south star
BATTERY METALS CORP

First Mover in Safe-Sourced Natural Flake Graphite in The Americas
Commercial Production Beginning in Q1 2024

TSXV: STS | OTCQB: STSBF
www.southstarbatterymetals.com

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South Star Battery Metals Highlights

Key Company Highlights

- **Safe-sourced graphite production in the Americas with commercial production** scheduled at Santa Cruz Phase 1 for Q1/2024, Phase 2 planned in 2026, and Phase 3 planned in 2028

- **Fully integrated vertical production planned at BamaStar including battery anode material** in southeast corridor of U.S. scheduled for 2027

- **Management team with proven track-record** of taking projects from concept, through development, into production & operations in the Americas

- **Diversified, scalable, global portfolio of graphite mines** in stable, Tier 1 jurisdictions to minimize production risks
  - Santa Cruz in Bahia, Brazil
  - BamaStar Graphite in Alabama, US

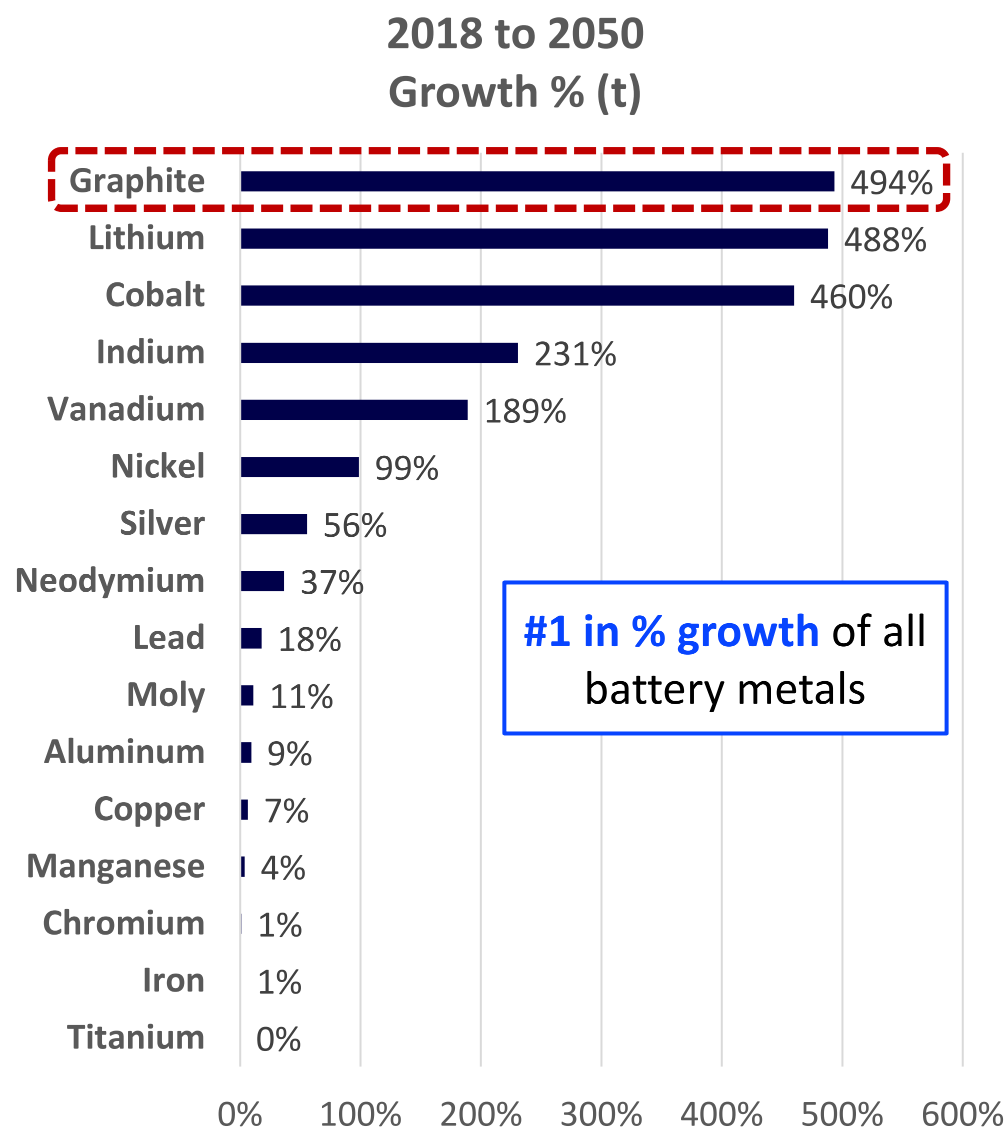
- **Phased, modular design & construction** to facilitate assemblies, guarantee quality and shorten schedules

