



## **SIERRA METALS UPDATES THE MINERAL RESERVE AND RESOURCE ESTIMATE FOR ITS YAURICOCHA MINE, PERU**

- **Mineral Reserves for Yauricocha are 8,439,000 tonnes averaging 46.5 g/t silver, 1.1% copper, 0.8% lead, 3.1% zinc and 0.5 g/t gold representing a 5.4% overall tonnage decrease to the previous Reserve Estimate, however, Proven Mineral Reserves increased 45% with Probable Mineral Reserves decreasing 18% as compared to the previous Reserve Estimate**
- **Total Proven and Probable Contained Metal has decreased by 8.9% silver, 10.9% copper, 4.6% lead, increased by 20.1% zinc, and decreased by 8.9% gold as compared to the previous Reserve Estimate**
- **Measured and Indicated Mineral Resources for Yauricocha are 12,651,000 tonnes averaging 51.5 g/t silver, 1.3% copper, 0.9% lead, 3.0% zinc and 0.6 g/t gold representing a 4% tonnage decrease from the previous resource tonnage estimate, however, Measured Mineral Resources increased 18% with Indicated Mineral Resources decreasing 11% as compared to the previous Resource Estimate**
- **Total Measured and Indicated Contained Metal has reduced by 21% silver, 15% copper, 7% lead, increased by 8% zinc, and reduced by 12% gold as compared to the previous Resource Estimate**
- **Total Inferred Mineral Resources for Yauricocha are 6,501,000 tonnes averaging 39.1 g/t silver, 1.5% copper, 0.6% lead, 1.7% zinc and 0.5 g/t gold compared from the previous Resource Estimate, representing a 2% tonnage decrease to the overall Inferred Resource Estimate**
- **Total Inferred Contained Metal has reduced by 11% silver, 26% copper, increase by 32% lead, reduced by 23% zinc and 9% gold as compared to the previous Resource Estimate**
- **The updated Reserve Estimate incorporates Yauricocha's Mineral Resources included in this press release. This Reserve Estimate includes drill intercepts up to October 31, 2019 which is the cut-off date of the current report**
- **In addition, metal pricing used is the consensus price, metallurgical recoveries, density factor, costs, and other factors have been updated to reflect October 31, 2019 actuals and assumptions**

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**Toronto, ON – December 19, 2019 – Sierra Metals Inc.** (TSX: SMT) (BVL: SMT) (NYSE AMERICAN: SMTS) ("Sierra Metals" or "the Company") has updated its Mineral Reserve and Mineral Resource Estimate at the Company's Yauricocha Mine, located in Yauyos Province, Peru.

The updated Mineral Reserve and Resource Estimate disclosed herein is the result of drilling programs completed between August 2017 and October 2019, 76,338 metres of drilling as well as production data up to October 2019. Subsequent to the cut-off date of October 31,

2019 the updated Resource and Reserve statement does include approximately 4,038 metres of drilling some of which is in the process of being drilled with an aim to further expand the resources and reserves at the Yauricocha mine. Additionally, it is important to note that the Company has updated the way it now measures the density of the ore per tonne from the previous Mineral Resource Estimate. Sierra Metals now uses a lower density factor in its Mineral Reserve and Resource Estimations of 3.48 tonnes per cubic meter versus 3.71 tonnes per cubic meter used in 2017. A lower density ratio includes increased data for Mineral Reserve and Resource classification as a result of the increased drilling; density is measured using a standard methodology for each rock and mineral type; resources and reserves are more consistent with the type of mineralization encountered; increased data minimizes any previous biases.

A Technical Report is currently being prepared by SRK Consulting (Canada Inc.) and Sierra Metals Inc. in accordance with NI 43-101 standards of disclosure and will be filed on SEDAR and with the Securities Exchange Commission within 45 days of this news release.

Igor Gonzales, President and CEO of Sierra Metals commented: *“The management team is pleased with the improved information quality of the updated Reserve and Resources Mineral Estimate for the Yauricocha Mine. Although we saw overall Mineral Reserve tonnage decrease 5% which included mine depletion and included additional drilling, we improved the mineral classification within the Reserve category with the Proven Mineral Reserves increasing 45%, but with the Probable Mineral Reserves decreased 18%. Additionally, we also used a lower density factor in our reserve estimations which provides additional data accuracy and is more selective, which contributes to the overall quality of the Mineral Reserves and Resources. This density adjustment is important because the new areas discovered and explored at Yauricocha since our last resource update in 2017, partly offset the depletion and the impact of the density adjustment on the entirety of our resource calculation. This update represents over 76,338 meters of drilling and mine exploration development work completed at the Yauricocha Mine.”*

