



PAN AMERICAN
— SILVER —

Pan American Silver AGM Presentation

May 8, 2019

Celebrating our 25-year Silver Anniversary

Cautionary Note

Non-GAAP Measures

This presentation of Pan American Silver Corp. (“Pan American” or the “Company”), which includes reference to the assets acquired in the Tahoe Resources Inc. (“Tahoe”) February 22, 2019 acquisition, refers to various non-GAAP measures, such as cash costs per payable ounce of silver, net of by-product credits (“Cash Costs”), all-in sustaining cost (“AISC”), all-in sustaining cost per silver ounce sold, free cash flow, operating margin, operating margin per ounce, total debt, adjusted (loss) earnings, adjusted (loss) earnings per share and working capital. Free cash flow is calculated as net cash generated from operating activities less cash invested in sustaining capital. Pan American believes the inclusion of sustaining capital investments better reflects total operating cash flows. Operating free cash flow does not have any standardized meaning prescribed by GAAP and is therefore unlikely to be comparable to similar measures presented by other companies.

These measures do not have a standardized meaning prescribed by IFRS as an indicator of performance, and may differ from methods used by other companies. Readers should refer to the “Alternative Performance (non-GAAP) Measures” section in Pan American’s and “Non-GAAP Financial Measures” section in Tahoe’s Management’s Discussion and Analysis for the periods ended March 31, 2019 and September 30, 2018, respectively, available at www.sedar.com.

Reporting Currency and Financial Information

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

Cautionary Note Regarding Forward Looking Statements and Information

Certain of the statements and information in this presentation constitute “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and “forward-looking information” within the meaning of applicable Canadian provincial securities laws. All statements, other than statements of historical fact, are forward-looking statements or information. Forward-looking statements or information in this presentation relate to, among other things, future financial and operational performance; future production of silver, gold and other metals produced by the Company, including the newly acquired Tahoe mines; future updates of our mineral reserves and resources, including the newly acquired Tahoe assets; our expectations with respect to future metal prices and market trends; potential restart of operations at the Escobal mine; our development of the Navidad project; the successful implementation of our sustainability plans and programs and timing thereof; and the Company’s plans and expectations for its properties and operations.

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

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

Cautionary Note

Technical Information

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

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

See Tahoe's Annual Information Form dated February 22, 2018, available at www.sedar.com for further information on Tahoe's material mineral properties as at December 31, 2017, including information concerning associated QA/QC and data verification matters, the key assumptions, parameters and methods used by the Tahoe to estimate mineral reserves and mineral resources, and for a detailed description of known legal, political, environmental, and other risks that could materially affect Pan American's business and the potential development of Tahoe's mineral reserves and resources.

Cautionary Note About Mineral Reserves and Resources

The mineral reserves and resources of Pan American in this presentation reflect our year-end 2018 mineral reserves and resources estimates (excluding the newly acquired Tahoe assets) as announced in the news release dated February 21, 2019 and Tahoe's mineral reserves and resources in this presentation reflect its mineral reserves and resources estimates as of January 1, 2018 announced on February 15, 2018. See presentation appendix for more detailed information. Pan American intends to provide future mineral reserve and resource updates to include the Tahoe assets.

Cautionary Note to US Investors Concerning Estimates of Mineral Reserves and Resources

This presentation has been prepared in accordance with the requirements of Canadian securities laws, which differ from the requirements of U.S. securities laws. Unless otherwise indicated, all mineral reserve and resource estimates included in this presentation have been prepared in accordance with Canadian *National Instrument 43-101 – Standards of Disclosure for Mineral Projects* ("NI 43-101") and the Canadian Institute of Mining, Metallurgy and Petroleum classification system. NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects.

Canadian standards, including NI 43-101, differ significantly from the requirements of the United States Securities and Exchange Commission (the "SEC"), and information concerning mineralization, deposits, mineral reserve and resource information contained or referred to herein may not be comparable to similar information disclosed by U.S. companies. In particular, and without limiting the generality of the foregoing, this presentation uses the terms "measured resources", "indicated resources" and "inferred resources". U.S. investors are advised that, while such terms are recognized and required by Canadian securities laws, the SEC has not recognized them under Industry Guide 7 prior to the adoption of the modernization of Property Disclosure for Mining Registrants. The requirements of NI 43-101 for identification of "reserves" has not the same as those of the SEC, and reserves reported by Pan American in compliance with NI 43-101 may not qualify as "reserves" under SEC standards. Under U.S. standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. U.S. investors are cautioned not to assume that any part of a "measured resource" or "indicated resource" will ever be converted into a "reserve". U.S. investors should also understand that "inferred resources" have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of "inferred resources" exist, are economically or legally mineable or will ever be upgraded to a higher category. Under Canadian securities laws, estimated "inferred resources" may not form the basis of feasibility or pre-feasibility studies except in rare cases. Disclosure of "contained ounces" in a mineral resource is permitted disclosure under Canadian securities laws. However, the SEC has previously only permitted issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade, without reference to unit measures. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

The World's Premier Silver Mining Company

- ✓ World class primary silver asset portfolio with the largest silver reserve base ¹
- ✓ An industry leader in high margin / low cost production
- ✓ Robust growth potential with: Escobal restart, expansion at La Colorada following recent discovery, and development of Navidad, one of the world's largest undeveloped primary silver deposits
- ✓ 25-year proven track record of responsibly building and operating mines in Latin America
- ✓ Strong financial position, enabling the Company to advance key growth projects
- ✓ Largest publicly traded silver mining company by free float

(1) See presentation appendix for more detailed information on Pan American's and Tahoe's reserves and resources.

