Sigma Files Independent Feasibility Study Technical Report for the Environmentally Friendly Xuxa Lithium Project

VANCOUVER, British Columbia, Nov. 07, 2019 -- Sigma Lithium Resources Corporation ("**Sigma**" or the "**Company**") (TSXV: **SGMA**) (OTCQB: **SGMLF**) reports that, further to its news release dated October 1, 2019 and clarifying news release dated October 7, 2019 announcing an independent feasibility study ("**FS**") on the Xuxa deposit ("**Xuxa**") at Sigma's 100% owned Grota do Cirilo Project (the "**Sigma Project**") located in Brazil, it has today filed the supporting technical report titled "Grota do Cirilo Lithium Project, Araçuaí and Itinga Regions, Minas Gerais, Brazil, National Instrument 43-101 Technical Report on Feasibility Study Final Report", dated October 18, 2019 and with an effective date of September 16, 2019 (the "**FS Technical Report**").

The FS Technical Report was prepared by leading mining consultancies and professional services firms Primero Group Americas Inc. (a subsidiary of Primero Group Ltd), SGS Geological Services, Worley Parsons and GE21 Consultoria Mineral.

Summary of Key Xuxa Feasibility Study Outcomes

The FS envisages a 1.5 Mtpa spodumene ore mining and lithium concentrate processing operation. The Xuxa plant will be powered by green hydroelectricity. Sigma is committed to high standards of environmental practices in its operations by utilizing dry stacking and recycling 90% of the water used in its beneficiation plant, amongst other initiatives. Selecting Xuxa as the first mine to enter production constitutes a low-risk execution strategy for the Company. As the ore from Xuxa can be processed with high recoveries in a low capex plant with DMS circuits (Dense Media Separation), without requiring a more complex flotation circuit. The FS is based only on the current open-pit mining plan without contemplating an underground mine plan.

The FS is based on a 2021 arms-length nominal price forecast of US$ 650 CIF China for 6% lithium concentrate. Sigma contracted Roskill Consulting Group Ltd. ("**Roskill**") to provide an outlook and overview of the lithium market. Roskill provided a comprehensive updated market study in August 2019 analyzing current and future trends in the market, prices of lithium chemicals such as lithium hydroxide, lithium carbonate, as well as prices of 6% lithium concentrate for vertically integrated and non-integrated chemical producers.

Table 1. *Financial Results Summary of Feasibility Study for the Xuxa Mine and Plant*

Item	Unit	Total
Economic Returns		
Net present value (NPV 8%) After-Tax	US$	249 million
Internal rate of return (IRR) After-Tax	%	43.2%
After-Tax Payback period	years	3.1
Financials		
Life of Mine (LOM)	years	9.2
Initial Capital Expenditure (Capex) (1)	US$	98.5 million
Exchange rate BRL/US$ (2)	BRL/US$	3.85
Costs		
Cash costs per tonne of lithium concentrate (3)	US$/t	238
Freight costs to China (3)	US$/t	104
Total Cash Cost (CIF China)	US$/t	342
Market Prices Roskill Forecast in FS		
Lithium concentrate CIF China port in 2021	US$/t	650
Lithium concentrate CIF China port average LOM	US$/t	733

Notes:

1. Initial capital includes pre-production working capital of $10.96 million and 10% contingency of $10.47 million.
2. A conservative two-tier exchange rate was used as a base to the FS. BRL 3.85 / USD 1.00 for quotes provided from third party information providers and BRL 4.10 / USD 1.00 for the amounts provided in dollars from Sigma.
3. Cash spodumene concentrate costs include mining, processing, selling, general and administration expenses (SG&A).
4. Freight costs include road transport to Port of Ilheus in Bahia, port storage, loading and shipping to Shanghai Port.