He continued, *“The Company remains committed to growth through exploration and today's Mineral Reserve and Resource Estimates confirms the presence of continued high-quality tonnage at the Yauricocha Mine. We will continue with our brownfield and greenfield exploration programs over the next year with an aim of further mineral resource discovery and expansions.”*

## Consolidated Yauricocha Reserve Estimate – October 31, 2019

Reserves - Proven and Probable October 2019							Contained Metal					
		Tonnes (000's)	Ag g/t	Cu %	Pb %	Zn %	Au g/t	Ag M oz	Cu M lb	Pb M lb	Zn M lb	Au K oz
Yauricocha												
	Proven	2,665	52.57	1.26	0.95	3.23	0.58	5	74	56	190	50
	Probable	5,775	43.69	1.07	0.70	3.00	0.47	8	136	89	382	86
	Proven & Probable	8,439	46.49	1.13	0.78	3.07	0.50	13	210	144	572	136

- (1) All figures rounded to reflect the relative accuracy of the estimates. Total may not sum due to rounding.
- (2) The consolidated Yauricocha Reserve Estimate is comprised of the proven and probable material in the Mina Central, Esperanza, Cach-Cachi, Mascota, Cuye, and Cuerpos Pequeños mining areas.
- (3) Mineral reserves are reported at unit value cut-offs grades (COG) based on metal price assumptions\*, variable metallurgical recovery assumptions (variable metallurgical recoveries\*\* as a function of grade and relative metal distribution in individual concentrates), and variable grade adjustments\*\*\* made to the resource model.
  - \* Metal price assumptions considered for the calculation of unit values are: Gold (US\$/oz 1,303.00), Silver (US\$/oz 15.9582), Copper (US\$/lb 2.94), Lead (US\$/lb 0.95), and Zinc (US\$/lb 1.24)
  - \*\* Metallurgical recovery assumptions for the Yauricocha Mine are variable by mineralization style and degree of oxidation. Recovery is a function of grade and relative metal distribution in individual concentrates. The assumptions are built in to the unit values for each area, as a function of the metallurgical recovery multiplied by the metal price.
  - \*\*\*Grade adjustment factors are based on historical mine to mill reconciliation and are variable by mining area.
- (4) The mining costs are variable by mining method.
- (5) Mining recovery and dilution have been applied and are variable by mining area and proposed mining method.
- (6) The unit value cut-off grades (COG) are variable by mining area and proposed mining method. The economic COG ranges from US\$56-63

## 2019 Reserve Estimate % Differences from Prior Estimate (July 2017):

% Change from July 2017 Reserve Estimate								Contained Metal				
		Tonnes (000's)	Ag g/t	Cu %	Pb %	Zn %	Au g/t	Ag M oz	Cu M lb	Pb M lb	Zn M lb	Au K oz
Yauricocha	Proven	45%	13%	16%	13%	25%	-10%	64%	69%	64%	81%	31%
	Probable	-18%	-10%	-13%	-7%	26%	-5%	-27%	-29%	-24%	3%	-23%
	Proven & Probable	-5%	-4%	-6%	1%	27%	-4%	-9%	-11%	-4%	20%	-9%

The updated Reserve Estimate varies slightly from the 2017 Technical Report primarily due to the effort placed on drilling to replace depleted ore and to increase the quantity of Measured Mineral Resources impacting the Proven Mineral Reserves.

### Mineral Reserve Estimate

Mineral Reserve Estimations have been prepared by Sierra Metals Inc. to support public disclosure of Mineral Reserves. The Qualified Person (the "QP") who supervised the preparation of this is Americo Zuzunaga FAusIMM, Competent Person under JORC, Vice President Corporate Planning and M&A of Sierra Metals. The team that have worked on mine design, planning and scheduling are the planning team of Yauricocha Mine with extensive experience on site and the mining method, the software used is:

- Datamine Studio UG v2.2.22.0 MSO and Enhanced Production Scheduler (EPS)<sup>TM</sup> v3.0.201.9292 Software

The procedures and methods supporting the mineral reserve estimations have been developed in conjunction with Sierra Metals mine planning personnel. The reserve estimates presented herein have been conducted by Sierra Metals and reviewed by Americo Zuzunaga using supporting data generated by the site. Americo Zuzunaga notes that the methods and procedures are reasonable and consistent with industry best practice. Each mining area was evaluated using reasonable mining block shapes based on the mining method applicable to the zone. Data and information supporting the mining recovery, mining dilution, reconciliation-based grade adjustments, metallurgical recoveries, consensus commodity pricing, and treatment and refining charges have been provided by Sierra Metals and reviewed by Americo Zuzunaga. These factors are used to calculate unit values for the blocks in the models. Historic and expected direct and indirect mining, processing, and general and administrative costs were provided by Sierra Metals. To be considered economic, the Net Smelter Return (NSR) value of the mining block must be greater than the economic cutoff. Blocks below the economic cutoff but above the marginal cutoff are, in some cases, included in the reserve where they are in between or immediately adjacent to an economic block, and it is reasonable to expect that no significant additional development would be required to extract the marginal block. Isolated blocks, defined as blocks with no defined access, have been excluded. Mined out areas were provided by Sierra Metals personnel.

