

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

Commencing Production Next Month / Trump Win May Propel Graphite Stocks

BUY

Current Price: C\$0.59

Fair Value: C\$1.47

Risk: 5

Sector: Junior Mining

[Click here for more research on the company and to share your views](#)

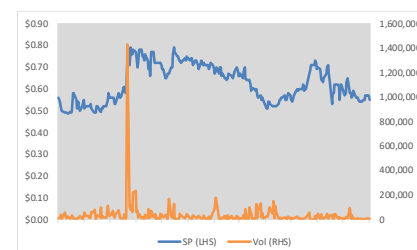
Highlights

- Since our previous report in April 2023, STS has made substantial progress on its graphite projects, including the **open-pittable Santa Cruz graphite project (Brazil)**, and the **BamaStar project** (a historic producer with an open-pittable deposit) in **Alabama**.
- Santa Cruz is set to begin phase one production next month, targeting an annual output of 12 Kt of flake graphite.
- STS has secured the necessary permits and licenses for a three-phase development plan, and has entered into initial sales agreements with U.S. clients for its graphite concentrate.
- Phase one development was partially funded by a US\$10M streaming finance agreement with Sprott Resource Streaming and Royalty Corp., which has also committed an additional US\$9-US\$18M for phase two.
- At BamaStar, a recent drill program returned significant graphite intercepts, and **extended mineralization at depth**. Metallurgical tests yielded impressive concentrate grades of up to 99.5% Cg. STS aims to complete a **Preliminary Economic Assessment (PEA) next month**, and initiate a feasibility study in Q4. **In late 2023**, the U.S Department of Defense offered to fund 50% of the feasibility study, or US\$3.2M.
- Graphite prices are down 20% YoY, amid slower EV sales growth and higher supply. That said, we **remain optimistic about long-term prices** as the sector is anticipated to face a significant supply deficit towards the end of this decade. Note that graphite and lithium are the only two primary inputs used in all major types of batteries.
- We believe the U.S. has a **pressing need for domestic graphite** production, as it imports 100% of its graphite consumption, and has designated graphite as a critical mineral. With China supplying 75% of the global market, the U.S. aims to cut its dependence on Chinese imports, as evidenced by the recent announcement of a **25% tariff on Chinese natural graphite** starting in 2026.
- **Upcoming catalysts** include commercial production at Santa Cruz, a resource update and a PEA on BamaStar. We believe a **potential Trump win** could escalate trade tensions between the U.S. and China, potentially triggering a rally in graphite stocks.

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Equity Analyst

Price Performance (1-year)



	YTD	12M
STS	-19%	20%
TSXV	1%	-5%

Company Data

52 Week Range	C\$0.49 - C\$0.82
Shares O/S	53M
Market Cap.	C\$31M
Yield (forward)	N/A
P/E (forward)	N/A
P/B	1.9x

Key Financial Data (FYE - Dec 31)	
(C\$)	2024 (3M)
Cash	\$9,942,596
Working Capital	\$6,157,923
Mineral Assets/PP&E	\$22,509,432
Total Assets	\$34,361,422
Net Income (Loss)	-\$1,510,409
EPS	-\$0.03

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

Advancing two graphite projects in the Americas towards production

The U.S. is a leading importer of graphite

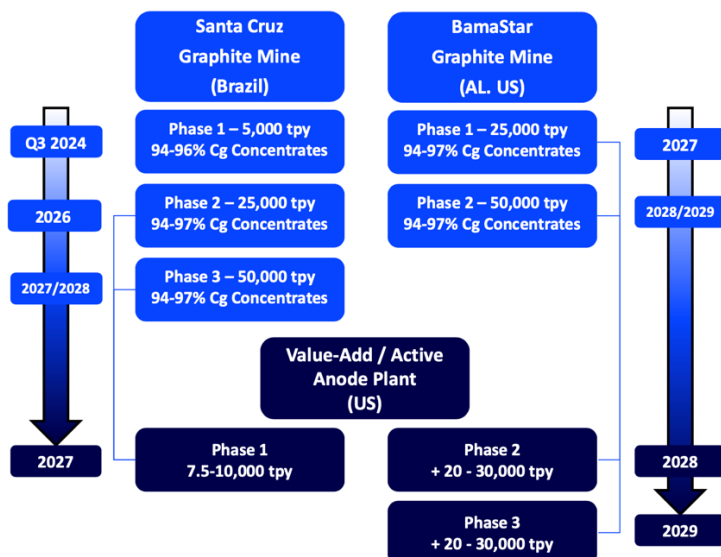
Brazil is the fourth largest graphite producer in the world

