

# R E P E A T -- Sierra Metals Inc.

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**/R E P E A T -- Sierra Metals announces positive Preliminary Economic Assessment results for a 66% output expansion at its Yauricocha Mine in Peru to 5,500 tonnes per day yielding a 486% Return on Investment/**

TORONTO, June 27, 2018 - Sierra Metals Inc. (TSX: SMT) (BVL: SMT) (NYSE American: SMTS) ("Sierra Metals" or "the Company") is pleased to report the results of the Preliminary Economic Assessment ('PEA') regarding the Company's Yauricocha Mine, located in Alis district, Yauyos province, department of Lima, Peru. The PEA is based on technical inputs from various independent consulting groups including SRK, Redco, Ingenieria Carillo, Anddes, Tierra Group, Geoservice Engineers

Based on the technical work from the various independent consultants, the PEA was compiled under National Instrument 43-101 standards by Mining Plus Peru SAC. The full technical report will be filed within 45 days of this news release.

Highlights of the PEA include:

- After-tax Net Present Value (NPV): US\$393 Million at an 8% discount rate
- Return on Investment (ROI): 486%
- After-tax Payback Period Life of Mine Capital: 4.1 years
- Life of Mine Capital Cost: US\$238 Million
- Net After-tax Cash Flow: US\$532 Million
- Total Operating Unit Cost: \$43.86/tonne
- Mine Processing Rate: 5,500 tonnes per day (TPD)
- Plant Processing Rate: 5,500 TPD
- Life of Mine: 10 years based on existing Mineral Resource Estimate
- Life of Mine Zinc Payable Production 621.1 Million Pounds

Igor Gonzales, President and CEO of Sierra Metals commented: "Sierra Metals is planning to expand the Yauricocha mine through sustainable growth stages from its current 3,000 TPD, to 3,600 TPD in Q1 2019, and to 5,500 TPD in 2021. Engineering studies support the increased processing capacity at the Chumpe ore processing plant of up to 5,500 TPD. Management are very pleased and encouraged by the positive results of this PEA which support the profitable development and growth of the Yauricocha Mine. ? The expansion of our capacity is a natural step that follows mineral resources increases in recent years. The expansion adds to the value of our resources by accelerating its production timing and also adds to the potential value to future resource increases, which we expect to continue due to the on-going aggressive exploration campaign at the mine."

He concluded, "We are continuing with our strategy to increase shareholder value and grow the economic potential of the Company. Building upon a successful PEA recently announced for the expansion of the Cusi Mine, we are now adding another successful study for the expansion of the Yauricocha Mine, and a third PEA will follow shortly for our Bolivar Mine. This PEA follows a successful brownfield exploration program and a successful operational improvement program at the Yauricocha Mine, demonstrating returns on this well-spent capital. Building upon these successes, we are continuing to endeavour to maximize value and profitability through the implementation of automation, best practices and further potential throughput increases which will drive further growth and benefit all shareholders."

## Mineral Resource Estimate

The Yauricocha Mine located in the Allis district, Yauyos province, department of Lima, approximately 12 kilometers west of the Continental Divide and 60 kilometers south of the Pachacayo railway station. Polymetallic mineralization has been mined at Yauricocha for more than 50 years. Mineralization is genetically and spatially related to the Yauricocha stock; six skarn bodies host mineral resources around the margins of the stock. Near surface mineral is exhausted but significant mineral resources are reported at

depth.

This Preliminary Economic Assessment (PEA) considers measured, indicated and inferred resources reported by SRK dated November 10, 2017 and effective as of July 31, 2017. The resource has not been depleted as part of this study.

Table 1-1: Summary of resource reported by SRK, November 10, 2017 (Effective July 31, 2017)

Class	Tonnes (kt)	Ag (g/t)	Au (g/t)	Cu (%)	Pb (%)	Zn (%)	Density
Measured	3,094	69.97	0.79	1.72	1.23	3.2	3.74
Indicated	10,111	59.91	0.6	1.46	0.83	2.67	3.8
Measured + Indicated	13,205	62.26	0.65	1.52	0.92	2.79	3.79
Inferred	6,632	43.05	0.55	1.19	0.47	2.16	3.71

(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

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\*Metal price assumptions considered for the calculation of the unit values are: Gold (US\$1,255/oz), Silver (US\$17.80/oz), Copper (US\$2.60/lb), Zinc (US\$1.25/lb).

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The geometry and grade of mineralization at Yauricocha lends itself to the sub-level caving mining method,

more than 98% of total mineral production (3,000 TPD) is via sub-level caving. Mineral and waste is hoisted to the 720 level and transported by electric locomotive to the Chumpe plant for processing. Yauricocha has three hoisting shafts with a combined capacity of 4,600 TPD, at the current waste to mineral of 0.5:1 ratio this equates to 3,067 TPD of mineral and 1,533 TPD of waste.

