

Corporate Presentation: Oct. 2024



# First Mover in Safe-Sourced Natural Flake Graphite in The Americas Ramping up Commercial Production in October 2024



TSXV: **STS** | OTCQB: **STSBF**  
[www.southstarbatterymetals.com](http://www.southstarbatterymetals.com)

A primeira nova produção de grafite nas Américas desde 1996.  
The first new graphite production in the Americas since 1996.

 **PROJETO  
GRAFITE SANTA CRUZ**

# Cautionary and Forward-Looking Statements

This presentation includes certain statements that constitute “forward-looking statements”, and “forward-looking information” within the meaning of applicable securities laws (“forward-looking statements” and “forward-looking information” are collectively referred to as “forward-looking statements”, unless otherwise stated). These statements appear in a number of places in this presentation and include statements regarding our intent, or the beliefs or current expectations of our officers and directors. Such forward-looking statements involve known and unknown risks and uncertainties that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. When used in this presentation words such as “believe”, “anticipate”, “estimate”, “project”, “intend”, “expect”, “may”, “will”, “plan”, “should”, “would”, “contemplate”, “possible”, “attempts”, “seeks” and similar expressions are intended to identify these forward-looking statements. Forward-looking statements may relate to the Company’s future outlook and anticipated events or results and may include statements regarding the Company’s future financial position, business strategy, budgets, litigation, projected costs, financial results, taxes, plans and objectives. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends affecting the financial condition of our business. These forward-looking statements were derived utilizing numerous assumptions regarding expected growth, results of operations, performance and business prospects and opportunities that could cause our actual results to differ materially from those in the forward looking statements. While the Company considers these assumptions to be reasonable, based on information currently available, they may prove to be incorrect. Accordingly, you are cautioned not to put undue reliance on these forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results.

To the extent any forward-looking statements constitute future-oriented financial information or financial outlooks, such statements are being provided to describe the current anticipated potential of the Company and readers are cautioned that these statements may not be appropriate for any other purpose, including investment decisions. Forward-looking statements are based on information available at the time those statements are made and/or management’s good faith belief as of that time with respect to future events, and are subject to known and unknown risks and uncertainties, including those risks and uncertainties outlined under “Risk Factors” in our most recent AIF, that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. To

the extent any forward-looking statements constitute future-oriented financial information or financial outlook, such statements are being provided to describe the current anticipated potential of the Company and readers are cautioned that these statements may not be appropriate for any other purpose, including investment decisions. Forward-looking statements speak only as of the date those statements are made. Except as required by applicable law, we assume no obligation to update or to publicly announce the results of any change to any forward-looking statement contained or incorporated by reference herein to reflect actual results, future events or developments, changes in assumptions or changes in other factors affecting the forward- looking statements, except as required by law. If we update any one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements. You should not place undue importance on forward-looking statements and should not rely upon these statements as of any other date. All forward-looking statements contained in this presentation are expressly qualified in their entirety by this cautionary statement.

**Confidential Material** - This document contains confidential and private material that shall not be re-transmitted to other parties that not its original addressee. All information contained herein are for informative purposes and shall not be regarded as an offer, solicitation for any financial transaction nor a valuation or commitment of financial / technical performance.

**Cautionary Note:** This PEA is considered by STS to meet the requirements of a Preliminary Economic Assessment as defined by Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101") Standards of Disclosure for Mineral Projects. The economic analysis contained in the technical report is based, in part, on Inferred Resources (as defined in NI 43-101) and is preliminary in nature. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves (as defined in NI 43-101). Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Measured or Indicated Mineral Resources. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no certainty that the reserve's development, production and economic forecasts on which the PEA is based will be realized.