Located in one of the most active graphite producing regions in the world, with a track record of over 70 years of production

Excellent infrastructure in place - 1.3 km from a paved highway; power, gas, and water within 5 km; 270 km from a port

Portfolio Summary

Project	Location	Status
Santa Cruz	Bahia, Brazil	Development-stage; Aiming to commence production in Sep 2024
BamaStar	Alabama, U.S.	Resource-stage; Aiming to commence production by 2027



Source: Company

Santa Cruz Graphite Project, Brazil (100% ownership)

STS has completed construction and development activities, and aims to start phase one production next month, **targeting 12 Ktpa of natural flake graphite.**

Project Location



Source: Company

A mid-sized/relatively low-grade resource; however, resources are shallow and open-pittable, implying relatively low OPEX

In addition, there is no need for crushing or blasting, and the strip ratio is relatively low

We believe another major advantage is that 63% of resources are large flake; the type used for anode materials in EV batteries

As resources remain open along strike, and at depth, we believe there is potential for resource expansion; note that 95% of the project area remains untested

The 2020 PFS was based on a 12-year mine life

Relatively low initial CAPEX and OPEX

AT-NPV5% of US\$81M, and a high AT-IRR of 35%, using US\$1,287/t graphite vs the spot price of US\$1k/t for large flake graphite (93%-95% Cg)

Resources and Reserves

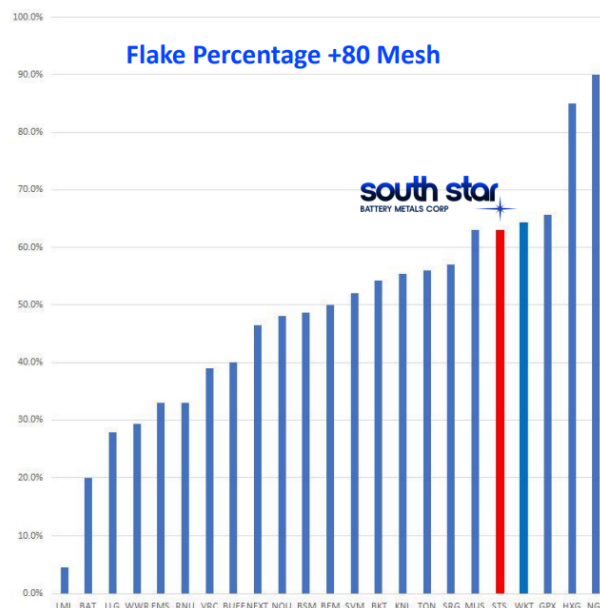
2019 Resource	Tonnage	C (%)	In-situ Graphite (t)
Measured	3,947,550	2.40%	94,740
Indicated	10,955,570	2.25%	246,500
M&I	14,903,100	2.29%	341,240
Inferred	7,911,450	2.32%	183,550
2020 Reserve	Tonnage	C (%)	In-situ Graphite (t)
Proved	3,989,635	2.49%	99,340
Probable	8,318,795	2.35%	195,490
Total	12,308,430	2.40%	294,830

Representative Santa Cruz Graphite Project Concentrates

Mesh Size (#)	Distribution	%Cg
30#	4%	95%
50#	32%	95%
80#	27%	97%
140#	17%	97%
-140#	20%	97%
Recovery 88%		

+50 mesh with 98% Cg and +99.9% Cg concentrates were also produced during testing.

63% of concentrates contained jumbo to large flakes (+30, +50 and +80 mesh).



