totals may not add due to rounding.

Three months ended September 30, 2017									
(In thousands of USD, except as noted)	La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	15,821	27,402	2,150	20,035	16,165	7,255	19,664		108,493
NRV inventory adjustments	—	2,810	(1,268)	—	—	—	(205)		1,336
Production costs	15,821	30,212	881	20,035	16,165	7,255	19,458		109,829
Royalties	133	1,467	16	—	—	2,156	779		4,550
Direct selling costs	2,267	17	24	7,813	4,814	2,628	172		17,735
Less by-product credits	(16,371)	(29,068)	(427)	(27,439)	(24,738)	(2,722)	(13,856)		(114,620)
<b>Cash cost of sales net of by-products<sup>(1)</sup></b>	<b>1,850</b>	<b>2,628</b>	<b>494</b>	<b>410</b>	<b>(3,759)</b>	<b>9,316</b>	<b>6,553</b>		<b>17,494</b>
Sustaining capital	3,680	3,812	—	1,512	2,995	2,400	1,025		15,424
Exploration and project development	79	757	—	326	395	—	2,617	1,457	5,630
Reclamation cost accretion	112	297	89	162	105	56	619	54	1,493
General & administrative expense	—	—	—	—	—	—	—	5,613	5,613
<b>All-in sustaining costs<sup>(1)</sup></b>	<b>5,721</b>	<b>7,493</b>	<b>583</b>	<b>2,409</b>	<b>(263)</b>	<b>11,773</b>	<b>10,814</b>	<b>7,124</b>	<b>45,654</b>
<b>Payable ounces sold (thousand)</b>	<b>1,642</b>	<b>933</b>	<b>91</b>	<b>818</b>	<b>576</b>	<b>632</b>	<b>562</b>		<b>5,255</b>
<b>AISCOS</b>	<b>\$ 3.48</b>	<b>\$ 8.03</b>	<b>\$ 6.38</b>	<b>\$ 2.94</b>	<b>\$ (0.46)</b>	<b>\$ 18.62</b>	<b>\$ 19.25</b>		<b>\$ 8.69</b>
<b>AISCOS (excludes NRV inventory adjustments)</b>	<b>\$ 3.48</b>	<b>\$ 5.02</b>	<b>\$ 20.25</b>	<b>\$ 2.94</b>	<b>\$ (0.46)</b>	<b>\$ 18.62</b>	<b>\$ 19.61</b>		<b>\$ 8.43</b>

(1) Totals may not add due to rounding.

Nine months ended September 30, 2017									
(In thousands of USD, except as noted)	La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	PASCORP	Consolidated
Direct operating costs	50,590	80,365	16,520	56,001	47,036	24,247	79,402		354,161
NRV inventory adjustments		2,749	(682)				4,745		6,812
Production costs	50,590	83,114	15,838	56,001	47,036	24,247	84,147	—	360,973
Royalties	370	4,534	79	—	—	8,216	2,502		15,701
Direct selling costs	8,169	62	231	19,579	13,757	7,357	781		49,936
Less by-product credits	(45,817)	(89,034)	(3,406)	(73,062)	(67,466)	(9,310)	(42,890)		(330,984)
<b>Cash cost of sales net of by-products<sup>(1)</sup></b>	<b>13,312</b>	<b>(1,324)</b>	<b>12,742</b>	<b>2,518</b>	<b>(6,674)</b>	<b>30,510</b>	<b>44,539</b>		<b>95,626</b>
Sustaining capital	11,394	22,768	—	6,719	9,266	6,207	2,288		58,642
Exploration and project development	179	1,880	—	1,285	1,086	—	3,652	5,506	13,588
Reclamation cost accretion	336	889	268	485	315	169	1,856	162	4,480
General & administrative expense	—	—	—	—	—	—	—	16,665	16,665
<b>All-in sustaining costs<sup>(1)</sup></b>	<b>25,221</b>	<b>24,213</b>	<b>13,010</b>	<b>11,007</b>	<b>3,994</b>	<b>36,886</b>	<b>52,336</b>	<b>22,334</b>	<b>189,001</b>
<b>Payable ounces sold (thousand)</b>	<b>5,006</b>	<b>2,864</b>	<b>734</b>	<b>2,368</b>	<b>1,791</b>	<b>2,384</b>	<b>2,405</b>		<b>17,552</b>
<b>AISCOS</b>	<b>\$ 5.04</b>	<b>\$ 8.45</b>	<b>\$ 17.73</b>	<b>\$ 4.65</b>	<b>\$ 2.23</b>	<b>\$ 15.47</b>	<b>\$ 21.76</b>		<b>\$ 10.77</b>
<b>AISCOS (excludes NRV inventory adjustments)</b>	<b>\$ 5.04</b>	<b>\$ 7.49</b>	<b>\$ 18.66</b>	<b>\$ 4.65</b>	<b>\$ 2.23</b>	<b>\$ 15.47</b>	<b>\$ 19.79</b>		<b>\$ 10.38</b>