# South Star Battery Metals Highlights

## Key Company Highlights

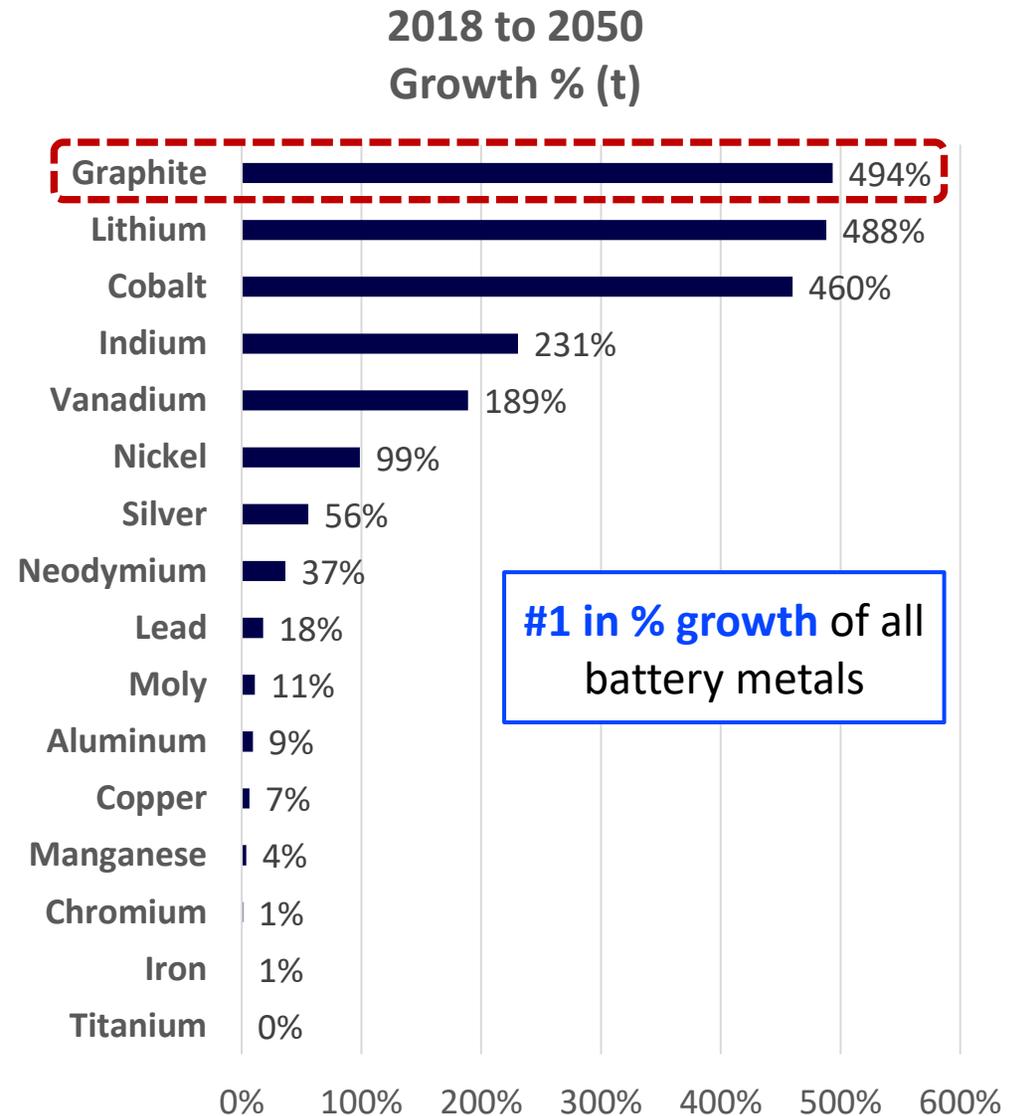


- [Safe-sourced graphite production in the Americas with commercial production](#) scheduled at Santa Cruz Phase 1 for Q3/2024, Phase 2 planned Q1/2027, and Phase 3 planned S2/2028
- [Fully integrated vertical production planned at BamaStar including battery anode material](#) in Alabama, U.S. scheduled 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 12,000 tpa at Santa Cruz Phase 1 plant
  - [Near-term cashflows and C\\$9.9M cash on balance](#) sheet at end of Mar. 2024.