2020 PFS		Updated Plans
Mining Method	Open Pit	
Process/Metallurgy	Milling and Flotation	
Life of Mine (LOM)	12 years	
Annual Production (tonnes) - 95% C	Phase 1 (Years 1-2): 5,000 tpy, Phase 2 (Years 3-11): 25,000 tpy	Phase 1 (Years 1-2): 5,000 tpy, Phase 2 (Years 3-4): 25,000 tpy, and Phase 3 (Years 5-12): 50,000 tpy
Strip Ratio	1.60	
Recovery	82%	
Product Price (\$/t)	US\$1,287/t	
Operating Cost (\$/t)	US\$396/t	
Initial CAPEX	US\$34.5M (Phase 1: US\$7.3M / Phase 2: US\$27.2M)	US\$68-\$77M (Phase 1: US\$10M, Phase 2: US\$30-\$35M, and Phase 3: US\$28-\$32M)
AT Free Cash Flow (FCF)	US\$129M	
AT NPV5%	US\$81.2M	
AT IRR	35%	
AT Payback (years)	4	

Source: Company

Fully permitted

The company is set to begin phase one production next month. Additionally, STS is planning a 4,000-5,000 m resource expansion drill program, followed by a **feasibility study**, in 2025.

BamaStar Graphite Project, Alabama (Option to earn 75%)

A historic producer, grading 3%-5% Cg (medium grades)