Diversified Portfolio Across the Americas



2018 Highlights

- \$155.0 M net cash generated from operating activities
- Cash costs of \$3.35/oz⁽¹⁾
- All-in sustaining costs per silver ounce sold of \$10.73⁽¹⁾
- Increased dividend by 40% to \$0.14 per share
- Advanced the development of Joaquin and COSE projects in Argentina
- Major exploration discovery at La Colorada
- Announced agreement to acquire Tahoe Resources



24.8
million ounces
of silver



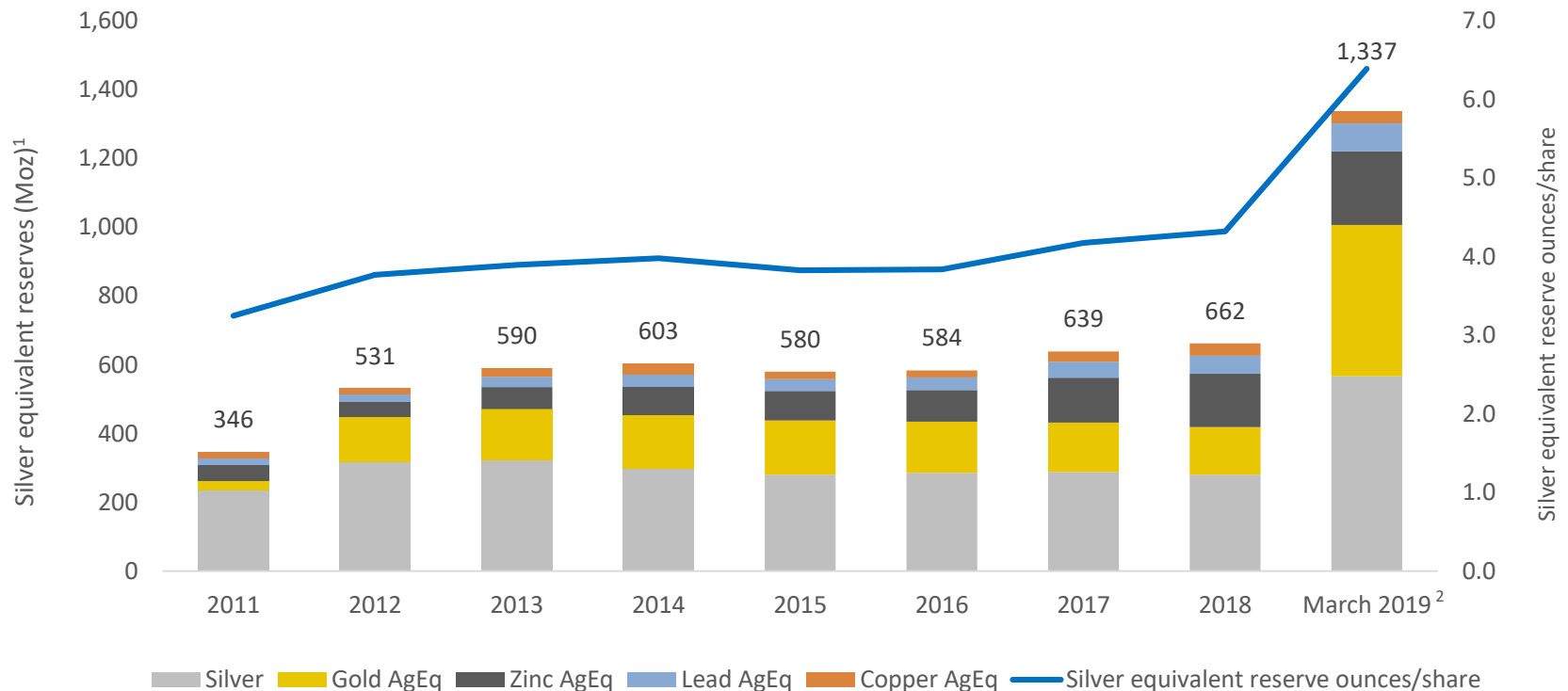
178,900
ounces of gold

Record annual
base metal production

(1) Cash costs and all-in sustaining costs per silver ounce sold are non-GAAP financial measures; See the “Non-GAAP Measures” section of our Cautionary Note on page 2 of this presentation.

Tahoe Transaction: Accretive on Reserves per Share

The Tahoe transaction increased silver equivalent reserves per share **nearly 50%** from 4.3 AgEqOz/share to 6.4 AgEqOz/share.