(1) Totals may not add due to rounding.

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

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

Cash costs per ounce 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 on a consistent

basis. Cash costs per ounce is conceptually understood and widely reported in the silver mining industry. However, cash cost per ounce of silver is a non-GAAP measure and does not have a standardized meaning prescribed by GAAP and the Company's method of calculating cash costs may differ from the methods used by other entities.

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

Total Cash Costs per ounce of Payable Silver, net of by-product credits (in thousands of USD except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
<b>Production costs</b>	\$ 150,597	\$ 109,829	\$ 379,459	\$ 360,973
Add/(Subtract)				
Royalties	3,652	4,550	16,072	15,701
Smelting, refining, and transportation charges	14,202	19,025	42,400	54,754
Workers' participation and voluntary payments	(545)	(1,351)	(2,890)	(3,693)
Change in inventories	4,056	7,004	10,659	(3,235)
Other	(2,826)	716	(7,776)	1,004
Non-controlling interests <sup>(1)</sup>	(441)	(210)	(419)	(1,062)
NRV inventory adjustments	(23,432)	(1,336)	(11,067)	(6,812)
<b>Cash Operating Costs before by-product credits <sup>(2)</sup></b>	<b>145,263</b>	<b>138,229</b>	<b>426,437</b>	<b>417,630</b>
Less gold credit	(50,709)	(50,986)	(180,107)	(142,000)
Less zinc credit	(36,831)	(35,916)	(120,376)	(97,000)
Less lead credit	(11,442)	(11,613)	(35,019)	(34,261)
Less copper credit	(15,540)	(22,492)	(47,999)	(57,322)
<b>Cash Operating Costs net of by-product credits <sup>(2)</sup></b>	<b>A 30,741</b>	<b>17,221</b>	<b>42,936</b>	<b>87,046</b>
<b>Payable Silver Production (koz)</b>	<b>B 5,867</b>	<b>5,521</b>	<b>17,548</b>	<b>17,272</b>
<b>Cash Costs per ounce net of by-product credits</b>	<b>A/B \$ 5.24</b>	<b>\$ 3.12</b>	<b>\$ 2.45</b>	<b>\$ 5.04</b>

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

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

Three months ended September 30, 2018 <sup>(1)</sup> (in thousands of USD except as noted)								
		La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
<b>Cash Costs before by-product credits</b>	<b>A</b>	\$ 21,464	\$ 41,132	\$ 25,635	\$ 19,760	\$ 14,917	\$ 20,355	\$ 143,263
Less gold credit	b1	(1,205)	(40,170)	(3)	(667)	(65)	(8,540)	(50,650)
Less zinc credit	b2	(9,300)	—	(9,265)	(12,376)	(4,610)	—	(35,552)
Less lead credit	b3	(4,273)	—	(4,599)	(2,248)	(127)	—	(11,247)
Less copper credit	b4	—	—	(9,121)	(4,892)	(1,061)	—	(15,074)
<b>Sub-total by-product credits</b>	<b>B=( b1+ b2+ b3+ b4)</b>	\$ (14,779)	\$ (40,170)	\$ (22,987)	\$ (20,183)	\$ (5,863)	\$ (8,540)	\$ (112,523)
<b>Cash Costs net of by-product credits</b>	<b>C=(A+B)</b>	\$ 6,686	\$ 962	\$ 2,646	\$ (423)	\$ 9,055	\$ 11,815	\$ 30,741
Payable ounces of silver (thousand)	D	1,910	966	813	649	813	716	5,867
<b>Cash cost per ounce net of by-products</b>	<b>C/D</b>	\$ 3.50	\$ 1.00	\$ 3.25	\$ (0.65)	\$ 11.14	\$ 16.50	\$ 5.24

(1) Totals may not add due to rounding.