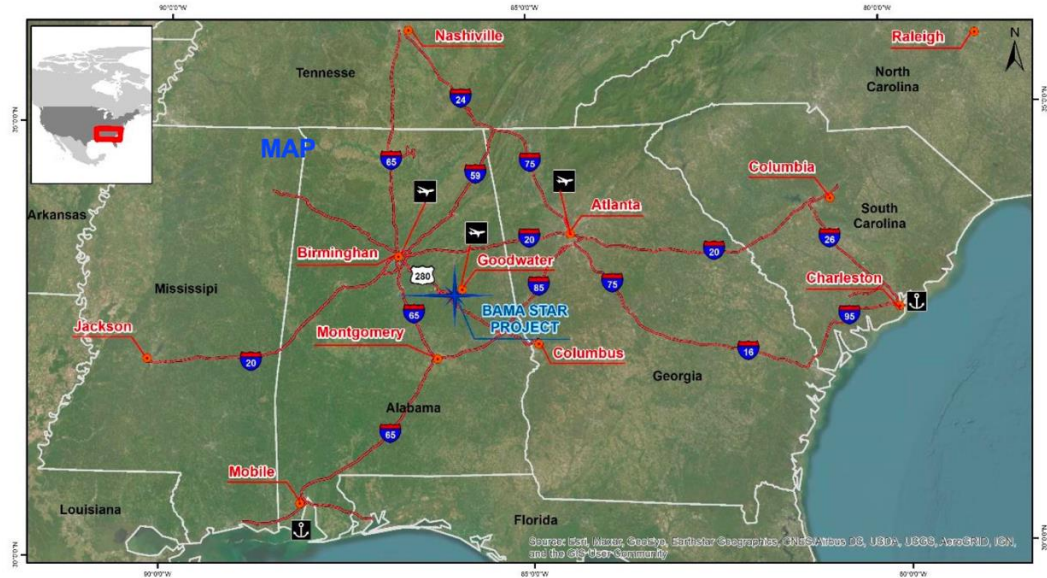
Located on the Alabama Graphite Belt

Open-pit resources

Relative to Santa Cruz, BamaStar has higher tonnage, but similar grades

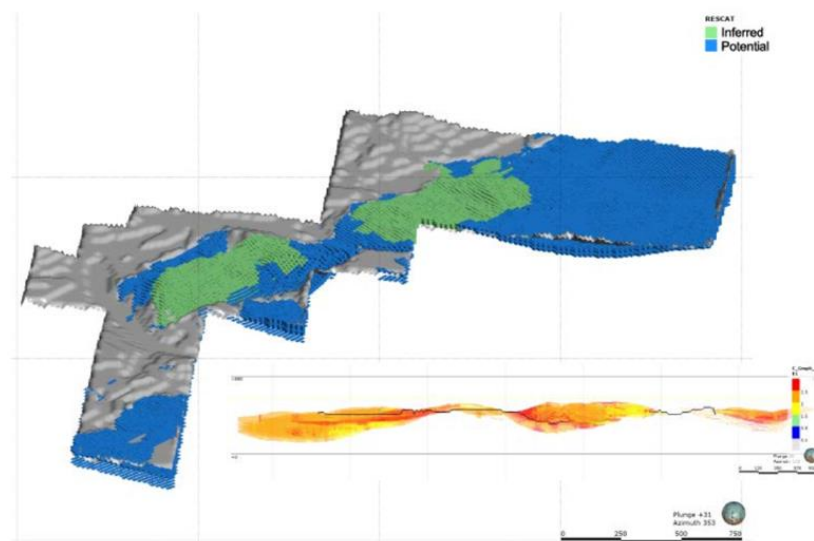
The deposit remains open in multiple directions

Project Location



Resource Estimate

Mineral Resource Category	Zone	Density (g/cm ³)	Tonnes (M)	Graphitic Carbon (% Cg)	In-Situ Graphite (t)
Inferred	Central	2.64	11	2.4	260,000
	North	2.60	11	2.3	260,000
	Totals:	2.62	22	2.4	520,000



Source: Company

Since our previous report, STS has completed an **infill/resource expansion drill program** (totaling 15 holes/1,900 m), and additional **metallurgical tests**, in preparation for an upcoming PEA.

2023 Drill Highlights

Hole ID	Hole Depth	From	To	Interval	Grade Cg
CMD23013	107.0m	0m	8m	8m	2.54%
CMD23014	125.0m	0m	23m	23m	2.17%
CMD23015	140.6m	9m	62.3m	53.3m	2.51%
CMD23016	95.0m	0m	60.9	60.9m	2.30%
CMD23016	N/A	70.8m	79m	8.1m	2.88%
CMD23017	128.0m	3.5m	36.5m	33m	3.07%
CMD23017	N/A	73.8	119.6m	45.8m	2.34%
CMD23018	95.0m	0m	63m	63m	2.42%
CMD23019	155.0m	88m	144.7	56.7m	2.77%
CMD23020	149.0m	3.5m	9.4m	5.9m	1.84%
CMD23020	N/A	70.2m	78.5m	8.3m	1.40%
CMD23021	74m	0m	34.7m	34.7m	2.39%
CMD23021	N/A	52.8m	67.7m	14.9m	2.40%
CMD23022	83m	0m	36m	36m	3.71%
CMD23022	N/A	44.03	75.5	31.5	1.92%
CMD23023	86m	0m	18.5m	18.5m	2.23%
CMD23023	N/A	24.0	35	11m	2.30%
CMD23024	173m	5m	14m	9m	3.34%
CMD23024	N/A	26.3m	64.5m	38.2m	2.25%
CMD23024	N/A	99.7m	152m	52.3m	1.61%
CMD23025	182m	0m	30.4m	30.4m	2.27%
CMD23025	N/A	35m	45.4m	10.4m	1.86%
CMD23025	N/A	144.5m	182m	37.5m	2.08%
CMD23026	146m	0m	20m	20m	2.78%
CMD23026	N/A	96.5m	146m	49.5m	1.54%
CMD23027	146m	2m	23.2m	21.2m	2.33%
CMD23027	N/A	44.6m	54.5m	9.9m	3.27%
CMD23027	N/A	75.5m	111.5m	36m	1.32%

Metallurgical Results

Composite	Assays % C(g) by Leco	% Graphite Recovery
Oxide	99.5	87.5
Transitional	96.4	91.5
Fresh	94.4	90.3

Source: Company

All holes intersected material graphite intercepts of up to 3.34% Cg

Drilling has revealed a deeper mineralized zone beneath the previously identified area; while it is too early to quantify the potential upside, we believe this discovery will positively impact the upcoming resource update and PEA