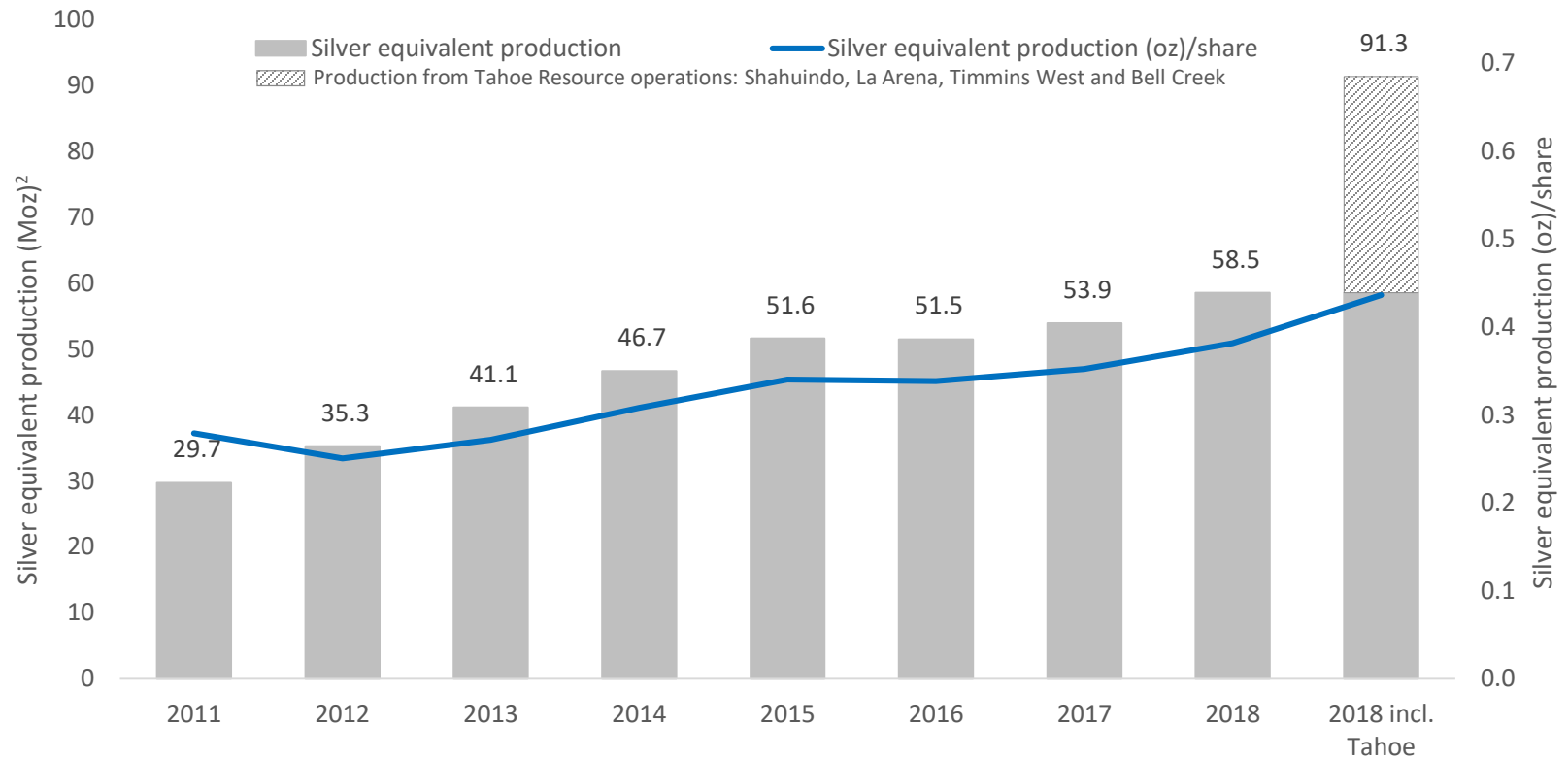
(1) Silver equivalent reserves are estimated using average market prices as published by the London Metal Exchange ("LME", for zinc, lead, copper) and London Bullion Market Association ("LBMA", for silver and gold).

(2) The silver equivalent reserves reflect Pan American's year-end 2018 mineral reserve estimates as announced in the news release dated February 21, 2019 and Tahoe's mineral reserves estimates for year-end 2017 announced on February 15, 2018. The silver equivalency was calculated using 2018 annual average market prices as published by the LME (for zinc and copper) and LBMA (for silver and gold).

(3) See presentation appendix for more detailed information on the Pan American's and Tahoe's reserves and resources.

Tahoe Transaction: Accretive on Production per Share

*The Tahoe acquisition increased silver equivalent production per share by **14%**, before any consideration for potential Escobal production⁽¹⁾.*



(1) Based on the combination of Pan American's 2018 metals production announced in its February 20, 2019 news release and Tahoe's reported 2018 metal production. Operations at Tahoe's Escobal Mine were suspended in 2018.

(2) Silver equivalent production is calculated using annual average market prices as published by the LME and LBMA.



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Q1 2019 Highlights

Consolidated Q1 2019 Highlights

- Acquisition of Tahoe completed February 22, 2019; Q1 2019 results reflect contribution of acquired mines from February 22, 2019 to March 31, 2019
- Revenue of \$232.6M, up 12% from Q1 2018 on higher metal sales (except copper)
- Net income of \$33.8M, equivalent to \$0.19 basic income per share
- Adjusted income of \$8.7M, equivalent to \$0.05 basic adjusted income per share
- Silver production of 6.13 Moz and Gold production of 80.5 koz, on track to achieve annual guidance
- At March 31, 2019, the cash and short-term investment balance was \$121.6M, working capital totaled \$771.7M and \$165.0M was available on the revolving credit facility. Total debt was \$363.1M
- Quarterly cash dividend of \$0.035 per common share approved

2019 Guidance

Reflects full year for the Silver Segment mines and from February 22, 2019 to December 31, 2019 for the Gold Segment mines.

	Silver Production (million ounces)	Gold Production (thousand ounces)	Cash Costs (\$ per ounce) ⁽¹⁾	AISC (\$ per ounce) ⁽¹⁾
Silver Segment:				
La Colorada	8.0 - 8.2	4.1 - 4.8	2.50 - 3.50	3.50 - 4.50
Dolores	5.2 - 5.5	114.5 - 120.0	4.50 - 5.50	14.00 - 16.00
Huaron	3.6 - 3.7	0.5	6.00 - 7.00	7.50 - 9.25
Morococha (92.3%) ⁽²⁾	2.8 - 2.9	1.2 - 1.5	3.10 - 4.00	7.00 - 9.00
San Vicente (95.0%) ⁽³⁾	3.5 - 3.7	0.3	10.60 - 11.50	12.25 - 13.50
Manantial Espejo/COSE/Joaquin	3.4 - 3.6	42.0 - 45.0	17.00 - 18.50	17.75 - 19.50
Total⁽⁴⁾	26.5 - 27.5	162.5 - 172.5	6.50 - 7.50	9.75 - 11.25
Gold Segment:				
Shahuindo	0.1	135.0 - 165.0	550 - 625	875 - 1,000
La Arena	—	117.5 - 122.5	800 - 850	1,275 - 1,325
Timmins ⁽⁵⁾	—	155.0 - 160.0	890 - 940	1,025 - 1,075
Total⁽⁴⁾	0.1	407.5 - 447.5	740 - 810	1,025 - 1,125
Total Production⁽⁶⁾	26.6 - 27.6	570.0 - 620.0	—	—
Consolidated Silver Basis	—	—	(2.25) - 0.50	7.75 - 10.75

