

**South Star Battery Metals Corp.**  
(TSXV: STS / OTCQB: STSBF)

**Increased Chances of Obtaining Project Financing**

**BUY**

**Current Price: C\$0.26**

**Fair Value: C\$0.44**

**Risk: 5**

**Sector / Industry: Junior Mining**

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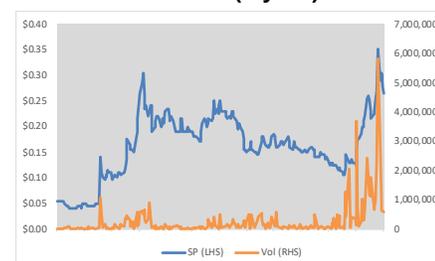
**Highlights**

- STS has been **one of the best performing juniors** under our coverage; shares are up 478% YoY.
- Recent test results indicated that graphite from STS' Santa Cruz project can be a viable anode material for lithium-ion batteries (LIBs), and a conductivity enhancement material for cathodes in alkaline batteries. We believe these results have **increased the company's chances of obtaining project financing** in 2022.
- Upon obtaining financing, the company can advance to production in 12 months.
- STS has a **strong balance sheet**, with approximately \$3.5M in cash. In-the-money options and warrants could bring in another \$7.5M.
- Graphite prices are up 15% in the past six months due to rising demand and the pandemic-induced supply crisis. We estimate the demand for natural graphite for batteries could increase at least 5x this decade. **The market is expected to be in a supply deficit starting 2025.**
- In order to diversify its portfolio, STS has entered into a binding agreement to earn up to a 75% interest in the Ceylon graphite project (historic producer) in Alabama. Management remains fully focused on advancing Santa Cruz to production, with minimal capital allocated for the Ceylon project.
- Positive developments related to project financing will likely be the **next major catalyst** for STS.

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**Price Performance (1-year)**



	YTD	12M
Ret.	160%	478%
TSXV	3%	17%

**Company Data**

52 Week Range	C\$0.04 - C\$0.38
Shares O/S	102M
Market Cap.	C\$26M
Yield (forward)	N/A
P/E (forward)	N/A
P/B	3x

**Key Financial Data (FYE - Dec 31)**  
(C\$)

	2020	2021 (9M)
Cash	\$74,410	\$1,560,574
Working Capital	-\$633,836	\$1,384,562
Mineral Assets	\$5,738,884	\$5,738,517
Total Assets	\$5,821,988	\$7,357,677
Net Income (Loss)	-\$733,722	-\$1,320,883
EPS	-\$0.02	-\$0.02

**\*See last page for important disclosures, rating and risk definitions. All figures in C\$ unless otherwise specified.**

Evaluating the potential for using Santa Cruz' graphite in LIBs and alkaline batteries

Santa Cruz' graphite offers a longer battery life compared to synthetic graphite

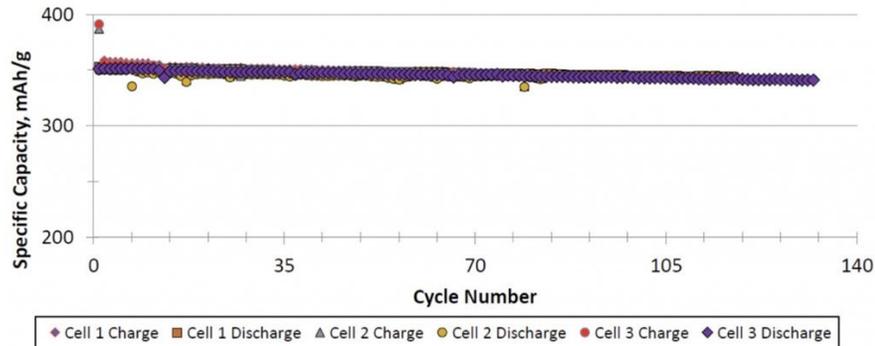
Santa Cruz's graphite is highly conductive

## Key Developments

The Santa Cruz project is in the second largest flake graphite producing district in the world. **We believe recent tests returned very encouraging results.**

Optimization results indicated 2.2% degradation, even after 100+ cycles of charge and discharge. This means that Santa Cruz' graphite can result in long battery life, and be a viable anode material for LIBs.