- **Strong Financial Partners & Balance Sheet**
  - **Partnered with Sprott Resources Streaming & Royalty Corp** on Santa Cruz with up to US$28M in stream financing. Phase 1 fully financed and Phase 2 partially financed
  - **Awarded DoD DPA Title III US$3.2M grant** for BamaStar FS
  - **Fully funded to production** for 13,000 tpa at Santa Cruz Phase 1 plant
  - **Near-term cashflows and US$8.3M cash on balance** sheet at end of Sept. 2023.

Graphite is Critical Input for Energy & Defense

Macro Setup & Energy Transition Revolution to Low Carbon

- **Perfect storm for battery metals** with exploding demand and constrained supply. The average mine and industrial plant takes 10-14 years to engineer, license and build. The imbalance will take > decade to resolve
- **EV/stationary storage electrification doesn't happen without graphite**. Graphite is the largest component in LiBs by weight, constituting 35% or more of the cell
- **China is the dominant global player currently** with over 65% of natural flake graphite concentrate production and almost 100% of the downstream processing
- **The U.S. is currently 100% dependent on graphite imports** from Asia for its domestic supply chains
- **Countries and companies are investing heavily in onshoring and domestic sourcing** of inputs/production capacity to reduce geopolitical risks and ensure supplies of critical metals for energy, defense and economic prosperity
- **Chinese Ministry of Commerce announced graphite export restrictions beginning Dec. 1st 2023.**
  - Restricted items include artificial and natural flake graphite and their products.
  - Exports for military and strategic end-uses unlikely to be approved



Source: 2020 World Bank - Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition 2DS Scenario