(1) Cash Costs and AISC are non-GAAP measures. Please refer to the section "Alternative Performance (Non-GAAP) Measures" of the MD&A for the period ended March 31, 2019, for a detailed description of these measures and where appropriate a reconciliation of the measure to the Q1 2019 Financial Statements. The Cash Costs and AISC forecasts assume metal prices of \$14.50/oz for silver, \$2,600/tonne (\$1.18/lb) for zinc, \$1,950/tonne (\$0.88/lb) for lead, \$6,150/tonne (\$2.79/lb) for copper, and \$1,250/oz for gold; and average annual exchange rates relative to 1 USD of 19.50 for the Mexican peso ("MXN"), 3.33 of the Peruvian sol ("PEN"), 41.80 for the Argentine peso ("ARS"), 6.91 for the Bolivian boliviano ("BOL"), and \$1.30 for the Canadian dollar ("CAD").

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

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

(4) As shown in the detailed quantification of consolidated AISC, included in the "Alternative Performance (Non-GAAP) Measures" section of the MD&A for the period ended March 31, 2019, expenses for corporate general and administrative, exploration and project development are included in Consolidated (silver basis) AISC, though are not allocated amongst the operations and thus are not included in either the silver or gold segment totals.

(5) Timmins mines are classified as assets held for sale in the Company's Q1 2019 Financial Statements, as described in the Note 4 of the Company's Q1 2019 Financial Statements, and in the "Acquisition of Tahoe" section of the MD&A for the period ended March 31, 2019. The gold production from the Timmins operations is included in the consolidated guidance, pending resolution from the sale process.

(6) Totals may not add due to rounding.

Strategic Priorities

Integration & Synergies

- Integrate Tahoe operations and capture synergies

Balance Sheet

- Divest non-core assets
- Reduce debt incurred through Tahoe acquisition

Operations

- Focus on cost control to optimize operating margins – targeting all-in sustaining costs of \$7.75 - \$10.75 per ounce in 2019⁽¹⁾
- Ramp-up Dolores underground mine to 1,500 tpd
- Begin producing from Joaquin and COSE mines

Value Drivers

- La Colorada exploration discovery – targeting initial resource estimate in Q4 2019
- Potential development of the Navidad project
- Potential restart of operations at Escobal – focus on supporting the ILO 169 Consultation Process led by Guatemalan Ministry of Energy & Mines and implementing Pan American's approach to community engagement and business practices

Vision: The Premier Silver Mining Company

(1) AISC on a consolidated silver basis and calculated by treating all revenues from metals other than silver, including gold, as a by-product credit.

Social Sustainability Performance in 2018

Corporate Social Responsibility Pillars

Education & Health

Sustainable Development Programs

Infrastructure & Urban Footprint

Local Procurement Development

CORE ECONOMIC AND SOCIAL DEVELOPMENT PROGRAMS

MEXICO

Ranching Project | 135 AGRARIAN COMMUNITY MEMBERS
Local Procurement & Supply Chain Development | 17 COMPANIES
Children and Adult Education Programs | 200 PEOPLE
Hygiene & Sanitation Program | 120 HOMES

PERU

Local Procurement & Supply Chain Development | 17 COMPANIES
Education & Scholarship Program | 2,486 STUDENTS
Artisanal Weaving Project | 61 WOMEN
Alpaca Breeding Project | 50 PRODUCERS
Scholarship Program | 56 STUDENTS

BOLIVIA

Commercial Llama Breeding Project | 220 FAMILIES
Nutrition Greenhouse Program | 166 FAMILIES
Education Support Program | 1,220 STUDENTS
Education & Scholarship Program | 6 STUDENTS

ARGENTINA

Education Support Program | 380 STUDENTS
Post-Secondary Scholarship Program | 49 STUDENTS
Local Procurement & Supply Chain Development | 45 COMPANIES

RELATED SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



8 DECENT WORK AND ECONOMIC GROWTH



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



2018 Sustainability Report

- The printed Executive Summary and online PDF Report are now available.
- This year's report improves our disclosure on sustainability and offers more visual communication and infographics to reach our stakeholders.



students we support
directly or indirectly

5,232

families benefitted from
infrastructure investments

448

people participated in
medical visits and
educational health programs

9,386

local companies we
helped develop

78

Greenhouse Program

Community Feedback:

Women from **11 communities** expressed their concerns about nutrition issues in their families.

We have developed the greenhouse program to accommodate communities and families needs and improve nutrition levels.

109

greenhouses
built

116

families in 11
communities

1,315 m²

of greenhouse
space

7 kg

of fresh produce per
family, monthly



UQLLU - Weaving Artisans Program

Developing local artisans in the art of weaving alpaca wool products for 10 years.

PAS facilitated their recognition as official artisans in Peru.

Over 300
artisans trained since
the program started

80
Artisans currently
being trained

Business training and facilitation to participate in well renowned international fairs.

3
Independent
workshops

Selling locally, regionally and internationally – export to Canada.



UQLLU - Weaving Artisans Program

We work close to the communities to identify opportunities and provide necessary training.



