

South Star Battery Metals Provides Further Details on the Coosa County, Alabama Graphite Project

VANCOUVER, BC, Dec. 20, 2021 /CNW/ - South Star Battery Metals Corp. ("South Star" or the "Company") (TSXV: STS) (OTCQB: STSBF), is pleased to provide further details on its new project in the Alabama Graphite Belt that is subject to the recently announced binding Earn-in and Option Agreement ("Agreement") for the Ceylon Graphite Project ("Project"). Refer to [December 7, 2021 press release](#) for additional details. Under the terms of the Agreement, South Star will have the right to earn-in up to 75% of the Project. A comprehensive preliminary exploration program including mapping, trenching and sampling (both surface and bulk) was previously completed and provides a sound basis for South Star to move quickly toward a maiden resource estimate. The Project's location is in the heart of a booming regional center focused on the electric vehicle industry.

PROJECT LOCATION

The Project is located on the northeast end of the Alabama Graphite Belt and covers approximately 500 acres in Coosa County, Alabama (Figure 1). It is crossed by a four-lane highway with power and natural gas available adjacent to the site. The Project is close to several interstate highways and 225 miles from a major port in Mobile, Alabama. State and local officials are pro-development and support both primary extractive and downstream processing industries.

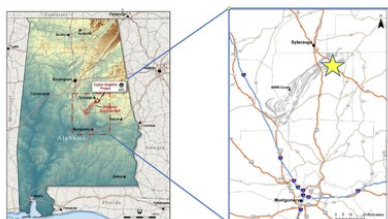


Figure 1: Ceylon Graphite Project Location (CNW Group/South Star Battery Metals Corp.)

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The southeastern United States is rapidly developing into a major hub for the Electric Vehicle ("EV") industry and the Lithium-ion Batteries ("LiB") needed to power them (Figure 2). In addition, a significant aerospace and defense industries hub is centered around Huntsville, Alabama providing further market opportunities for high purity, value-added graphite products. Graphite is included in the list of US Critical Minerals and was recently added to the National Defense Stockpile List.

Figure 2: Southeastern US EV Hub.

The Alabama Graphite Belt is approximately sixty-miles long, strikes NE – SW and is located in the Coosa block of the Northern Piedmont province in the Higgins Ferry and Poe Bridge Mountains Groups of schists (quartz-sillimanite-mica-graphite-roscoelite) and quartzite (quartz-mica-graphite). The metamorphic rocks of the Alabama Graphite belt are sillimanite to kyanite grade, meaning upper green schist to blue schist facies. The graphitic schist unit is highly weathered down to depths of 10 m-30 m depending on topography and variations in mineralogy/structure. The Project is one of approximately 50 mines within the Belt that were active primarily during World Wars I and II (last production 1949). These mines historically targeted friable outcropping graphite mineralization, averaging approximately 3%-5% graphitic carbon. Mineralization is at surface, and the graphitic host rock was mined without the need for drilling and blasting. Historic production typically 1/3 large, 1/3 medium and 1/3 fine flake.

PREVIOUS EXPLORATION WORK

A comprehensive mapping program during the first half of 2019 generated a detailed geological and structural picture of the Project area as well as along strike to the northeast and southwest (Figure 3). Eighty-three surface samples were collected (Figure 4a) and analysed both in the field with a XMET8000 handheld XRF analyzer and at an independent laboratory. Samples were tested for 37 elements. Mineralized zones were characterized into several geo-metallurgical domains related to the intensity of weathering, graphite grades, gangue mineralogy and host lithology. This work has generated new concepts on the controls and locations of graphite mineralization that will assist the Company in identifying and assessing new graphite prospects along the belt.

Figure 3: Detailed Geologic Map of the Ceylon Project.

Figure 4a: Typical Samples from Ceylon. On the left, Weathered Graphitic Schist (Cg = 3.5%). On the right, Graphitic Quartzite (Cg = 4.0%).

Following the mapping program, 29 trenches were excavated to a maximum depth of 2 meters (Figure 4b). A total of 2,769 linear meters were dug, mapped and sampled. 765 samples were submitted from the trenches for

Figure 4b: 2019 Trench Program at the Project.

independent laboratory analysis plus standards (5 per hundred for a total of 42) and duplicates (5 per hundred for a total of 38). Graphite content ranged from 0% up to 4.93% Cg. Results support the conclusion that the deposit continues at depth below the Ceylon Mine pit floor, laterally and on strike at least 1,000 meters to the northeast and to the south-southwest.

Following the trenching program, a 100-ton bulk sample was excavated, crushed and bagged from eight pits across the property (Figure 5). The sample pits were selected to provide representative samples of the different graphite-bearing deposits identified during the mapping and trenching programs.