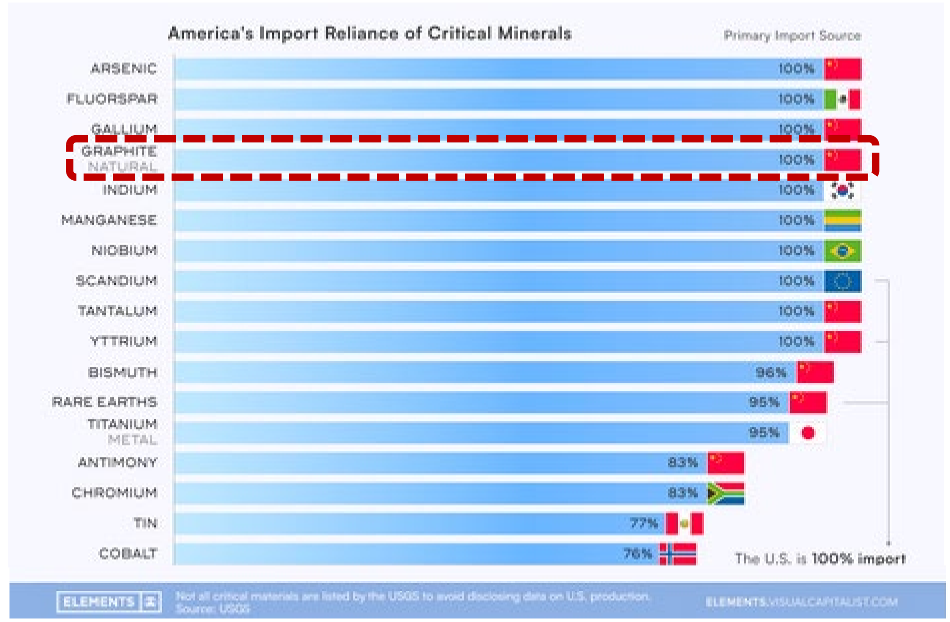
Supply Chain Imperatives

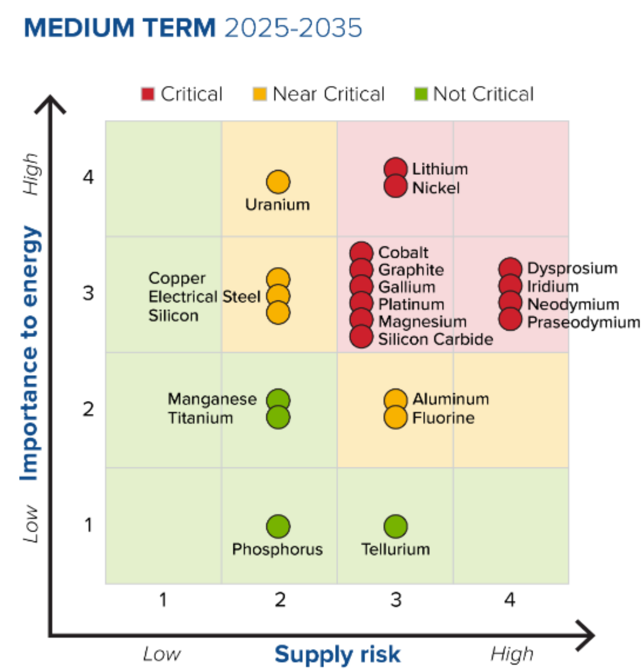
Geopolitics is Highly Relevant to the Graphite Story

- **Natural flake graphite is critical to battery technology & production**. Over the next decade, there is no scenario where the electrification revolution happens without graphite in the anode.
- The **DOE classifies graphite as Critical - High Risk/High Importance** in both the short term and medium term. Its essential material for many uses outside of battery metals including defense, microprocessors, high-tech, graphene, etc.
- Geopolitical tensions, supply disruptions and increased onshoring leading to **reordering of global commodity & product flows**.
- Energy transition is **reshaping commodities requirements and many technologies**.
- **Currently limited impact from recycling and few substitutes** for battery metals.

"Our cells should be called Nickel-Graphite, because primarily the cathode is nickel and the anode side is graphite with silicon oxide… [there's] a little bit of lithium in there, but it's like the salt on the salad."

-Elon Musk





Source: DOE Critical Materials Assessment (2023)

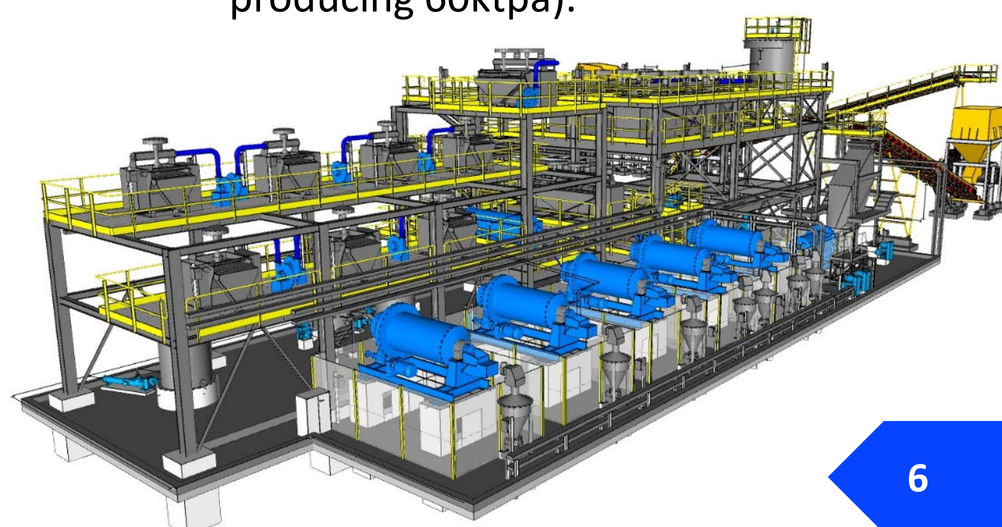
Supply Chain Imperatives

Perfect Storm: Projected Exponential Increase in Graphite Demand & Supply Squeeze

- **Global graphite demand is growing at >20% CAGR** driven mainly by Evs, stationary storage & defense applications:
  - **Essential infrastructure** including grid systems, EVs, charging stations.
  - **Critical military systems** including handheld systems (e.g., radios) and major platforms (UAVs, EVs, and data centers).
  - **Nuclear reactors.**
- The average mine takes 10-14 years to go from discovery to commercial production. **Supply is constrained in the medium- to short-term**:
  - Project development
  - Licensing & Permitting
  - Supply chain delays
  - Infrastructure/Energy Requirements
  - Price volatility and backdrop of commodity cycles contribute to **financing bottlenecks**.
- **Not all graphite is equal or suitable** for all applications.