Americo Zuzunaga is of the opinion that the reserve estimations are suitable for public reporting and are a fair representation of the mill feed tonnes, grade, and contained metal for the Yauricocha deposit.

## Consolidated Yauricocha Resource Estimate – October 31, 2019

Resources - Measured and Indicated								Contained Metal				
		Tonnes (000's)	Ag g/t	Cu %	Pb %	Zn %	Au g/t	Ag M oz	Cu M lb	Pb M lb	Zn M lb	Au K oz
Yauricocha	Measured	3,662	65.8	1.3	1.2	3.5	0.7	7.8	106.6	96.9	280.1	81.2
	Indicated	8,989	45.6	1.3	0.7	2.8	0.6	13.2	251.7	142.7	556.9	161.8
	Measured & Indicated	12,651	51.5	1.3	0.9	3.0	0.6	20.9	358.2	239.6	837.0	243.1
	Inferred	6,501	39.1	1.5	0.6	1.7	0.5	8.2	215.0	88.9	237.9	106.6

- (1) Mineral resources are reported inclusive of ore reserves. Mineral resources are not ore reserves and do not have demonstrated economic viability. All figures rounded to reflect the relative accuracy of the estimates. Gold, silver, copper lead and zinc assays were capped where appropriate.
- (2) Mineral resources are reported at unit value cut-offs grades (COG) based on metal price assumptions\*, variable metallurgical recovery assumptions (variable metallurgical recoveries\*\* as a function of grade and relative metal distribution in individual concentrates), generalized mining/processing costs).
  - \* Metal price assumptions considered for the calculation of unit values are: Gold (US\$/oz 1,303.00), Silver (US\$/oz 15.95), Copper (US\$/lb 2.94), Lead (US\$/lb 0.95) and Zinc (US\$/lb 1.24)
  - \*\* Metallurgical recovery assumptions for the Yauricocha Mine are variable by mineralization style and degree of oxidation. The assumptions are built in to the unit values for each area, as a function of the metallurgical recovery multiplied by the metal price.
- (3) The unit value COG are variable, by mining area and proposed mining method. The COG ranges from US\$46-55.

## 2019 Resource Estimate % differences from Prior Estimate (July 2017):

% Change from July 2017 Resource Estimate								Contained Metal				
		Tonnes (000's)	Ag g/t	Cu %	Pb %	Zn %	Au g/t	Ag M oz	Cu M lb	Pb M lb	Zn M lb	Au K oz
Yauricocha	Measured	18%	-6%	-23%	-2%	9%	-13%	11%	-23%	-2%	9%	3%
	Indicated	-11%	-24%	-13%	-14%	5%	-7%	-32%	-13%	-14%	5%	-18%
	M&I	-4%	-17%	-15%	-7%	8%	-9%	-21%	-15%	-7%	8%	-12%
	Inferred	-2%	-9%	26%	32%	-23%	-7%	-11%	26%	32%	-23%	-9%

The Updated Resource Estimate varies significantly from the 2017 Technical Report due to a combination of material factors including but not limited to:

- Significant additional drilling (68,053 meters) and mine exploration development (10,000 meters)
- The previous drilling and sampling information was based on July 31, 2017 totals, and is now effective as of October 31, 2019
- Refinements to the geologic models

### Mineral Resource Estimate

Mineral Resource Estimations have been conducted or reviewed by the following Qualified Person:

- Andre Deiss of SRK Consulting Inc, Vancouver, Canada.; Datamine Studio RM™ Software

The procedures and methods supporting the mineral resource estimation have been developed in conjunction with Minera Corona geological personnel. The understanding of the geology and mineralization at Yauricocha is based on a large volume of geologic data as well as a robust history of production. SRK has reviewed the methods and procedures for data collection methods supporting the estimate, and notes that they are reasonable and consistent with industry best practice. Geology models were generated by Minera Corona geologists utilizing Leapfrog Geo, and locally vary significantly from those used in previous reports. A combination of diamond drilling, channel sampling, and mine mapping have been used to form these models, and SRK is of the opinion that they are an accurate interpretation of the

mineralization at Yauricocha. These models, presented as 3-D solid envelopes, were utilized to constrain block models, which were flagged with variables such as bulk density, mine area, depletion, economic and deleterious grades etc.