Sierra Metals commissioned Redco to evaluate, on a conceptual level, how production at Yauricocha could be increased. Redco determined that with the introduction of mineralized bodies, which are part of the resource but are not currently mined, production could be increased to 5,500 TPD. Production increases require a significant amount of advanced development, and the existing hoisting system does not have the capacity to maintain current production and accommodate additional waste associated with the advanced development.

Sierra Metals is constructing the Yauricocha Shaft, with capacity to hoist 5,600 TPD. When this shaft is completed (January-2020) the combined hoisting capacity will be 10,200 TPD. Advanced development ahead of increased production will increase the waste to mineral ratio.

As part of their evaluation, Redco assumed that:

- Established operating costs of US\$43.86/tonne would be used in the mine plan
- Operating costs per tonne would reduce to US\$38.66/tonne as production rates reached 5,500 TPD

Factors that could negatively impact production as the mine extends to depth are increased dewatering costs and increased potential for mud-rush.

Redco determined that:

- With the completion of the Yauricocha shaft, production rates could be increased
- Conceptual economic analysis indicates that 5,500 TPD mineral production is the optimal mine output, which represents a production increase of 66% on current output
- Based on the current resource and proposed 5,500 TPD optimal mine output, the Life of Mine (LoM) would be 10-years
- Throughout the LoM 29,375 meters of waste development and 124,572 meters of development in mineral will be required
- The processing capacity of the Chumpe plant will need expanding from 3,000 TPD if it is to process increased mine output.
- Tailings capacity will need expanding to handle the waste product of the Chumpe Plant
- LoM capital requirements (Mine, Plant, Closure) to realize the proposed mine plan (5,500 TPD) and increase processing capacity (5,500 TPD) are estimated in the region of \$238 million

Risks to the proposed mine plan are limited as Yauricocha is an established operation with proven mining methodology, mineral processing and metallurgical recovery, however, some risks are highlighted:

- Subsidence related to sublevel caving is recorded around the Central and Mascota shafts. These shafts are critical for the ingress and egress of material, if continued subsidence impacts the hoisting capacity of these shafts the proposed mine plan would be significantly impacted. Contingency planning in case of a failed shaft is not considered in the proposed mine plan
- The proposed mine plan considers inferred resources which are low confidence and are not suitable for the application of economic factors. Further drilling would improve confidence in these resources and better determine their potential economic viability
- Dewatering and ventilation demands will increase with depth and properly engineered solutions are needed if the mine plan is to be implemented
- Mud-rush is a known issue at Yauricocha and potential for mud-rush is likely to increase at depth, mitigating this risk is essential to the proposed mine plan
- The Chumpe processing plant will need to be expanded to handle increased throughput
- Tailings storage capacity will need to be expanded to handle increased waste from the processing plant

Sierra Metals engaged various specialist groups to evaluate how, on a conceptual level, mining, mineral processing, and tailings management could be adapted at the Yauricocha mine and Chumpe Plant (combined to form the Property) to achieve a sustainable and staged increase in mine production and mill throughput.

This report is a Preliminary Economic Assessment (PEA) designed to give an indication of the economic viability of operating the Property at an increased mine output from 3,000 TPD currently, to 3,600 TPD by Q1 2019, and 5,500 TPD in 2021.

Table 1-2: Groups involved in development for conceptual plan considered in the PEA

Group	Concept
SRK Consulting (U.S), Inc	Resource Estimation
Redco Mining Consultants	Increase mine output to 5,500 TPD
Sierra Metals (SM)	Planta Concentradora Chumpe &ndash; Memoria Descriptiva &ndash; Ampliacion 1500,00
Ingenieria Carillo (IC)	Engineering associated with increased Chumpe plant capacity
AnddesConsulting (AC)	Expansion of tailings storage capacity
Tierra Group	Memorandum Tecnico
Geoservice Engineers	

#### Mining Methodology

To determine how mine output could be increased, Sierra Metals commissioned Redco Mining Consultants ("Redco") to undertake a scoping study, considering, existing development and infrastructure, geotechnical characteristics, geological controls and mineralization style. The study (Redco 2018) determined that mineral output could be increased and that the optimal mineral output is 5,500 TPD.

As part of their scoping study, Redco considered plans for mine development, hoisting capacity, ventilation and dewatering on a general scale. Sierra Metals recognizes the further mine development, increased hoisting capacity development, detailed ventilation and dewatering plans are required to support the overall mine design.

#### Mineral Processing

The Chumpe plant is located approximately one kilometer from the Yauricocha Mine, material is transported to the plant on rails. Mineral is processed using conventional two-stage crushing followed by grinding-classification and differential flotation circuit to produce commercial quality lead/silver, zinc and copper.