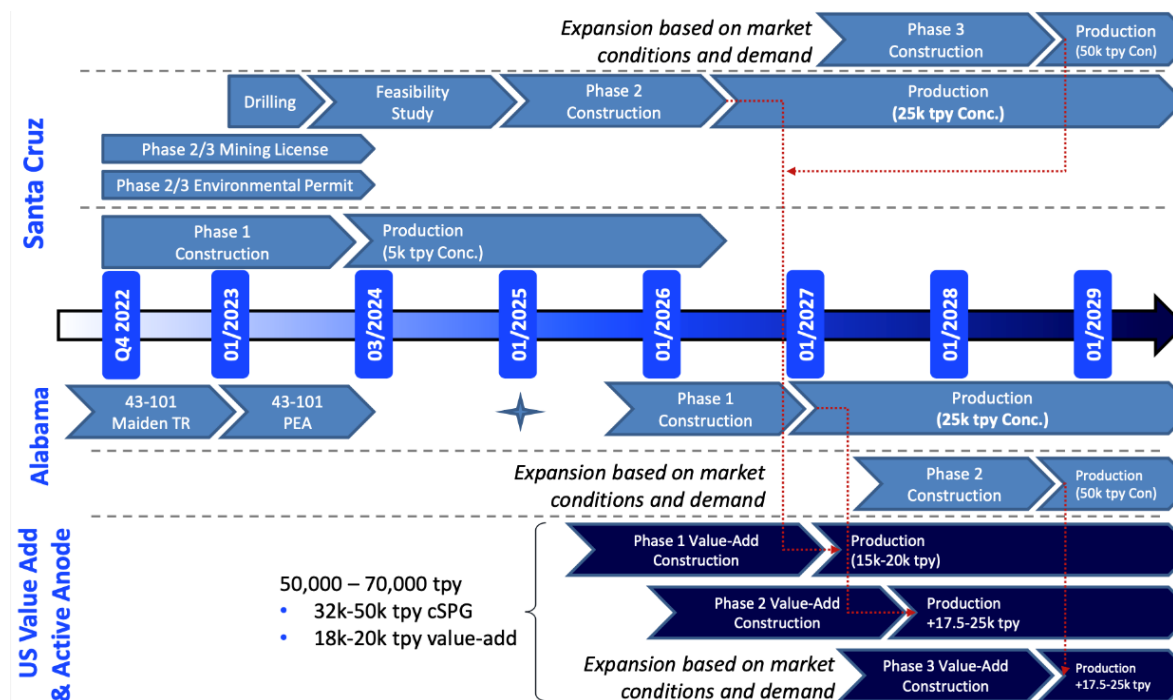
Metallurgical tests yielded concentrate grades of up to 99.5% Cg, with relatively high recoveries

Aiming to complete a PEA next month

STS is considering the option of mining oxide and transitional materials before processing fresh ore, **with the aim of potentially reducing initial CAPEX and OPEX**. Management plans to complete the PEA next month, and initiate a feasibility study in Q4. The **U.S. Department of Defense** has offered to fund approximately 50% of the feasibility study, or US\$3.2M, which is expected to take about 18 months.

Upcoming Catalysts

Multiple near-term catalysts



Source: Company

Financials

Strong cash position

(in C\$) (FYE - Dec 31)	2024 (3M)
Cash	\$9,942,596
Working Capital	\$6,157,923
Current Ratio	2.49
Debt	-
Monthly Burn Rate (G&A)	\$262,866
Cash Spent on Properties	-\$1,790,704
Cash from Financing Activities	\$6,474,956

Source: FRC / Company

Can raise up \$0.5M
from in-the-money
options and
warrants

Options	#	Exercise Price	Amount
Total	1,605,000	\$0.43	\$685,320
In-the-Money	1,297,000	\$0.36	\$469,400

Warrants	#	Exercise Price	Amount
Total	27,144,032	\$1.14	\$30,948,791
In-the-Money	151,179	\$0.53	\$80,125

Source: FRC / Company

FRC Valuation

STS is trading at
\$34/t (previously
\$29/t) vs the sector
average of \$23/t
(previously \$30/t)