2022 Supply vs. 2035 Demand

- It is estimated that approximately **100 new natural-flake graphite mines will be required by 2035** (based on average mine producing 60ktpa).

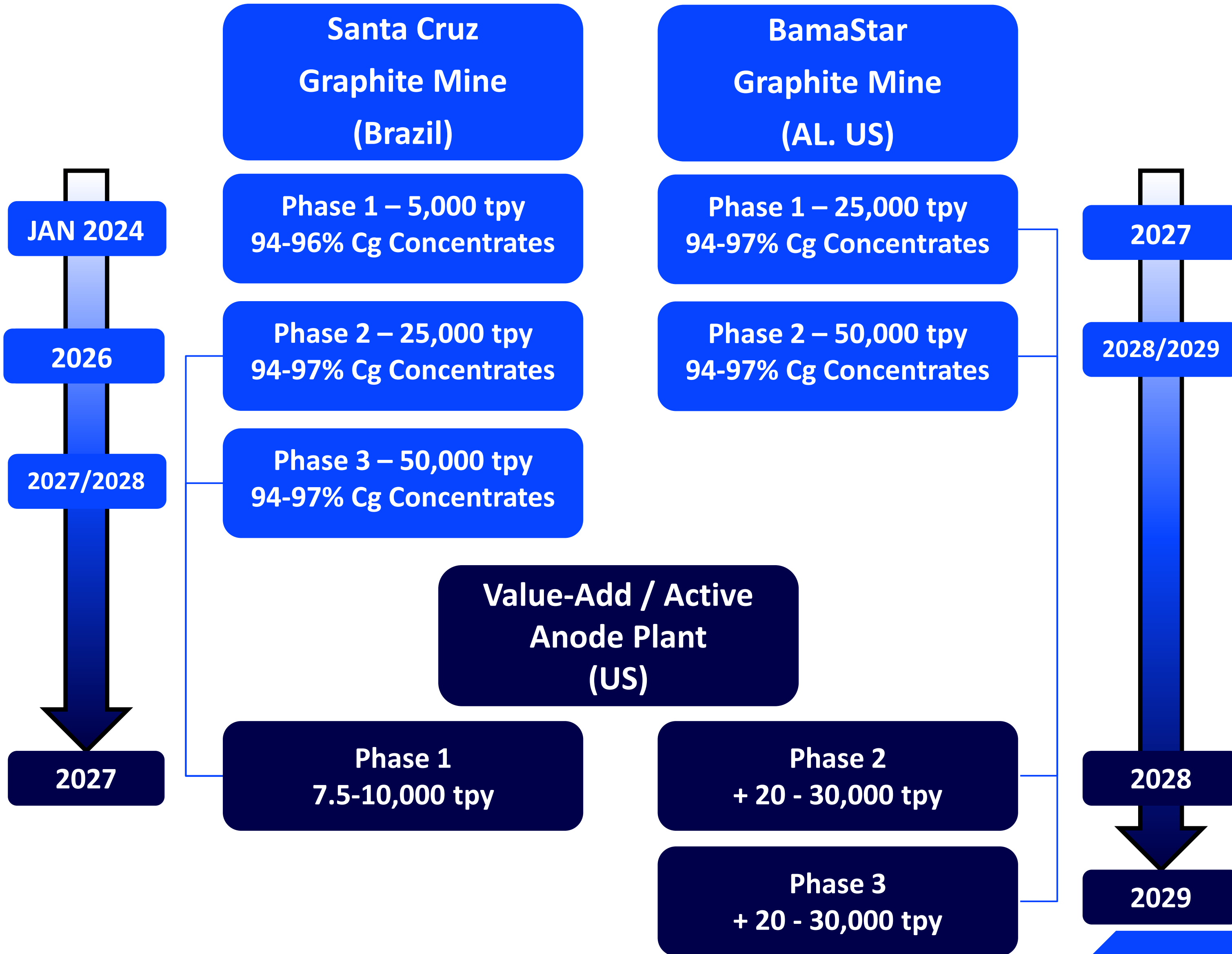


South Star Battery Metals Solution

Safe Sourced, Vertically Integrated Graphite Production In the Americas

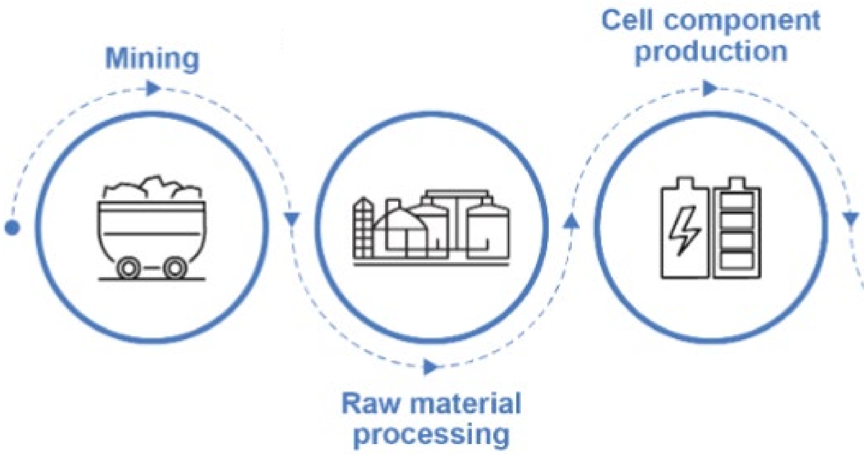
- **Production starting at Santa Cruz in Q1 2024.**
- **100,000 tpa of graphite concentrates & 70,000tpa of value-add materials.**
- South Star (STS) has proposed a three-stage process to DPA Title III: **$190 million of public-private domestic investment over five years.**
- **Value-add production can be accelerated to 2026** with graphite concentrates from Santa Cruz.
- Intermediate phases can be eliminated to **accelerate larger scale production.**