Looking Ahead into 2019

We are working on the improvement of:

- The impact of our social economic development programs
- Grievance mechanisms
- Deploying an assessment of the Voluntary Principles of Security and Human Rights in mines we have in Mexico and Guatemala



Pan American a Leader in Responsible Mining

Culture of Social Responsibility and Environmental Performance

Transparent Sustainability Reporting

- Based on annual consultation process with all stakeholder groups
- Report on our efforts towards the UN's Sustainable Development Goals
- Report on environmental and social audits



Member of the Mining Association of Canada's Towards Sustainable Mining Program



Zero material environmental or social incidents in Company history

Track Record of Success in Latin America

25 years of building trust with local communities and indigenous groups across Latin America



Successfully permitted 2 new mines and 5 major mine expansions in the past 13 years

Generating Local Benefits

+78 local supply companies started with our support

+11 alternative economic (non-mining) development programs

Awarded "Business of the Year" in 2016 for our sustainable development work in Peru



Robert R. Hedley Award for Excellence in Social and Environmental Responsibility (AME, 2018)

Social responsibility is an important pillar of Pan American's governing philosophy

Silver Market

2018 Fundamentals

- Silver price averaged \$15.71, down ~8% from 2017.
- Demand greater than supply, resulting in physical deficit of 29.2M oz in 2018.
- Trade dispute between China and U.S. negatively impacted silver prices by strengthening the USD and weighing down metal prices.

Outlook for 2019

- Supply demand balance tight, silver/gold ratio at historic heights.
- Investment demand will drive silver prices.
- Increasing importance for exposure to precious metals including silver in investment portfolio to hedge against potential downturn in equity markets.
- Pan American is a leading investment for exposure to silver.

2018 Supply & Demand (million ounces)	
Total Supply	1,004.3
Demand	1,033.5
Jewelry	212.5
Coins & Bars	181.2
Silverware	61.1
Industrial	578.6
Electronics	248.5
Brazing Alloys & Solders	58.0
Photography	39.3
Photovoltaic	80.5
Other Industrial	152.3
ETP & Exchange Inventory Build	50.9
Net Deficit	-80.1

Source: The Silver Institute, World Silver Survey 2019
published April 2019

Silver: Metal of the Future





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Appendix

All Pan American Silver Proven and Probable Reserves^{1,2}

Property	Location	Category	Tonnes (Mt)	Ag g/t	Au g/t	Zn%	Pb%	Cu%
Huaron	Peru	Proven	6.3	156		2.84	1.36	0.55
		Probable	4.1	163		2.84	1.49	0.42
Morococha (92.3%) ³	Peru	Proven	3.7	160		4.17	1.36	0.44
		Probable	3.1	150		3.32	1.26	0.32
La Colorada	Mexico	Proven	4.3	387	0.31	2.92	1.66	
		Probable	4.3	346	0.27	2.13	1.21	
Dolores	Mexico	Proven	35.8	27	0.86			
		Probable	8.7	27	0.79			
La Bolsa	Mexico	Proven	9.5	10	0.67			
		Probable	6.2	7	0.57			
Manantial Espejo	Argentina	Proven	1.2	156	1.26			
		Probable	0.1	204	3.64			
San Vicente (95%) ³	Bolivia	Proven	1.5	396		3.00	0.34	0.43
		Probable	0.7	383		2.90	0.37	0.40
Joaquin	Argentina	Probable	0.5	721	0.41			
COSE	Argentina	Probable	0.1	918	17.7			
Total ⁴		Proven + Probable	90.0	97	0.76	2.98	1.31	0.45

Notes:

- (1) Prices used to estimate mineral reserves for 2018 were \$18.50 per ounce of silver, \$1,300 per ounce of gold, \$2,400 per tonne of zinc, \$2,100 per tonne of lead, and \$6,000 per tonne of copper, except at Manantial Espejo where \$16.50 per ounce of silver and \$1,250 per ounce of gold were used. Metal prices used for La Bolsa were \$14.00 per ounce of silver and \$825 per ounce of gold.
- (2) Mineral reserve estimates were prepared under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in National Instrument 43-101 ("NI 43-101").
- (3) This information represents the portion of mineral reserves attributable to Pan American based on its ownership interest in the operating entity as indicated.
- (4) Totals may not add up due to rounding.

All Pan American Silver Measured and Indicated Resources^{1,2}

Property	Location	Category	Tonnes (Mt)	Ag g/t	Au g/t	Zn%	Pb%	Cu%
Huaron	Peru	Measured	2.1	155		2.91	1.56	0.19
		Indicated	1.7	151		2.76	1.47	0.30
Morococha (92.3%) ³	Peru	Measured	0.3	145		2.15	0.87	0.21
		Indicated	0.5	151		2.93	0.98	0.26
La Colorada	Mexico	Measured	0.6	193	0.22	1.00	0.60	
		Indicated	2.0	156	0.15	1.11	0.54	
Dolores	Mexico	Measured	4.5	20	0.25			
		Indicated	1.6	27	0.53			
La Bolsa	Mexico	Measured	1.4	11	0.90			
		Indicated	4.5	9	0.50			
Manantial Espejo	Argentina	Measured	0.1	169	1.66			
		Indicated	0.2	241	2.86			
San Vicente (95%) ³	Bolivia	Measured	0.8	154		2.23	0.17	0.21
		Indicated	0.2	148		1.73	0.22	0.22
Navidad	Argentina	Measured	15.4	137			1.44	0.10
		Indicated	139.8	126			0.79	0.04
Pico Machay	Peru	Measured	4.7		0.91			
		Indicated	5.9		0.67			
Joaquin	Argentina	Indicated	0.1	385	0.58			
Total ⁴		Measured + Indicated	186.3	121	0.58	2.18	0.86	0.05

Notes:

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

All Pan American Silver Inferred Resources^{1,2}

Property	Location	Category	Tonnes (Mt)	Ag g/t	Au g/t	Zn%	Pb%	Cu%
Huaron	Peru	Inferred	6.2	157		2.75	1.50	0.37
Morococha (92.3%) ³	Peru	Inferred	4.7	140		4.30	1.08	0.38
La Colorada	Mexico	Inferred	6.2	185	0.20	4.09	2.08	
Dolores	Mexico	Inferred	4.3	45	1.15			
La Bolsa	Mexico	Inferred	13.7	8	0.51			
Manantial Espejo	Argentina	Inferred	0.5	194	2.71			
San Vicente (95%) ³	Bolivia	Inferred	2.5	322		3.44	0.33	0.27
Navidad	Argentina	Inferred	45.9	81			0.57	0.02
Pico Machay	Peru	Inferred	23.9		0.58			
Joaquin	Argentina	Inferred	0.01	389	1.29			
COSE	Argentina	Inferred	0.03	382	7.10			
Total ⁴		Inferred	108.0	92	0.59	3.64	0.83	0.10

Notes:

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

Tahoe Resources Mineral Reserves as of January 1, 2018

Gold	Location	Ownership	Proven			Probable			Proven & Probable		
			Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)
Bell Creek	Canada	100%	0.5	3.90	68	1.9	4.12	246	2.4	4.07	315
Escobal	Guatemala	100%	2.5	0.42	34	22.1	0.34	244	24.7	0.35	278
La Arena	Peru	100%	0.3	0.38	3	43.7	0.40	565	44.0	0.40	568
Shahuindo	Peru	100%	77.9	0.48	1,203	49.9	0.44	704	127.8	0.46	1,907
Timmins West	Canada	100%	0.4	3.61	47	6.1	3.11	606	6.5	3.15	654
Total Gold Mineral Reserves			81.6	0.52	1,356	123.7	0.59	2,366	205.3	0.56	3,721

Silver	Location	Ownership	Proven			Probable			Proven & Probable		
			Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)
Escobal	Guatemala	100%	2.5	486	39,532	22.1	316	224,961	24.7	334	264,493
Shahuindo	Peru	100%	77.9	6	14,756	49.9	5	8,384	127.8	6	23,140
Total Silver Mineral Reserves			80.4	21	54,288	72.1	101	233,345	152.5	59	287,633

Lead	Location	Ownership	Proven			Probable			Proven & Probable		
			Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)
Escobal	Guatemala	100%	2.5	1.02	26	22.1	0.77	170	24.7	0.79	196
Total Lead Mineral Reserves			2.5	1.02	26	22.1	0.77	170	24.7	0.79	196

Zinc	Location	Ownership	Proven			Probable			Proven & Probable		
			Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)
Escobal	Guatemala	100%	2.5	1.75	44	22.1	1.25	276	24.7	1.30	320
Total Lead Mineral Reserves			2.5	1.75	44	22.1	1.25	276	24.7	1.30	320

Tahoe Resources Mineral Resources as of January 1, 2018

Gold	Location	Ownership	Measured			Indicated			Measured & Indicated			Inferred		
			Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)
Bell Creek	Canada	100%	1.2	4.43	167	4.1	4.27	569	5.3	4.31	736	3.0	4.36	415
Escobal	Guatemala	100%	4.8	0.33	51	36.3	0.29	337	41.1	0.29	388	1.9	0.90	54
La Arena	Peru	100%	0.3	0.38	3	49.6	0.40	640	49.9	0.40	643	0.4	0.32	4
Shahuindo	Peru	100%	89.1	0.47	1,358	67.6	0.42	921	156.7	0.45	2,278	110.8	0.70	2,500
Timmins West	Canada	100%	0.2	4.86	39	7.1	3.87	885	7.4	3.90	923	1.1	3.80	133
La Arena II	Peru	100%	155.7	0.25	1,265	586.7	0.23	4,372	742.4	0.24	5,637	91.6	0.23	683
Fenn-Gib	Canada	100%	-	-	-	40.8	0.99	1,300	40.8	0.99	1,300	24.5	0.95	750
Whitney	Canada	79%	1.0	7.02	218	2.3	6.77	491	3.2	6.85	709	1.0	5.34	171
Gold River	Canada	100%	-	-	-	0.7	5.29	117	0.7	5.29	117	5.3	6.06	1,028
Juby	Canada	100%	-	-	-	26.6	1.28	1,090	26.6	1.28	1,090	96.2	0.94	2,909
Marlhill	Canada	100%	-	-	-	0.4	4.52	57	0.4	4.52	57	-	-	-
Vogel	Canada	100%	-	-	-	2.2	1.75	125	2.2	1.75	125	1.5	3.60	169
Total Gold Mineral Resources			252.2	0.38	3,101	824.4	0.41	10,904	1,076.6	0.40	14,005	337.2	0.81	8,816

Silver	Location	Ownership	Measured			Indicated			Measured & Indicated			Inferred		
			Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)	Tonnes (M)	Grade (g/t)	Metal (koz)
Escobal	Guatemala	100%	4.8	374	58,104	36.3	271	316,520	41.1	283	374,624	1.9	180	10,746
Shahuindo	Peru	100%	89.1	6	16,807	67.6	5	11,122	156.7	6	27,929	110.8	13	46,980
Total Silver Mineral Resources			93.9	25	74,911	103.9	98	327,642	197.8	63	402,552	112.7	16	57,726

Copper	Location	Ownership	Measured			Indicated			Measured & Indicated			Inferred		
			Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)
La Arena II	Peru	100%	155.7	0.37	580	586.7	0.35	2,046	742.4	0.35	2,626	91.6	0.17	158
Total Copper Mineral Resources			155.7	0.37	580	586.7	0.35	2,046	742.4	0.35	2,626	91.6	0.17	158

Lead	Location	Ownership	Measured			Indicated			Measured & Indicated			Inferred		
			Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)
Escobal	Guatemala	100%	4.8	0.68	33	36.3	0.62	224	41.1	0.62	257	1.9	0.22	4
Total Lead Mineral Resources			4.8	0.68	33	36.3	0.62	224	41.1	0.62	257	1.9	0.22	4