Nine months ended September 30, 2018 <sup>(1)</sup> (in thousands of USD except as noted)								
		La Colorada	Dolores	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
<b>Cash Costs before by-product credits</b>	<b>A</b>	\$ 61,130	\$ 124,176	\$ 70,743	\$ 57,690	\$ 41,551	\$ 64,548	\$ 419,838
Less gold credit	b1	(3,579)	(137,591)	(3)	(1,971)	(222)	(36,564)	(179,930)
Less zinc credit	b2	(32,434)	—	(30,996)	(41,547)	(11,322)	—	(116,300)
Less lead credit	b3	(13,967)	—	(12,795)	(7,226)	(405)	—	(34,393)
Less copper credit	b4	—	—	(24,262)	(18,041)	(3,975)	—	(46,278)
<b>Sub-total by-product credits</b>	<b>B=( b1+ b2+ b3+ b4)</b>	\$ (49,981)	\$ (137,591)	\$ (68,055)	\$ (68,785)	\$ (15,924)	\$ (36,564)	\$ (376,901)
Cash Costs net of by-product credits	C=(A+B)	\$ 11,150	\$ (13,415)	\$ 2,687	\$ (11,096)	\$ 25,627	\$ 27,984	\$ 42,938
Payable ounces of silver (thousand)	D	5,242	3,252	2,267	1,831	2,456	2,500	17,548
<b>Cash cost per ounce net of by-products</b>	<b>C/D</b>	\$ 2.13	\$ (4.12)	\$ 1.19	\$ (6.06)	\$ 10.44	\$ 11.19	\$ 2.45

(1) Totals may not add due to rounding.

Three months ended September 30, 2017 <sup>(1)</sup> (in thousands of USD except as noted)									
		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
<b>Cash Costs before by-product credits</b>	<b>A</b>	\$ 19,284	\$ 31,357	\$ —	\$ 27,120	\$ 19,274	\$ 13,237	\$ 25,798	\$ 136,070
Less gold credit	b1	(1,307)	(31,911)	—	—	(883)	(82)	(16,723)	(50,908)
Less zinc credit	b2	(9,853)	—	—	(12,143)	(10,423)	(2,493)	—	(34,912)
Less lead credit	b3	(5,155)	—	—	(4,437)	(1,645)	(227)	—	(11,463)
Less copper credit	b4	—	—	—	(10,291)	(10,664)	(612)	—	(21,567)
<b>Sub-total by-product credits</b>	<b>B=( b1+ b2+ b3+ b4)</b>	\$ (16,315)	\$ (31,911)	\$ —	\$ (26,871)	\$ (23,615)	\$ (3,414)	\$ (16,723)	\$ (118,850)
Cash Costs net of by-product credits	C=(A+B)	\$ 2,969	\$ (554)	\$ —	\$ 249	\$ (4,341)	\$ 9,823	\$ 9,075	\$ 17,220
Payable ounces of silver (thousand)	D	1,735	972	—	812	532	756	713	5,521
<b>Cash cost per ounce net of by-products</b>	<b>C/D</b>	\$ 1.71	\$ (0.57)	NA	\$ 0.31	\$ (8.16)	\$ 12.99	\$ 12.73	\$ 3.12

(1) Totals may not add due to rounding.