5-7 Year Strategic Production Plan

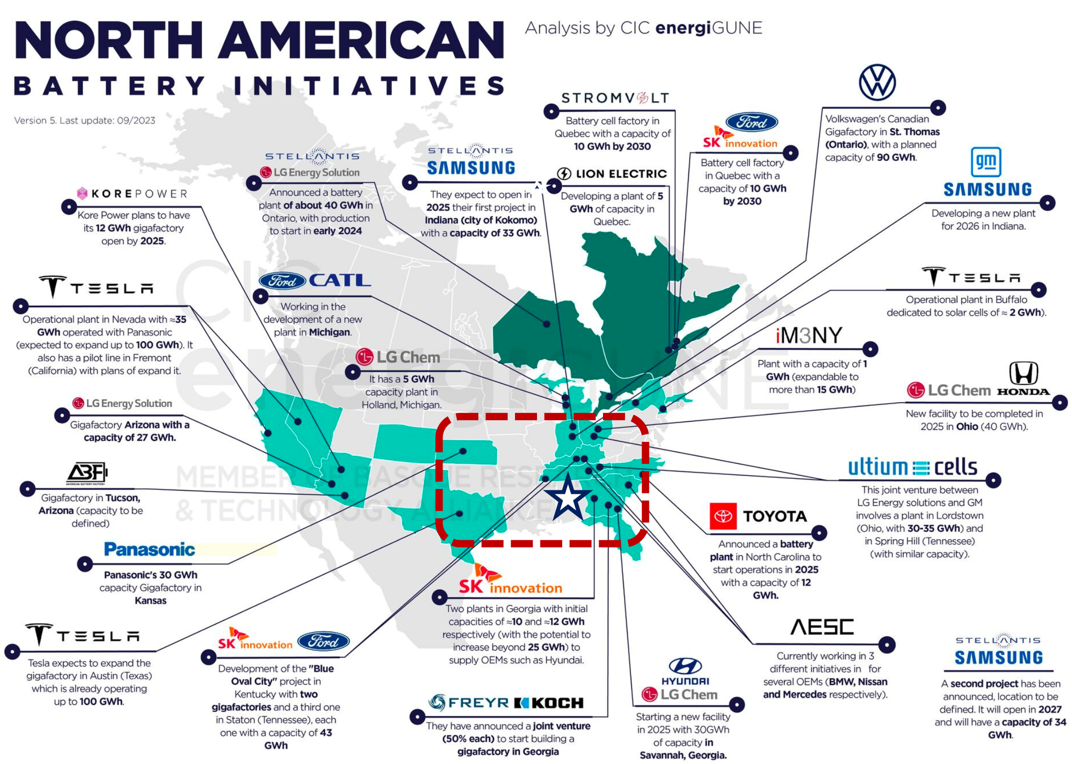


Global Battery Market – The Perfect Storm

Stages for EV Supply Chains & Battery Manufacturing



- **South Star intends to be a key participant in the first three stages of battery production cycle.**
  - Mining & Production of Graphite Concentrates
  - Midstream and Downstream Processing
    - Conductivity Enhancement Materials
    - Expanded/Expandable Graphites
    - Dispersions & Powders
    - Active Anode Materials