Zinc	Location	Ownership	Measured			Indicated			Measured & Indicated			Inferred		
			Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)	Tonnes (M)	Grade (%)	Metal (ktonnes)
Escobal	Guatemala	100%	4.8	1.20	58	36.3	1.02	369	41.1	1.04	427	1.9	0.42	8
Total Lead Mineral Resources			4.8	1.20	58	36.3	1.02	369	41.1	1.04	427	1.9	0.42	8

Tahoe Resources January 1, 2018 Mineral Reserve and Mineral Resource Notes

1. Tahoe's mineral reserve and mineral resource estimates contained in this Appendix are as reported in Tahoe's public disclosure, and subsequently reproduced in Pan American Silver's management information circular with respect to the special meeting of its shareholders held on January 8, 2019.
2. Mineral Resource estimates are classified as Measured, Indicated or Inferred based on the confidence of the input data, geological interpretation and grade estimation parameters. The Mineral Resource estimates were prepared in accordance with NI 43-101 and classifications adopted by the CIM Council.
3. Mineral Reserve estimates are based on known inputs that include metallurgical performance, taxation/royalty obligations, geologic and geotechnical characterization, operational costs, and other economic parameters. The Company is not currently aware of any known factors that are reasonably likely to have a negative material impact on the Company's Mineral Reserves. The Mineral Reserve estimates were prepared in accordance with NI 43-101 and classifications adopted by the CIM Council.
4. Mineral Resources are inclusive of Mineral Reserves.
5. Bell Creek – The basis of the Mineral Resource and Mineral Reserve estimates for the Bell Creek mine is from *NI 43-101 Technical Report, Updated Mineral Reserve Estimate for Bell Creek Mine, Hoyle Township, Timmins, Ontario, Canada*, dated March 27, 2015. Mineral Resources and Mineral Reserves reported at January 1, 2018 were calculated by subtracting mining depletion through the end of 2017 from an updated resource model completed in May 2017. The Bell Creek Mineral Resources are reported as *in situ* resources using a gold cut-off grade of 2.2 g/t. Mineral Reserves were calculated by applying the life-of-mine plan at January 1, 2018 to the Measured and Indicated Mineral Resources using a long-term gold price of \$1,275/oz and reported at a gold cut-off grade of 2.3 g/t. Mineral Reserves are supported by a mine plan that features variable stope thicknesses designed on the Mineral Resource model using operating costs of \$87.42 per tonne ore with 95% mining recovery, external dilution of 16% and metallurgical recovery of 94.5%.
6. Escobal – The basis of the Mineral Resource and Mineral Reserve estimates for the Escobal mine is from *Escobal Mine Guatemala NI 43-101 Feasibility Study*, dated November 5, 2014. Mineral Resources and Mineral Reserves reported at January 1, 2018 were calculated by subtracting mine depletion volumes from the Mineral Resource and Mineral Reserve estimates stated in the aforementioned technical report. Mineral Resources are reported using a 100 g/t silver-equivalent cut-off grade calculated using metal prices of \$20.00/oz, silver, \$1,300.00/oz gold, \$1.00/lb lead and \$1.10/lb zinc. Mineral Reserves as of January 1, 2018 were calculated by applying an updated mine plan to the Mineral Resource estimate stated in the Escobal Feasibility Study taking into account mining depletion through the end of 2017. Cut-off grades to define the January 1, 2018 Mineral Reserves were calculated from the NSR value of the resource model blocks contained within the life-of-mine plan minus the production cost to account for variability in mining method and metallurgical response. Metal prices used to determine the NSR value were \$20.00 per ounce silver, \$1,300.00 per ounce gold, \$1.00 per pound lead and \$1.10 per pound zinc. Actual mining, processing and general and administrative (G&A) costs, metallurgical performance and smelter contract rates from the Escobal Mine were used to derive operating costs used in the reserve calculation.
7. La Arena – The basis of the Mineral Resource and Mineral Reserve estimates for the La Arena mine is from *Technical Report on the La Arena Project, Peru*, dated February 20, 2018 with an effective date of January 1, 2018. Mineral Resources and Mineral Reserves reported at January 1, 2018 were calculated by applying the mine topographic surface at January 1, 2018 to an updated Mineral Resource estimate completed July 1, 2017. Mineral Resources are reported at a cut-off grade of 0.10 g/t Au within an optimized undiscounted cash flow pit shell using a metal price of \$1,400/oz Au and actual costs experienced at the La Arena Mine. Mineral Reserves for the La Arena mine are reported at a 0.10 g/t gold cut-off grade and have been constrained to the final pit design based on an optimized pit shell using \$1,200 per ounce gold and actual operating costs incurred. As the resource block model is a diluted block model, no additional dilution or mining losses were applied. The life-of-mine strip ratio is 1.9 (waste:ore).
8. Shahuindo – The basis of the Mineral Resource and Mineral Reserve estimates for the Shahuindo mine is from the *NI 43-101 Technical Report on the Shahuindo Mine, Cajabamba, Peru*, dated January 25, 2016. Mineral Resources and Mineral Reserves reported at January 1, 2018 were calculated by applying the mine topographic surface at January 1, 2018 to an updated Mineral Resource estimate completed July 1, 2017. The Shahuindo Mineral Resources are reported using a gold cut-off grade for oxide material of 0.15 g/t. Oxide resources are reported within a \$1,400/oz gold optimized pit shell. The sulfide Mineral Resources at Shahuindo are classified entirely as Inferred due to limited metallurgical characterization and wider drill spacing than in the oxide portion of the deposit. There have been no economic or mining studies of the sulfide portion of the Shahuindo deposit completed to date; the Inferred sulfide Mineral Resource is reported at a 0.5 g/t gold-equivalent cut-off grade using a silver-to-gold ratio of 80. Oxide Mineral Reserves are reported at a 0.18 g/t gold cut-off grade and have been constrained to the final pit design based on an optimized pit shell using US\$1,200/oz gold and actual operating costs incurred. The Mineral Reserves were calculated from Measured and Indicated oxide Mineral Resources only and include 5% dilution and mining losses of 2%. The life-of-mine strip ratio is 1.1 (waste:ore). There are no sulfide Mineral Reserves reported for Shahuindo.