Nine months ended September 30, 2017 <sup>(1)</sup> (in thousands of USD except as noted)									
		La Colorada	Dolores	Alamo Dorado	Huaron	Morococha	San Vicente	Manantial Espejo	Consolidated Total
<b>Cash Costs before by-product credits</b>	<b>A</b>	\$ 56,700	\$ 87,754	\$ 12,530	\$ 75,149	\$ 55,809	\$ 39,987	\$ 83,926	\$ 411,854
Less gold credit	b1	(3,100)	(89,795)	(2,407)	(139)	(2,015)	(227)	(44,137)	(141,820)
Less zinc credit	b2	(26,630)	—	—	(33,785)	(27,197)	(6,755)	—	(94,366)
Less lead credit	b3	(13,761)	—	—	(14,281)	(5,212)	(541)	—	(33,796)
Less copper credit	b4	—	—	(46)	(24,388)	(28,730)	(1,664)	—	(54,828)
<b>Sub-total by-product credits</b>	<b>B=( b1+ b2+ b3+ b4)</b>	\$ (43,491)	\$ (89,795)	\$ (2,453)	\$ (72,593)	\$ (63,154)	\$ (9,187)	\$ (44,137)	\$ (324,810)
Cash Costs net of by-product credits	C=(A+B)	\$ 13,209	\$ (2,041)	\$ 10,077	\$ 2,555	\$ (7,345)	\$ 30,800	\$ 39,789	\$ 87,045
Payable ounces of silver (thousand)	D	4,932	2,971	592	2,343	1,612	2,350	2,472	17,272
<b>Cash cost per ounce net of by-products</b>	<b>C/D</b>	\$ 2.68	\$ (0.69)	\$ 17.03	\$ 1.09	\$ (4.56)	\$ 13.11	\$ 16.10	\$ 5.04

(1) Totals may not add due to rounding.

- **Adjusted (Loss) Earnings and Basic Adjusted (Loss) Earnings Per Share**

Adjusted (loss) earnings and basic adjusted (loss) earnings per share are non-GAAP measures that the Company considers to better reflect normalized earnings because 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 nine months ended September 30, 2018 and 2017, to the net earnings for each period.

(In thousands of USD, except as noted)	Three months ended September 30,		Nine months ended September 30,	
	2018	2017	2018	2017
Net (loss) earnings for the period	\$ (9,234)	\$ 17,826	\$ 75,618	\$ 73,787
Adjust for:				
- Derivative losses	238	—	1,018	—
- Write-down of project development costs	—	1,898	—	1,898
- Unrealized foreign exchange losses (gains)	4,538	373	10,685	(745)
- Net realizable value adjustments to heap inventory	11,766	3,023	11,105	5,124
- Unrealized (gains) losses on commodity contracts	(289)	2,168	(3,246)	(3,099)
- Loss (income) from associate, net of dilution gain	411	(373)	(13,861)	(1,793)
- Mine operation severance costs	—	—	—	3,509
- Reversal of previously accrued tax liabilities	—	—	(1,188)	(2,793)
- Gain on sale of assets	(225)	(651)	(8,029)	(985)
Adjust for effect of taxes relating to the above	\$ (3,731)	\$ (1,566)	\$ (4,082)	\$ (3,773)
Adjust for effect of foreign exchange on taxes	\$ (8,147)	\$ 620	\$ (6,564)	\$ (16,517)
<b>Adjusted (loss) earnings for the period</b>	<b>\$ (4,673)</b>	<b>\$ 23,318</b>	<b>\$ 61,456</b>	<b>\$ 54,613</b>
<b>Weighted average shares for the period</b>	<b>153,301</b>	<b>153,173</b>	<b>153,302</b>	<b>153,024</b>
<b>Adjusted (loss) earnings per share for the period</b>	<b>\$ (0.03)</b>	<b>\$ 0.15</b>	<b>\$ 0.40</b>	<b>\$ 0.36</b>

- **Total Debt**

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

- **Working Capital**

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

- **General and Administrative Costs per Silver Ounce Produced**

General and administrative costs per silver ounce produced ("G&A per ounce") is a non-GAAP measure that is calculated by dividing G&A expense recorded in a period by the number of silver ounces produced in the same period. G&A per ounce 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 corporate expenses incurred in a period relative to the amount of consolidated silver produced during the same period.