### Results After 100+ Cycles (LIBs)

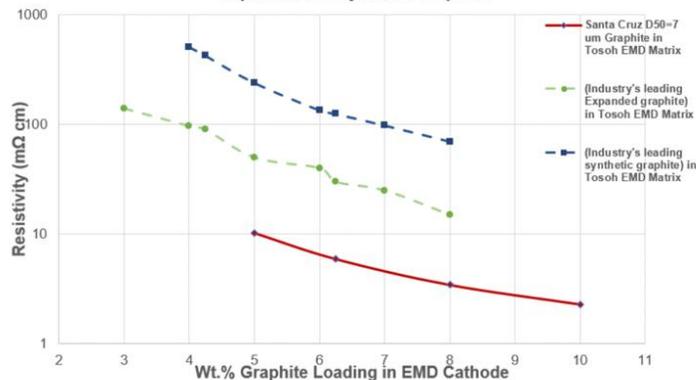


Source: Company

Tests indicated that Santa Cruz' graphite has low electrical resistivity, and can be a viable conductivity enhancement material for cathodes in alkaline batteries.

### Dispersion Results

Industry Comparison: Santa Cruz Flake v. Industry Leading Expanded and Synthetic Graphite



Source: Company

**We believe these test results will provide more confidence to potential off-take and/or financing partners.**

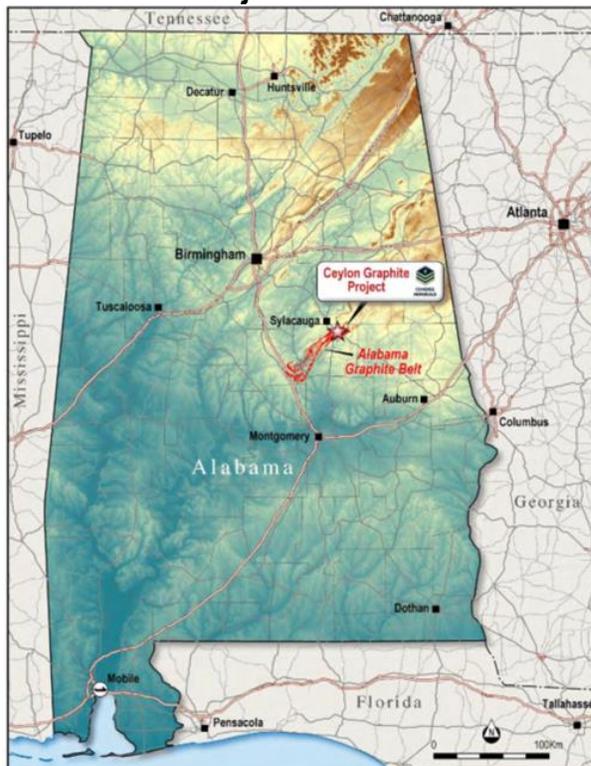
## Ceylon Graphite Project, Alabama

This week, STS entered into a binding option agreement on the **Ceylon graphite project** in Alabama. Hexagon Energy Materials Limited (ASX: HXG / MCAP: A\$34M) and privately held Critical Minerals own the project. The transaction will allow STS to earn up to a 75% interest.

*Located on the Alabama Graphite Belt*

*Past production had an average grade of 3%-5% Cg (medium grades)*

**Project Location**



Source: Company

The project covers 500 acres in Coosa county, Alabama. It has a historic mine that targeted graphite on surface. Past exploration work included geologic and structural mapping (regional and local), and a sampling program.

STS earn-in terms include:

- Complete drilling, resource estimation, and analysis to produce a Preliminary Economic Assessment (PEA) within three years
- STS to spend a minimum of \$0.25M per year during the earn-in period
- Vendors have an option to sell their remaining 25% interest for \$0.25M in STS shares.

STS' initial plans include field mapping, surface sampling, and RC (reverse circulation) drilling to further define the extent and structure of the deposit. **We believe this project diversifies the company's portfolio. That said, we would**

like to see management’s primary focus go towards advancing Santa Cruz to production.

## Financials

(in C\$)	2020	2021 (9M)
Cash	\$74,410	\$1,560,574
Working Capital	-\$633,836	\$1,384,562
Current Ratio	0.12	6.90
Debt	-	-
Monthly Burn Rate (G&A)	-\$14,955	-\$85,536
Cash spent on Properties	-\$414,003	-\$506,112
Cash from Financing Activities	\$280,000	\$2,995,581

Data Source: Financial Statements

Strong balance sheet; subsequent to Q3, STS raised \$2.43M through an equity financing

In-the-money options and warrants could bring in another \$7.5M

**Stock Options and Warrants:** STS has 4.37M options (weighted average exercise price of \$0.17 per share), and 50.50M warrants outstanding (\$0.14) outstanding. **2.87M options and all of the warrants are in-the-money**, implying a potential to raise \$7.46M.