Tahoe Resources January 1, 2018 Mineral Reserve and Mineral Resource Notes

9. Timmins West – The basis of the Timmins West Mine Mineral Resource and Mineral Reserve estimates is from *NI 43-101 Technical Report, Timmins West Mine, Timmins, Ontario, Canada*, dated September 20, 2017. Mineral Resources and Mineral Reserves for the Timmins West Mine reported at January 1, 2018 were calculated by subtracting mining depletion through the end of 2017 from an updated resource model completed in May 2017. The Timmins West Mine Mineral Resources are reported as *in situ* resources using a gold cut-off grade of 1.5 g/t. Mineral Reserves were calculated by applying the life-of-mine plan at January 1, 2018 to the Measured and Indicated Mineral Resources using a gold price of \$1,275/oz and a gold cut-off grade of 2.0 g/t. Mineral Reserves are supported by a mine plan that features variable stope thicknesses designed on the updated Mineral Resource model using operating costs of US\$78.64 per tonne ore with 95% mining recovery, external dilution of 15% and metallurgical recovery of 97%.
10. La Arena II – The basis of the Mineral Resource estimate for the La Arena II project is from *Technical Report on the La Arena Project, Peru*, dated February 20, 2018 with an effective date of January 1, 2018. Mineral Resources for the La Arena II project are reported within an optimized undiscounted cash flow pit shell using metal prices of \$4.00 per pound copper and \$1,500 per ounce gold and operating cost and metallurgical recovery parameters developed for the La Arena II PEA. Oxide Mineral Resources are reported using a 0.10 g/t gold cut-off grade; sulfide Mineral Resources are reported using a 0.18% copper-equivalent cut-off grade calculated using \$4.00 per pound copper and \$1,500 per ounce gold.
11. Fenn-Gib – The Mineral Resource Estimate for the Fenn-Gib project is from *Fenn-Gib Resource Estimate Technical Report, Timmins Canada*, dated December 23, 2011, with an effective date of November 17, 2011. Nearly all of the Indicated Mineral Resources and approximately 90% of Inferred Mineral Resources are reported within a \$1,190/oz gold pit shell using a gold cut-off grade of 0.50 g/t, operating costs of US\$13.00/tonne ore and process recovery of 85%. The remaining Indicated and Inferred Mineral Resources which occur below the pit limits are reported using a gold cut-off grade of 1.5 g/t. There are no Measured Mineral Resources nor Mineral Reserves reported for the Fenn-Gib property.
12. Whitney – The Mineral Resource estimate for the Whitney project is from *Technical Report and Resource Estimate on the Upper Hallnor, C-Zone, and Broulan Reef Deposits, Whitney Gold Property, Timmins Area, Ontario, Canada*, dated February 26, 2014. Mineral Resources are reported using a gold cut-off grade of 3.0 g/t, which was derived using a gold price of \$1,200/oz, operating costs of \$96.75/tonne milled, mining dilution of 20% and process recovery of 95%. There are no Mineral Reserves reported for the Whitney property.
13. Gold River – The Mineral Resource estimate for the Gold River project is from *Technical Report on the Update of Mineral Resource Estimate for the Gold River Property, Thorneloe Township, Timmins, Ontario, Canada*, dated April 5, 2012, with an effective date of January 17, 2012. Mineral Resources are reported using a gold cut-off grade of 2.0 g/t, which was derived using a gold price of \$1,200/oz, operating costs of \$82.00/tonne milled and process recovery of 85%. A minimum thickness of two meters was used to constrain the reported Mineral Resources. There are no Measured Mineral Resources nor Mineral Reserves reported for the Whitney property.
14. Juby – The Mineral Resource estimate for the Juby project is from *Technical Report on the Updated Mineral Resource Estimate for the Juby Gold Project, Tyrrell Township, Shining Tree Area, Ontario*, dated February 24, 2014, with an effective date of February 24, 2014. Mineral Resources are reported as *in situ* resources using a gold cut-off grade of 0.40 g/t. There are no Measured Mineral Resources nor Mineral Reserves reported for the Juby property.
15. Marlhill – The Marlhill Mineral Resource estimate is from *Technical Report on the Marlhill Project, Hoyle Township, Timmins, Ontario, Canada*, March 1, 2011, with an effective date of March 1, 2011. Mineral Resources are reported as *in situ* resources using a gold cut-off grade of 0.2.9 g/t and a minimum width of two meters. The cut-off grade was determined using a gold price of \$1,125/oz, operating costs of C\$100/tonne and metallurgical recovery of 90%. There are no Measured or Inferred Mineral Resources nor Mineral Reserves reported for the Marlhill property.
16. Vogel – The Vogel/Schumacher Mineral Resource estimate is from *Technical Report on the Initial Mineral Resource Estimate for the Vogel/Schumacher Deposit, Bell Creek Complex, Hoyle Township, Timmins, Ontario, Canada*, June 14, 2011, with an effective date of May 2, 2011. Mineral Resources are reported at a gold cut-off grade of 0.63 g/t inside an optimized pit shell developed using a gold price of \$1,150/oz, operating costs of \$24.75/tonne and process recovery of 95%. Additional Mineral Resources which occur below the pit shell are reported using a gold cut-off grade of 2.9 g/t. There are no Measured Mineral Resources nor Mineral Reserves reported for the Vogel/Schumacher property.



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