## RISKS AND UNCERTAINTIES

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The Company is exposed to many risks in conducting its business, including but not limited to: metal price risk as the Company derives its revenue from the sale of silver, zinc, lead, copper, and gold; credit risk in the normal course of dealing with other companies; foreign exchange risk as the Company reports its financial statements in USD whereas the Company operates in jurisdictions that utilize other currencies; the inherent risk of uncertainties in estimating mineral reserves and mineral resources; political, economic and social risks related to conducting business in foreign jurisdictions such as Peru, Mexico, Argentina and Bolivia; environmental risks; and risks related to its relations with employees. Certain of these risks are described below, and are more fully described in Pan American's Annual Information Form (available on SEDAR at [www.sedar.com](http://www.sedar.com)) and Form 40-F filed with the United States Securities and Exchange Commission (the "SEC"), and in the Risks and Uncertainties section of the Company's 2017 Annual MD&A, and the 2017 Financial Statements. Readers are encouraged to refer to these documents for a more detailed description of some of the risks and uncertainties inherent to Pan American's business.

### Financial Instruments Risk Exposure

The Company's is exposed to financial risks, including metal price risk, credit risk, interest rate risk, foreign currency exchange rate risk, and liquidity risk. The Company's exposures and management of each of those risks is described in Note 7(d) to the Company's 2017 Financial Statements. There were no significant changes to those risks or to the Company's management of exposure to those risks during the three months ended September 30, 2018. The following provides an update to certain relevant financial instrument risks for the quarter:

#### Metal Price Risk

A decrease in the market price of silver, gold and other metals could affect our profitability, along with the commercial viability of our mines and production from some of our mining properties. From time to time, Pan American mitigates the price risk associated with its base metal production by committing some of its future production under forward sales or option contracts. However, decisions relating to hedging may have material adverse effects on our financial performance, financial position, and results of operations. The Board of Directors continually assesses Pan American's strategy towards our base metal exposure, depending on market conditions. As at September 30, 2018, the Company had outstanding collars made up of put and call contracts for its exposure to zinc (3,300 tonnes), lead (1,425 tonnes) and copper (975 tonnes); settlement dates on these positions are between September 2018 and December 2018. The outstanding contracts have respective weighted average floor and cap prices per tonne of: \$2,850 and \$3,835 for zinc; \$2,200 and \$2,905 for lead; and, \$6,400 and \$7,452 for copper. The Company recorded total gains on these positions of \$1.7 million and \$4.3 million in Q3 2018 and YTD 2018, respectively (Q3 2017 and YTD 2017, losses of \$0.9 million and \$2.1 million, respectively).

#### Trading and Credit Risk

As at September 30, 2018, we had receivable balances associated with buyers of our concentrates of \$38.6 million (December 31, 2017 - \$52.0 million). The vast majority of the receivable balance is owed by five well-known concentrate buyers.

Silver doré production is refined under long-term agreements with fixed refining terms at three separate refineries worldwide. We generally retain the risk and title to the precious metals throughout the process of refining and therefore are exposed to the risk that the refineries will not be able to perform in accordance with the refining contract and that we may not be able to fully recover our precious metals in such circumstances. As at September 30, 2018, we had approximately \$26.5 million contained in precious metal inventory at refineries (December 31, 2017 - \$21.9 million). On November 2, 2018 a refinery used by the Company filed for bankruptcy protection. The Company has approximately \$4.8 million of precious metal inventory held with this refinery, approximately \$1.3 million of which was held by the refinery as at September 30, 2018.

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 September 30, 2018, the Company had made \$12.7 million of supplier advances (December 31, 2017 - \$14.3 million), which are reflected in "Trade and other receivables" on the Company's balance sheet.

### **Foreign currency exchange rate risk**

A part of the Company's operating and capital expenditures is denominated in local currencies other than USD. These expenditures are exposed to fluctuations in USD exchange rates relative to the local currencies. From time to time, the Company mitigates part of this currency exposure by accumulating local currencies, entering into contracts designed to fix or limit the Company's exposure to changes in the value of local currencies relative to the USD, or assuming liability positions to offset financial assets subject to currency risk. At September 30, 2018, the Company held cash and short-term investments of \$23.8 million in Canadian dollars, \$2.1 million in Mexican pesos, \$2.5 million in Peruvian nuevo soles, \$1.4 million in Argentine pesos, and \$2.2 million in Bolivian bolivianos.

### **Taxation Risks**

Pan American is exposed to tax related risks. The nature of these taxation risks and how the risks are managed are described in the Risks and Uncertainties section of the 2017 Annual MD&A, and in Note 29(d) to the Company's 2017 Financial Statements. There were no significant changes to those risks or to the Company's management of exposure to those risks during the three months ended September 30, 2018.