Background of Sigma's Project Development Strategy

1. Feasibility Study for Xuxa Mine and Construction of Xuxa Plant:

- The positive economics of the FS provides a strong platform for Sigma to continue to evaluate and develop its extensive 191 km^2 mineral properties, which include nine past-producing lithium mines and 11 first priority exploration targets.
- Sigma adopted a development strategy with includes low-technical execution risk and low-capital expenditures for the Sigma Project. As a result, Sigma decided to conduct its first feasibility analysis exclusively on the Xuxa deposit. The FS contemplates a 1.5 Mtpa open-pit mine and processing plant.
- The Xuxa deposit was selected for FS evaluation because it has a unique combination of:
    - A high-average grade of 1.55% Li_2O with low levels of alkaline and iron impurities, enabling ore processing through a lower technical risk dense media separation **("DMS")** plant with lower production costs, while achieving economically positive recovery results.
    - Proven and Probable Mineral Reserves totaling 13.8 Mt grading 1.46% Li_2O
    - Mineralization with large crystals of spodumene enabling the production of a coarse lithium concentrate, which will have commercially competitive advantages.
- Sigma successfully produced, on a continuous basis using DMS technology, a coarse lithium concentrate grading more than 6% lithium oxide at its pilot plant on site in Brazil.
- Commercially, Sigma's coarse high-quality lithium concentrate is considered a premium product by customers in the chemical industry as it allows converters to achieve higher margins and operational efficiencies. It is understood that the coarse size of the concentrate has the potential to increase the recoveries that can be achieved in the lithium hydroxide and carbonate chemicals production process. Table 2 summarizes the projected Xuxa mine and Xuxa plant forecasts at the anticipated 1.5 Mtpa production rate.

Table 2. *Xuxa Mining and Concentrate Plant Forecasts at 1.5 Mtpa*

Item	Unit	Total
Ore Processed		
Total ore quantity milled (LOM)	tonnes	13.8 million
Annual run of mine (ROM) ore milled	tonnes	1.5 million
Spodumene ore feed grade LOM average	%	1.46
Strip ratio	Ratio :	9.6: 1
Concentrate Produced LOM Average		
Lithium concentrate produced	Tonnes	220,000
Lithium recovery rate	%	60.4
Lithium concentrate grade	% of Li2O	6
Lithium carbonate equivalent (LCE) produced	Tonnes of LCE	33,000
Run of Mine Costs		
Mining costs per waste and ore mined	US$/t mined	2.12
Processing costs per tonne (ROM)	US$/t ROM	11.03

Table 3. *Xuxa Mineral Reserve Table*

Mineral Reserve Categories	**ROM (Mt)**	**Li_2O Grade (%)**
Proven Reserve	10.27	1.45
Probable Reserve	3.52	1.47
Total Proven and Probable Reserve	**13.79**	**1.46**

Table 4. *Xuxa Mineral Resource Table*

Mineral Resource Categories	**Tonnage (Mt)**	**Li_2O Grade (%)**
Measured Resource	10.2	1.59
Indicated Resource	7.2	1.49
Total Measured and Indicated Resource	**17.4**	**1.55**
Inferred Resource	3.8	1.58

Notes:

1. Cut-off grade 0.5% Li2O
2. The mineral resource estimate has been conducted using the CIM Definitions Standards for mineral resources in accordance with National Instrument 43-101, Standards of Disclosure for Mineral Projects.
3. Mineral resources, which are not mineral reserves, do not have demonstrated economic viability.
4. Inferred mineral resources are exclusive of the Measured and Indicated resources.
5. Resources are constrained by the topography.
6. Bulk density of 2.70 t/m3 is used.
7. All numbers are rounded to the nearest thousand.

2. Subsequent development of Barreiro mine and construction of an additional module to Xuxa Plant

- A pre-feasibility study (**"PFS"**) has been commenced at Barreiro, Sigma's second deposit slated for development at the Sigma Project. The NI 43-101 mineral resource update for the Sigma Project as of January 6, 2019 outlined a measured and indicated mineral resource at Barreiro of 20.5 Mt of spodumene lithium with an average grade of 1.43% Li_2O.
- In accordance with Brazil law, a *Plano de Aproveitamento Economico* (**"PAE"**) was filed with the Brazilian mining regulator (Agência Nacional de Mineração), for which approval is pending. The PAE is not a NI 43-101 compliant document. The Barreiro-Xuxa PAE envisages an integrated 3.0 Mtpa two-stage development of the Sigma Project, beginning with 1.5 Mtpa initial production from the Xuxa mine and plant. The PFS commissioned by Sigma will study the viability for a separate on-surface mining operation at the nearby Barreiro mine, along with the construction of an additional module to the Xuxa Plant to process an additional 1.5 Mtpa from a Barreiro mine.
- The FS and the commissioned Barreiro PFS each envisages a sequenced development strategy for the Sigma Project, with a modular, integrated, expanded joint development of the Xuxa-Barreiro deposits, aiming to process a total of 3 Mtpa and an envisaged increase in production to around 440,000 tons annually.