The resource estimations presented herein have been conducted or reviewed by independent consultants utilizing supporting data generated by the mine site. SRK conducted independent estimations for the Mina Central, Esperanza, Cach-Cachi, Mascota, Cuye and Cuerpos Pequeños mining areas. Grade for the five primary commodities (Ag, Au, Cu, Pb, Zn), Fe and As (deleterious elements) were estimated into the block models utilizing both drilling and channel samples, applying industry-standard estimation methodology. Interpolation methods were generally via Ordinary kriging or Inverse Distance, depending on quantities and quality of data available. Mineral Resources estimated by the independent consultants are categorized in a manner consistent with industry best practice, and are reported above reasonable unit value cut-offs, based on actual marginal production costs to satisfy public reporting criteria.

SRK is of the opinion that the resource estimations are suitable for public reporting and are a fair representation of the in-situ contained metal for the Yauricocha deposit.

### **Quality Control**

All technical production data contained in this news release has been reviewed and approved by Americo Zuzunaga, FAusIMM (CP Mining Engineer) and Vice President of Corporate Planning is a Qualified Person and chartered professional qualifying as a Competent Person under the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Augusto Chung, FAusIMM (CP Metallurgist) and Vice President Special Projects and Metallurgy and a chartered professional qualifying as a Competent Person on metallurgical processes.

### **About Sierra Metals**

Sierra Metals Inc. is Canadian based growing polymetallic mining company with production from its Yauricocha Mine in Peru, and its Bolivar and Cusi Mines in Mexico. The Company is focused on increasing production volume and growing mineral resources. Sierra Metals has recently had several new discoveries and still has additional brownfield exploration opportunities at all three Mines in Peru and Mexico that are within or close proximity to the existing Mines. Additionally, the Company has large land packages at all three Mines with several prospective regional targets providing longer term exploration upside and mineral resource growth potential.

The Company's Common Shares trade on the Bolsa de Valores de Lima and on the Toronto Stock Exchange under the symbol "SMT" and on the NYSE American Exchange under the symbol "SMTS".

For further information regarding Sierra Metals, please visit [www.sierrametals.com](http://www.sierrametals.com) or contact:

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### **Forward-Looking Statements**

This press release contains “forward-looking information” and “forward-looking statements” within the meaning of Canadian and U.S. securities laws related to the Company (collectively, “forward-looking information”). Forward-looking information includes, but is not limited to, statements with respect to the Company’s operations, including anticipated developments in the Company’s operations in future periods, the Company’s planned exploration activities, the adequacy of the Company’s financial resources, and other events or conditions that may occur in the future. Statements concerning mineral reserve and resource estimates may also be considered to constitute forward-looking statements to the extent that they involve estimates of the mineralization that will be encountered if and when the properties are developed or further developed. These statements relate to analyses and other information that are based on forecasts of future results, estimates of amounts not yet determinable and assumptions of management. Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, using words or phrases such as “expects”, “anticipates”, “plans”, “projects”, “estimates”, “assumes”, “intends”, “strategy”, “goals”, “objectives”, “potential” or variations thereof, or stating that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved, or the negative of any of these terms and similar expressions) are not statements of historical fact and may be forward-looking information.

Forward-looking information is subject to a variety of risks and uncertainties, which could cause actual events or results to differ from those reflected in the forward-looking information, including, without limitation, the risks described under the heading “*Risk Factors*” in our Annual Information Form dated March 28, 2019 in respect of the year ended December 31, 2018 and other risks identified in the Company’s filings with Canadian securities regulators and the U.S. Securities and Exchange Commission, which filings are available at [www.sedar.com](http://www.sedar.com) and [www.sec.gov](http://www.sec.gov), respectively.

The risk factors referred to above is not exhaustive of the factors that may affect any of the Company’s forward-looking information. Forward looking information includes statements about the future and are inherently uncertain, and the Company’s actual achievements or other future events or conditions may differ materially from those reflected in the forward-looking information due to a variety of risks, uncertainties and other factors. The Company’s statements containing forward-looking information are based on the beliefs, expectations and opinions of management on the date the statements are made, and the Company does not assume any obligation to update forward-looking information if circumstances or management’s beliefs, expectations or opinions should change, other than as required by applicable law. For the reasons set forth above, one should not place undue reliance on forward-looking information.