- **BamaStar is in the heart of U.S. Battery, Defense and Technology Hub**
  - **Strategic location** – synergies with suppliers, customers, logistical infrastructure.
  - Building **strong customer relationships.**
  - Building **partnerships with technical leaders** in Japan and Korea.
  - **Midstream and downstream processing** is critical to successful strategy

Leveraging Government Support

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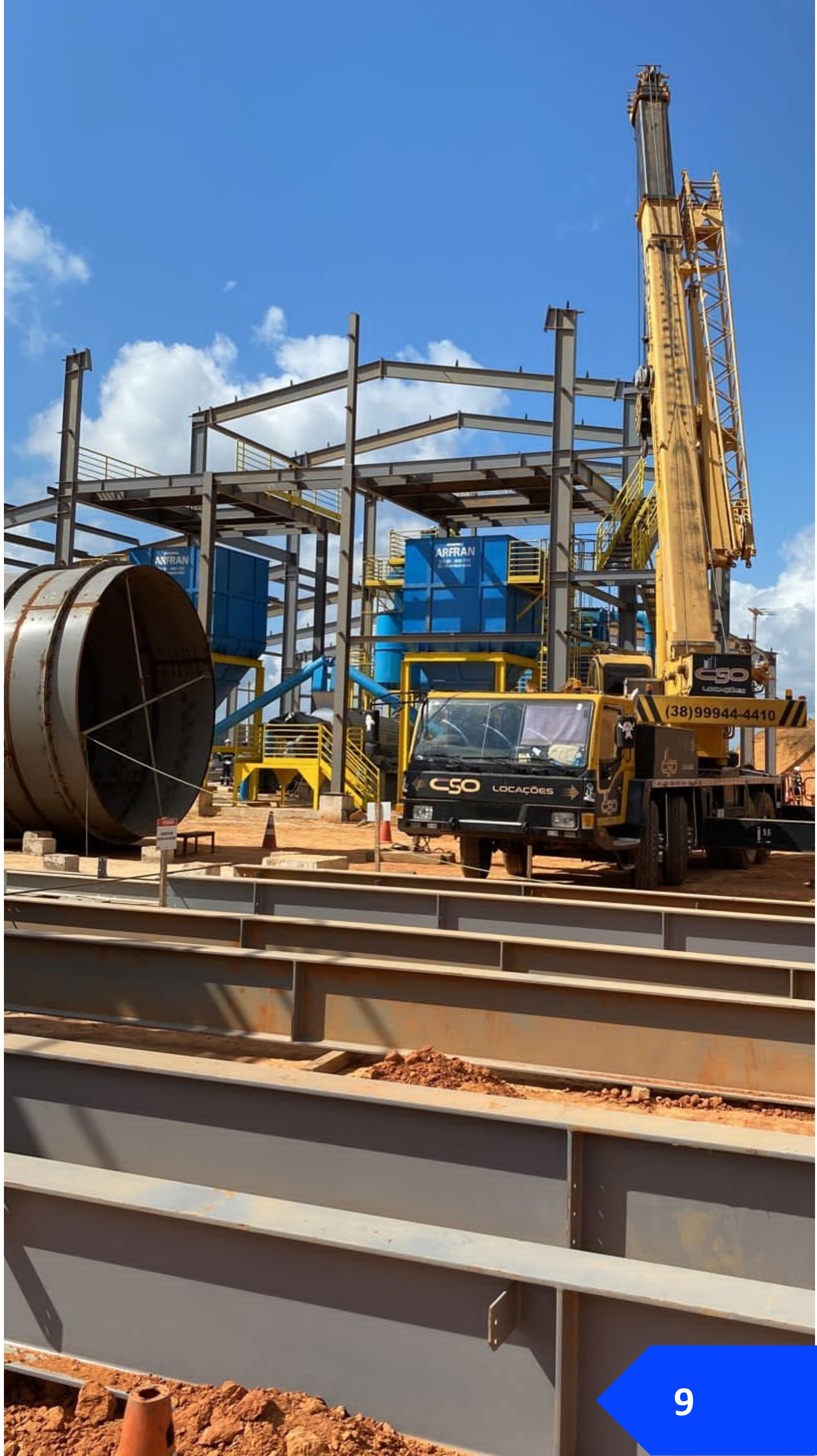
The America’s First Mover in Safe Sourced Graphite