Table 5. *Barreiro Mineral Resource Table*

Mineral Resource Categories	**Tonnage (Mt)**	**Li_2O Grade (%)**
Measured Resource	10.3	1.40
Indicated Resource	10.2	1.46
Total Measured and Indicated Resource	20.5	**1.43**
Inferred Resource	1.9	1.44

Notes:

1. Cut-off grade 0.5% Li2O
2. The mineral resource estimate has been conducted using the CIM Definitions Standards for mineral resources in accordance with National Instrument 43-101, Standards of Disclosure for Mineral Projects.
3. Mineral resources, which are not mineral reserves, do not have demonstrated economic viability.
4. Inferred mineral resources are exclusive of the Measured and Indicated resources.
5. Resources are constrained by the topography.
6. Bulk density of 2.71 t/m3 is used.
7. All numbers are rounded to the nearest thousand.

Qualified Persons

The technical and scientific information in this news release has been reviewed and approved by (i) Marc Antoine Laporte, P.Geo., M. Sc., of SGS Canada Inc., (ii) Ara Erzingatzian, P.Eng, of Primero Group Americas Inc., and (iii) Porfirio Cabaleiro Rodriguez, Mining Engineer of GE21 Consultoria Mineral Brazil, each of whom is a qualified person as defined by NI 43-101 and is independent of Sigma.

In addition to the qualified persons noted above, the additional individuals who were responsible for parts of the FS Technical Report, each of whom is a qualified person as defined by NI 43-101 and independent of Sigma, were:

- Frederic Claridge, M.S., P.Eng., Senior Technical Director, Advisian Americas, a division of WorleyParsons Canada Services Ltd.
- Lucas Duerte, P.Eng., MSc, PMP.
- Kiedock Kim, P.Eng. Lead Process Engineer, Primero Group Americas Inc.

ABOUT SIGMA LITHIUM

Sigma is a Canadian company that started to produce environmentally sustainable battery-grade lithium concentrate on a pilot scale in 2018, shipping high quality above 6% Li2O coarse lithium concentrate samples to potential customers in Asia. Based on the National Instrument 43-101 Technical Report on Feasibility Study Final Report, a larger scale lithium concentration commercial production plant will contemplate a capacity of 220,000 tonnes annually of battery-grade low cost lithium concentrate. Sigma will be amongst the lowest cost producers of lithium concentrate globally

Sigma is on track to achieve commercial production in 2021 of its "green" 6% battery grade lithium concentrate engineered with low impurities to the specifications of its customers in the fast-growing lithium-ion battery supply chain.

In order to secure a leading position supplying the clean mobility and green energy storage value chain, Sigma has adhered to the highest standards of environmental practices as part of its core purpose, since it initiated its activities in 2012. Sigma production process is powered by green hydroelectricity and the Company utilizes state of the art dry stacking tailings management and water recycling techniques in its beneficiation process.

Our corporate mission is to execute our strategy while embracing strict environmental, social, and governance ("**ESG**") principles. Sigma's shareholders include some of the largest ESG-focused institutional investors in the world.

FOR ADDITIONAL INFORMATION PLEASE CONTACT

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FORWARD-LOOKING STATEMENTS

This news release contains forward-looking statements relating to Sigma's objectives, the potential for increased resources, concentration plant construction and expected production levels, achieving sustainable production and other statements that are not historical facts. Readers are cautioned not to place undue reliance on forward-looking statements, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur, which may cause actual performance and results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. These assumptions, risks and uncertainties include, among other things: the state of the economy in general and capital markets in particular, the availability of project financing on reasonable terms, investor interest in the business and future prospects of Sigma and the settlement of definitive offtake and other commercial agreements.

The forward-looking statements contained in this news release are made as of the date of this news release. Except as required by law, Sigma disclaims any intention and assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable securities law. Additionally, Sigma undertakes no obligation to comment on the expectations of, or statements made, by third parties in respect of the matters discussed above.

The key risks and uncertainties that could cause actual results or the material factors and assumptions applied in preparing forward-looking information to differ materially from predictions, forecasts, projections, expectations or conclusions are discussed in the "Risk Factors" section of Sigma's Filing Statement dated April 26, 2018. We caution that the foregoing list is not exhaustive of all possible factors.

For more information on the risks, uncertainties and assumptions that could cause our actual results to differ from current expectations, please refer to our public filings available at www.sedar.com. Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this news release.