### **Claims and Legal Proceedings**

Pan American is subject to various claims and legal proceedings covering a wide range of matters that arise in the ordinary course of business activities. The nature, assessment and management of such claims is described in the Risks and Uncertainties section of the 2017 Annual MD&A, and in Note 21 to the Company's Q3 2018 Financial Statements. There were no significant changes to these claims and legal proceedings during the three months ended September 30, 2018.

### **Foreign Jurisdiction Risk**

Pan American currently conducts operations in Peru, Mexico, Argentina and Bolivia. All of these jurisdictions are potentially subject to a number of political and economic risks. The nature of the foreign jurisdiction risks and the Company's exposures to and management of those risks are described in the Risks and Uncertainties section of the 2017 Annual MD&A. There were no significant changes to those risks or to the Company's management of exposure to those risks during the three months ended September 30, 2018.

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

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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.

Readers should also refer to Note 2 of the 2017 Financial Statements, for the Company's summary of significant accounting policies.

## CHANGES IN ACCOUNTING STANDARDS

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The accounting policies applied in the preparation of these unaudited condensed interim consolidated financial statements are consistent with those applied and disclosed in the Company's audited consolidated financial statements for the year ended December 31, 2017, except for the following:

### **Financial Instruments**

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

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

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

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

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

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

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

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

Additional disclosures have been presented in Note 4a of the Q1 2018 Financial Statements as a result of adopting IFRS 9.

### **Revenue Recognition**

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

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

IFRS 15 establishes a single five-step model framework for determining the nature, amount, timing and uncertainty of revenue and cash flows arising from a contract with a customer, and introduces a revenue recognition model under which an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This new framework did not result in a change in the way the Company recognizes or measures revenue. Further, the standard introduces the concept of performance obligations that are defined as 'distinct' promised goods or services, and requires entities to apportion revenue earned to the distinct performance obligations on a relative stand-alone selling price basis. The Company may from time to time enter into concentrate contracts where the Company is responsible for shipping and insurance costs necessary to bring the goods to a named destination after the date on which control of the goods is transferred to the customer. Accordingly, under IFRS 15, a portion of the revenue earned under such contracts, representing the obligation to fulfill the shipping and insurance services, will be deferred and recognized over the time the obligations are fulfilled. There were no such contracts in 2017, nor in the nine month period ended September 30, 2018.

### **Other Narrow Scope Amendments**

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

### **Changes in accounting standards not yet effective**

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

**IFRS 16, Leases ("IFRS 16")** In January 2016, the IASB issued IFRS 16 - Leases which replaces IAS 17 - Leases and its associated interpretative guidance, including IFRIC 4 and SIC 15. IFRS 16 applies a control model to the identification of leases, distinguishing between a lease and a non-lease component on the basis of whether the customer controls the specific asset. For those contracts that are or contain a lease, IFRS 16 introduces significant changes for lessees to the accounting for contracts that are or contain a lease, introducing a single, on-balance sheet accounting model

that is similar to current finance lease accounting, with limited exceptions for short-term leases (less than 12 months duration) or leases of low value assets. Lessor accounting remains similar to current accounting practice. The standard is effective for annual periods beginning on or after January 1, 2019, with early application permitted for entities that apply IFRS 15.

The Company plans to apply IFRS 16 at the date it becomes effective and has selected the modified retrospective transition approach, which does not require restatement of comparative periods; instead, the cumulative impact of applying IFRS 16 will be accounted for as an adjustment to equity at the start of the accounting period in which it is first applied.

The Company anticipates that the adoption of IFRS 16 will result in an increase in the recognition of lease assets and liabilities in the Statement of Financial Position at January 1, 2019. IFRS 16 will further result in increased depreciation and amortization on these lease assets and increased interest on these additional lease liabilities. These lease payments will be recorded as financing outflows in the Consolidated Statements of Cash Flows.