Given that STS is a
near-term producer,
and more advanced
than most other
juniors on our list,
with a higher
percentage of large
flake graphite, we
believe STS should
trade at a significant
premium

	Company	Location	Stage	Enterprise Value (\$M)	Grade	% Large Flake (+80 mesh)	Net Resource (Mt)	EV / Resource*
1	Nouveau Monde	Quebec	FS	\$228	4.3%	35%	6.04	\$37.7
2	South Star	Brazil and U.S.	Near-Term Producer	\$25	2.4%	63%	0.73	\$33.5
3	Falcon Energy	Republic of Guinea	Feasibility	\$74	3.8%	57%	2.37	\$31.2
4	Leading Edge Materials	Sweden	PEA	\$21	7.8%	40%	0.94	\$22.4
5	NextSource Materials	Madagascar	Feasibility	\$115	6.3%	46%	7.48	\$15.4
6	Graphite One	Alaska	PFS	\$103	5.1%	59% - 94%	8.21	\$12.5
7	Northern Graphite	Canada and Namibia	Producer	\$33	2.9%	70%	3.31	\$10.0
8	Focus Graphite	Quebec	Feasibility	\$10	15.4%	34%	1.89	\$5.3
9	Syrah Resources	Mozambique	Producer	\$496	10.4%	20%	96.34	\$5.1
10	Lomiko Metals	Quebec	PEA	\$11	4.4%	24%	3.29	\$3.3
	Average (excl. outliers)				5.2%	42%	4.86	\$23.3

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

Source: FRC / S&P Capital IQ / Various

DCF Valuation Summary - Santa Cruz

Production	12 Kt in 2025-2026, 25 Kt in 2027-2028, 50 Kt in 2029+
Mine Life (in years)	9
Average Product Price (US\$/t)	\$1,300
Average Operating Costs (US\$/tonne)	\$500
Capital Cost (in US\$M)	\$67
Discount Rate	10.0%
C\$:US\$	1.35
Fair Value - C\$	\$61,530,608
Number of Shares*	53,157,008
Value Per Share (C\$)	\$1.16

*calculated based on the treasury stock method

Source: FRC

Our revised
valuation on Santa
Cruz is \$1.16/share,
down from
\$1.72/share, due to
share dilution since
our previous report,
partially offset by the
higher present value
of future cash flows
as the project nears
production

Using a sum-of-parts valuation, we are arriving at a revised fair value estimate of \$1.47/share (previously \$2.01/share)

Valuation Summary	Value	Value/Share
Santa Cruz		
- DCF	\$61,530,608	\$1.16
BamaStar		
- Comparables	\$9,087,000	\$0.17
Working Capital (C\$)	\$7,340,822	\$0.14
Fair Value	\$77,958,429	\$1.47

Valuation Sensitivity		Discount Rate (%)				
		5.0%	7.5%	10.0%	12.5%	15.0%
	\$1,000	\$0.85	\$0.78	\$0.72	\$0.68	\$0.64
	\$1,100	\$1.18	\$1.07	\$0.97	\$0.89	\$0.83
Weighted Average Graphite Price (US\$/t)	\$1,200	\$1.52	\$1.35	\$1.22	\$1.11	\$1.02
	\$1,300	\$1.86	\$1.64	\$1.47	\$1.32	\$1.21
	\$1,400	\$2.19	\$1.93	\$1.72	\$1.54	\$1.39
	\$1,500	\$2.53	\$2.22	\$1.96	\$1.75	\$1.58
	\$1,600	\$2.87	\$2.51	\$2.21	\$1.97	\$1.77

Source: FRC

We are reiterating our BUY rating, and adjusting our fair value estimate from \$2.01 to \$1.47/share. Upon commencing production, STS will become the second publicly traded junior flake graphite producer in North America.

Risks

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

- The value of the company is **dependent on flake graphite prices**
- Projects might not be advanced to production within management's expected timeframe
- **Development**
- Permitting
- FOREX

We are continuing to assign a risk rating of 5 (Highly Speculative)

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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