Figure 5: Bulk Sampling Program.

Each one-ton supersack was carefully tagged and catalogued and a small representative sample was taken from each for laboratory analysis (Figure 6). The bags were immediately transferred to a secure, dry warehouse in the nearby city of Sylacauga, Alabama.

Figure 6: Analysis from Bulk Sample Pits.

A portion of the bulk sample was shipped to the GIRC Laboratory in Guangzhou, China for initial bench-scale beneficiation testing. The testing indicated a traditional crush/grind/flotation concentration circuit could achieve grades of 95%-97% with approximately 86% recoveries. In general, 75%-80% of the sample concentrates (by mass) were -80 mesh material and the balance being +80 mesh material. The graphitic samples were described as well liberated

and easy to process. Approximately 75 tons of the bulk sample remain in the warehouse.

NEXT STEPS

South Star is currently developing a work program, schedule and budget for the initial Phase 1 exploration program at the Project. This initial work will include RC drilling to further define the extent and structure of the deposit and will be combined with additional field mapping and surface sampling. The initial RC drilling will be supplemented with diamond core drilling, as needed, to generate sufficient data to produce a maiden resource estimate. The work program will also include the base level reconnaissance work needed to begin the permitting process. This first phase is tentatively scheduled to begin early in 2022. Subsequent phases will include additional drilling, bench- and pilot-scale metallurgy, engineering, and additional permit preparation. South Star will also continue to expand and develop the excellent relationships with the community, as well as with local, state and federal agencies, originally established by the Charge Minerals' team.

ABOUT SOUTH STAR BATTERY METALS CORP

South Star Battery Metals Corp. is a Canadian battery metals project developer focused on the selective acquisition and development of near-term production projects in the Americas. South Star's Santa Cruz Graphite Project, located in Southern Bahia, Brazil is the first of a series of industrial and battery metals projects that will be put into production. Brazil is the second-largest graphite-producing region in the world with more than 80 years of continuous mining. Santa Cruz has at-surface mineralization in friable materials, and successful large-scale pilot-plant testing (>30t) has been completed. The results of the testing show that approximately 65% of Cg concentrate is +80 mesh with good recoveries and 95%-99% Cg. With excellent infrastructure and logistics, South Star is carrying its development plan towards Phase 1 production projected in Q4 2022, pending financing. South Star trades on the TSX Venture Exchange under the symbol STS, and on the OTCQB under the symbol STSBF.

South Star is committed to a corporate culture, project execution plan and safe operations that embrace the highest standards of ESG principles based on transparency, stakeholder engagement, ongoing education and stewardship. To learn more, please visit the Company website at <http://www.southstarbatterymetals.com>.

This news release has been reviewed and approved by Richard Pearce, P.E., a "Qualified Person" under National Instrument 43-101 and President and CEO of South Star Battery Metals.

On behalf of the Board,

Mr. Richard Pearce
Chief Executive Officer

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CAUTIONARY STATEMENT

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this press release.

This news release and the Updated Technical Report contain references to inferred resources. The Report is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves.

Forward-Looking Information

The information contained herein contains "forward-looking statements" within the meaning of applicable securities legislation. Forward-looking statements relate to information that is based on assumptions of management, forecasts of future results, and estimates of amounts not yet determinable. Any statements that express predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance are not statements of historical fact and may be "forward-looking statements".

Forward-looking statements are subject to a variety of risks and uncertainties which could cause actual events or results to differ from those reflected in the forward-looking statements, including, without limitation: risks related to failure to obtain adequate financing on a timely basis and on acceptable terms; risks related to the outcome of legal proceedings; political and regulatory risks associated with mining and exploration; risks related to the maintenance of stock exchange listings; risks related to environmental regulation and liability; the potential for delays in exploration or development activities or the completion of feasibility studies; the uncertainty of profitability; risks and uncertainties relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits; risks related to the inherent uncertainty of production and cost estimates and the potential for unexpected costs and expenses; results of prefeasibility and feasibility studies, and the possibility that future exploration, development or mining results will not be consistent with the Company's expectations; risks related to commodity price fluctuations; and other risks and uncertainties related to the Company's prospects, properties and business detailed elsewhere in the Company's disclosure record. Should one or more of these risks and uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in forward-looking statements. Investors are cautioned against attributing undue certainty to forward-looking statements. These forward-looking statements are made as of the date hereof and the Company does not assume any obligation to update or revise them to reflect new events or circumstances. Actual events or results could differ materially from the Company's expectations or projections.

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