- **Execution driven management team with proven track-record** as mine builders and operators.
- **First new graphite production in the Americas since 1996**
- **Phased, fully integrated vertical production included battery anode material in U.S. scheduled for 2026/2027.**
- **Diversified, scalable, global portfolio** with mines in stable Tier 1 jurisdictions in the Americas to minimize production risks.
    - Santa Cruz in Bahia, Brazil
    - BamaStar Graphite in Alabama, US
- **STS’s value proposition aligns with several federal government priorities/initiatives:**
    - American Battery Materials Initiative (White House);
    - Minerals Security Partnership (Dept. of State);
    - Battery materials production grant programs at DOD and DOE
- **Pursuing and integrated funding strategy with public and private funding solutions**
    - Santa Cruz (Brazil) – DFC Equity & Debt / EX-IM / Sprott
    - BamaStar (US) – DoD DPA Title III / DOE / Equity / Project Financing
- STS’s portfolio of projects are some of the **most viable domestic projects to expand supply quickly and phased approach so financeable**.



Conclusions

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First New Natural Flake Graphite Production in the Americas Since 1996

- **Graphite is critical to domestic supply chain** for energy and defense applications
  - US is 100% dependent on imported graphite concentrates/midstream/downstream products.
  - Chinese dominates global production and implemented export restrictions Dec. 1, 2023.
  - Supply deficit imminent.
- STS is developing **integrated graphite supply chains with near-term production beginning in 2024**
  - **Pursuing a strategy of coordinated support for STS from the U.S. government/private industry to accelerate development** of secure, integrated, North American graphite supply chains.
  - **Mine assets** in Brazil and Alabama → **value-add purification** in Southeastern U.S.→ **active anode manufacturing.**
  - **Significant in-house expertise, strategic locations, and technical/commercial partnerships** de-risk investments.
  - Recent grant award from **DPA Title III as proof of concept**.
  - Pursuing **integrated financing alternatives for modular, phased production.**
- South Star is pursuing **Federal government support for our initiatives** to develop vertically integrated, secure, domestic sources of graphite:
  - Employ programs like **DOD's DPA, the DOE battery materials grants/loans, State's MSP** (via DFC and Ex-Im Bank) synergistically.
  - Further **buy-in will attract additional private capital and funding alternatives**.
  - **Raise awareness so the program managers are increasingly knowledgeable** about the domestic capability for natural graphite and need for a secure supply chain