Mineral processing and the recovery of the minerals are demonstrated, and recoveries are 65.0% Copper, 85.0% Lead, 16% Gold and 90.0% Zinc. Total silver recovery was 67%.

Planned adjustments to the Chumpe plant will not materially change the processing processes but will extend processing capacity from 3,000 TPD to 5,500 TPD.

#### Tailings Capacity

The Project site has an existing tailings storage facility which accommodates pulp tailings which has been constructed in stages of four-meter lifts. There are three more lifts required to complete construction of the dam. At completion, the facility will be able to accommodate an additional eight million tonnes of tailings. At that point, the company will be using a dry-stacking concept to manage tailings deposition which will be based on OPEX. Based on the last expansion, the facility will allow storage of the tailings material at current production rates. An additional expansion of the tailings storage capacity will occur after final construction of

the final lift. At that time the facility will incorporate dry-stacking techniques which will accommodate sufficient tailings capacity throughout the life of the mine.

## Economic Analysis

The PEA calculates a Base Case after &ndash; tax NPV of US\$393 million with an after &ndash; tax Return on Investment (ROI) of 486 using a discount rate of 8%. The total life of mine capital cost of the project is estimated to total US\$238 million. The payback period for the LoM capital is estimated at 4.1 years. Operating costs of the LoM total US\$593 million, equating to an operating cost of US\$43.86 per tonne milled.

PEA Highlights	Unit
Base case of US\$1,323/oz Gold, US\$18.68/oz Silver, US\$0.98/lb Lead, US\$1.19/lb Zinc, US\$3.15/lb Copper.	
Net Present Value (After Tax 8% Discount Rate)	US\$ M
Return On Investment (ROI)	ROI%
Mill Feed	Tonnes (Millions)
Mining Production Rate	t/year
LOM Project Operating Period	years
Total Capital Costs	US\$ M
Net After &ndash; Tax Cashflow	US\$ M
Total Operating Unit Cost	US\$/t
LOM Gold Production (Payable)	oz
LOM Silver Production (Payable)	oz
LOM Lead Production (Payable)	t
LOM Zinc Production (Payable)	t
LOM Copper Production (Payable)	t

## Quality Control

All technical data contained in this news release has been reviewed and approved by:

Gordon Babcock, P.Eng., Chief Operating Officer and a Qualified Person under National Instrument 43-101 &ndash; Standards of Disclosure for Mineral Projects.

Americo Zuzunaga, MAusIMM 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 Consultant to Sierra Metals is a Qualified Person and

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 key discoveries and still has many more exciting brownfield exploration opportunities at all three Mines in Peru and Mexico that are within close proximity to the existing mines. Additionally, the Company also 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."

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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 the 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, risks inherent in the mining industry including environmental hazards, industrial accidents, unusual or unexpected geological formations, floods, labour disruptions, explosions, cave-ins, weather conditions and criminal activity; commodity price fluctuations; higher operating and/or capital costs; lack of available infrastructure; the possibility that future exploration, development or mining results will not be consistent with the Company's expectations; risks associated with the estimation of mineral resources and the geology, grade and continuity of mineral deposits and the inability to replace reserves; fluctuations in the price of commodities used in the Company's operations; risks related to foreign operations; changes in laws or policies, foreign taxation, delays or the inability to obtain necessary governmental permits; risks relating to outstanding borrowings; issues regarding title to the Company's properties; risks related to environmental regulation; litigation risks; risks related to uninsured hazards; the impact of competition; volatility in the price of the Company's securities; global financial risks; inability to attract or retain qualified employees; potential conflicts of interest; risks related to a controlling group of shareholders; dependence on third parties; differences in U.S. and Canadian reporting of mineral reserves and resources; potential dilutive transactions; foreign currency risks; risks related to business cycles; liquidity risks; reliance on internal control systems; credit risks, including risks related to the Company's compliance with covenants with respect to its BCP Facility; uncertainty of production and cost estimates for the Yauricocha Mine, the Bolivar Mine and the Cusi Mine; and other risks identified in the Company's filings with Canadian securities regulators and the U.S. Securities and Exchange Commission ("SEC"), which filings are available at [www.sedar.com](http://www.sedar.com) and [www.sec.gov](http://www.sec.gov), respectively.

This list 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.

#### Note Regarding Reserve and Resource Estimates

All reserve and resource estimates reported by the Company are calculated in accordance with the Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects and the Canadian Institute of Mining and Metallurgy Classification system. These standards differ significantly from the requirements of the SEC. The differences between these standards are discussed in our SEC filings. Mineral resources which are not mineral reserves do not have demonstrated economic viability.

SOURCE [Sierra Metals Inc.](#)

#### Contact

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