## Valuation

The following table shows STS and comparable junior resource companies focused on graphite projects. Note that none of the projects are directly comparable as there are significant variations in the characteristics (flake size, distribution, grade, etc.) of each project.

STS is trading at the higher-end of its comparables

We do not believe that the higher EV to resource ratio of STS indicates that its shares are fully valued; in fact, we believe that STS should trade at a premium considering its low CAPEX and ability to fast track to production

Company	Location	Stage	Enterprise Value (\$,mm)	EV / Resource*
1 Nouveau Monde Mining	Quebec	FS	\$419	\$73.2
2 South Star	Brazil	PFS	\$29	\$66.5
3 Leading Edge Materials	Sweden	Production-Ready	\$58	\$64.2
4 Magnis Energy	Tanzania	Feasibility	\$418	\$52.8
5 Northern Graphite	Ontario	Feasibility	\$63	\$44.6
6 NextSource Materials Inc.	Madagascar	Feasibility	\$271	\$36.3
7 Graphite One	Alaska	PEA	\$152	\$33.6
8 SRG Mining	Republic of Guinea	Feasibility	\$37	\$18.9
9 Focus Graphite	Quebec	Feasibility	\$36	\$18.4
10 Lomiko Metals	Quebec	PEA	\$16	\$8.1
11 Syrah Resources	Mozambique	Production	\$504	\$6.4
12 Mason Graphite	Quebec	Feasibility	\$75	\$5.9
<b>Average (excl. outliers)</b>				<b>\$45.4</b>

\* Resource = 100% of M&I + 50% of Inferred

Source: FRC / Various Company Websites and Technical Reports

Due to improved chances of obtaining project financing, we are lowering our weighted average cost of capital estimate from 12.5% to 7.5%; we are revising the capital structure from 100% equity to 75% (debt): 25% (equity)

Our revised DCF valuation is \$0.68 vs our previous estimate of \$0.81; valuation declined due to share dilution, partially offset by the lower discount rate

Maintaining our risk rating of 4 (Highly Speculative)

DCF Valuation Summary	
Production	2.5t in 2023, 5t in 2024, 12.5t in 2025, and 24t in 2026+
Mine Life (in years)	15
Average Product Price (US\$/t)	\$1,300
Average Operating Costs (US\$/tonne - produced)	\$500
Capital Cost (in US\$, millions)	\$37
Discount Rate (75% debt/25% equity)	7.5%
CS:US\$	1.26
<b>Fair Value (after-tax @ 10%) - C\$</b>	<b>\$81,396,560</b>
Working Capital (C\$)	\$3,559,990
Number of Shares*	124,410,339
<b>Value Per Share (C\$)</b>	<b>\$0.68</b>

\*calculated based on the treasury stock method

Valuation Sensitivity		Discount Rate (%)				
		5.0%	7.5%	7.5%	10.0%	12.5%
	\$1,000	\$0.42	\$0.30	\$0.30	\$0.22	\$0.15
	\$1,100	\$0.57	\$0.43	\$0.43	\$0.32	\$0.24
	\$1,200	\$0.72	\$0.56	\$0.56	\$0.43	\$0.33
<b>Weighted Average Graphite Price (US\$/t)</b>	\$1,300	\$0.88	\$0.68	<b>\$0.68</b>	\$0.53	\$0.42
	\$1,400	\$1.03	\$0.81	\$0.81	\$0.64	\$0.51
	\$1,500	\$1.19	\$0.94	\$0.94	\$0.74	\$0.59
	\$1,600	\$1.34	\$1.06	\$1.06	\$0.85	\$0.68

Source: FRC

The average of our DCF and comparables valuations is \$0.44 vs our previous estimate of \$0.52. **We are maintaining our BUY rating.** Potential developments regarding project financing will likely be the next major catalyst for STS.

## Risks

We believe the company is exposed to the following key risks (not exhaustive):

- The value of the company is highly dependent on flake graphite prices.
- Financing, and potential for share dilution.
- The project might not be advanced to production within management's expected timeframe.
- Development risks.
- Exchange rate risks.

**Fundamental Research Corp. Equity Rating Scale:**

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

**Hold** – Annual expected rate of return is between 5% and 12%

**Sell** – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

**Suspended or Rating N/A**— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

**Fundamental Research Corp. Risk Rating Scale:**

**1 (Low Risk)** - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

**2 (Below Average Risk)** - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

**3 (Average Risk)** - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

**4 (Speculative)** - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

**5 (Highly Speculative)** - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues and may rely on external funding. These stocks are considered highly speculative.

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