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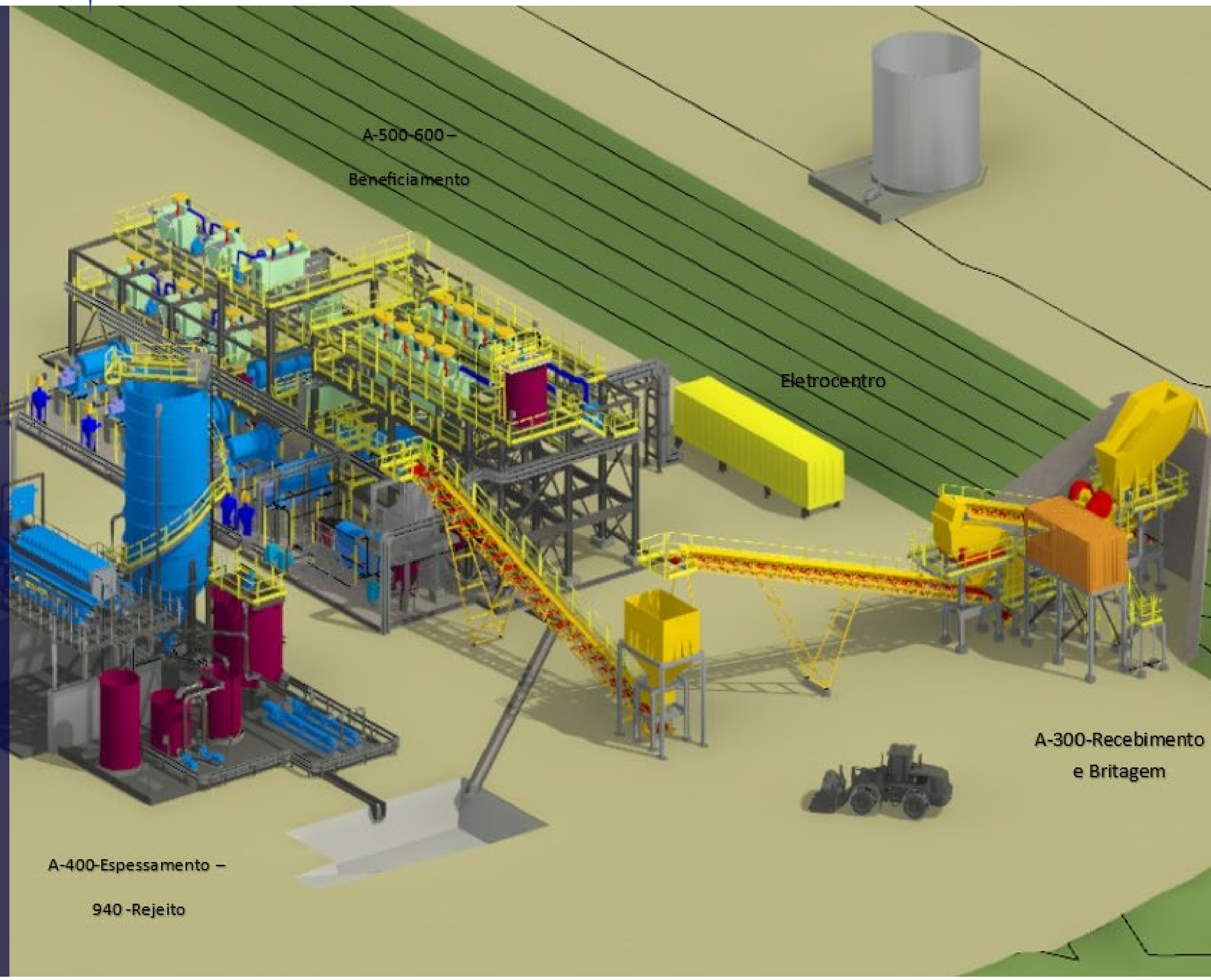
For more information,
please contact:

Richard Pearce
CEO/President

South Star Investor Relations (Canada IR)
+1 (604) 706-0212 X3002
Email: invest@southstarbatterymetals.com

RBMG – RB Milestone Group LLC (IR US)
Trevor Brucato, Managing Director
Email: southstar@rbmilestone.com

Email: info@southstarbatterymetals.com
Web: www.southstarbatterymetals.com
Twitter: @southstarbm
Facebook: @southstarbatterymetals
LinkedIn: @southstarbatterymetals



Suite 1200 - 750 West Pender Street
Vancouver, British Columbia
Canada, V6C 2T8

R. Barão do Triunfo, 612 – Cj 1805/1806
Brooklin Paulista – São Paulo SP
Brasil, 04602-002