During the third quarter, the Company continued to progress its IFRS 16 adoption impact analysis. The company-wide compilation and detailed review of contracts and supplier agreements to identify arrangements that may contain leases under IFRS 16 has been substantially completed. These agreements include, among others: equipment and other rental agreements, transportation contracts, and other service contracts. The Company is beginning its development of calculation methodologies and commencing the quantitative analysis for arrangements identified that represent additional finance leases under IFRS-16. The Company expects to complete this process in the fourth quarter of 2018. As such, it is not possible for the Company to make reasonable quantitative estimates of the effects of the new standard at this time.

## DISCLOSURE CONTROLS AND PROCEDURES

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### 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 of Directors, 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 International Financial Reporting Standards as issued by the International Accounting Standards Board. 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 International Financial Reporting Standards, 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. In addition, 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.

## Changes in Internal Controls over Financial Reporting

There has been no change in the Company's internal control over financial reporting during the three and nine month periods ended September 30, 2018 that has materially affected or is reasonably likely to materially affect, its internal control over financial reporting.

## TECHNICAL INFORMATION

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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 is a Qualified Persons, as the term is defined in Canadian National Instrument 43-101 - *Standards of Disclosure of Mineral Projects* ("NI 43-101").

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 22, 2018, filed at [www.sedar.com](http://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”, “intends”, “plans”, “forecast”, “objective”, “guidance”, “outlook”, “potential”, “anticipated”, “budget”, and other similar words and expressions, identify forward-looking statements or information. These forward-looking statements or information relate to, among other things: future financial and operational performance; future production of silver, gold and other metals produced by the Company; future cash costs per ounce of silver and all-in sustaining costs per silver ounce sold; the sufficiency of the Company’s current working capital, anticipated operating cash flow or its ability to raise necessary funds; timing of production and the cash costs of production at each of the Company’s properties; the estimated cost of and availability of funding necessary for sustaining capital; 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 our ability to comply with environmental, health and safety laws. The foregoing list of assumptions is not exhaustive.

The Company cautions the reader that forward-looking statements and information involve known and unknown risks, uncertainties and other factors that may cause actual results and developments to differ materially from those expressed or implied by such forward-looking statements or information contained in this MD&A and the Company has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: fluctuations in silver, gold, and base metal prices; fluctuations in prices for energy inputs; fluctuations in currency markets (such as the PEN, MXN, ARS, BOL and CAD versus the USD); risks related to the technological and operational nature of the Company’s business; changes in national and local government, legislation, taxation, controls or regulations and political, legal or economic developments in Canada, the United States, Mexico, Peru, Argentina, Bolivia or other countries where the Company may carry on business, including the risk of expropriation relative to certain of our operations, particularly in Argentina and Bolivia; risks and hazards associated with the business of mineral exploration, development and mining (including environmental hazards, industrial accidents, unusual or unexpected geological or structural formations, pressures, cave-ins and flooding); risks relating to the credit worthiness or financial condition of suppliers, refiners and other parties with whom the Company does business; inadequate insurance, or inability to obtain insurance, to cover these risks and hazards; employee relations; relationships with and claims by the local communities and indigenous populations; availability and increasing costs associated with mining inputs and labour; the Company’s ability to secure our mine sites or maintain access to our mine sites due to criminal activity and violence; the speculative nature of mineral exploration and development, including the risk of obtaining necessary licenses and permits and the presence of laws and regulations that may impose restrictions on mining, including those currently in the province of Chubut, Argentina; diminishing quantities or grades of mineral reserves as properties are mined; global financial conditions; the Company’s ability to complete and successfully integrate acquisitions and to mitigate other business combination risks; challenges to, or difficulty in maintaining, the Company’s title to properties and continued ownership thereof; the actual results of current exploration activities, conclusions of economic evaluations, and changes in project parameters to deal with unanticipated economic or other factors; increased competition in the mining industry for properties, equipment, qualified personnel, and their costs; having sufficient cash to pay obligations as they come due; and those factors identified under the caption “Risks Related to Pan American’s Business” in the Company’s most recent Form 40-F and

Annual Information Form 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 Mineral 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 mineral 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 public disclosure standards, including NI 43-101, differ significantly from the requirements of the SEC, and information concerning mineralization, deposits, mineral reserve and mineral 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 herein may not be comparable with information made by public companies that report in accordance with U.S. standards.