# 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
- Lithium is well understood and fairly valued in markets while **graphite has yet to appreciate.** Excellent risk adjusted upside



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

# Graphite Products & Markets

## 5-7 Year Strategic Commercial Plan – Critical Graphite Products for Global Supply Chains

**Industrial Applications**  
US\$500 - \$3,000/t



**High Strength Steels**



**Refractories**



**Friction Products**



**Lubricants**



**Foils & Gaskets**



**Misc.**

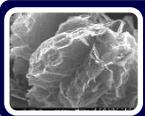
**Value-Added / Active Anode**  
US\$3,500 - \$12,000/t



**Traditional Batteries**



**LiB Batteries**



**Expandable/Expanded**



**Powders/Dispersions**



**Foils & Gaskets**

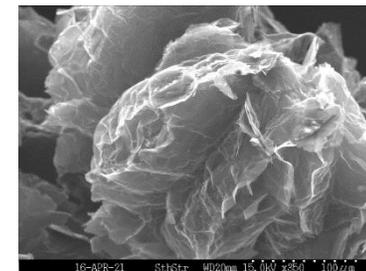


**Graphene**

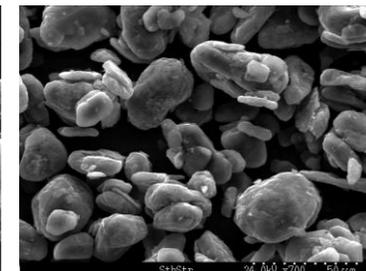


**Misc.**

- **Diversified, broad portfolio of products and sectors** that can supply growing global demand
- **Santa Cruz concentrates have been tested and performed well** for variety of traditional and value-add applications, including various battery types.
  - Low contaminate levels and high crystallinity
  - Successful purification using thermal and chemical



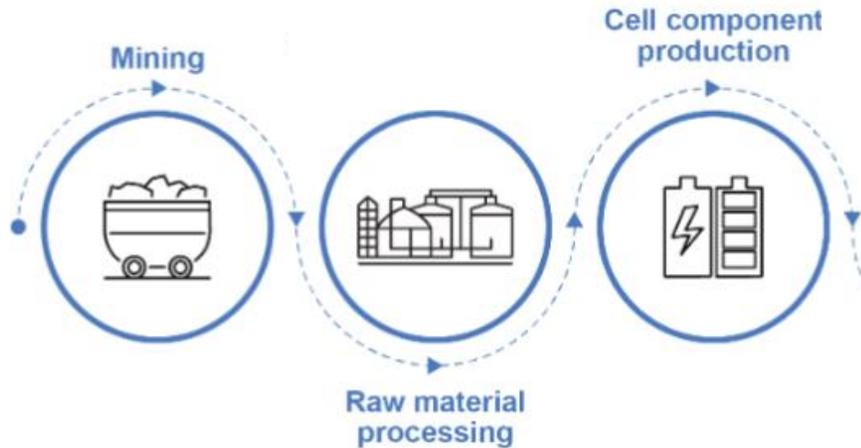
Expandable



cSPG

# 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

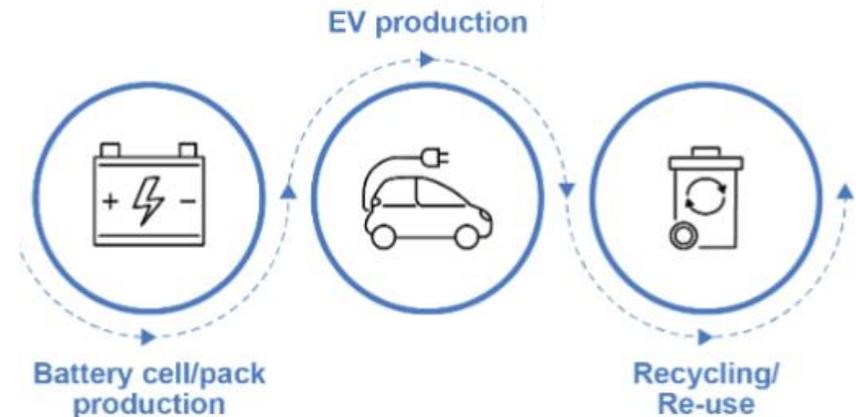
## NORTH AMERICAN BATTERY INITIATIVES

Analysis by CIC energiGUNE

Version 5. Last update: 09/2023



- BamaStar is in the heart of U.S. Battery, Defense and Technology Hub

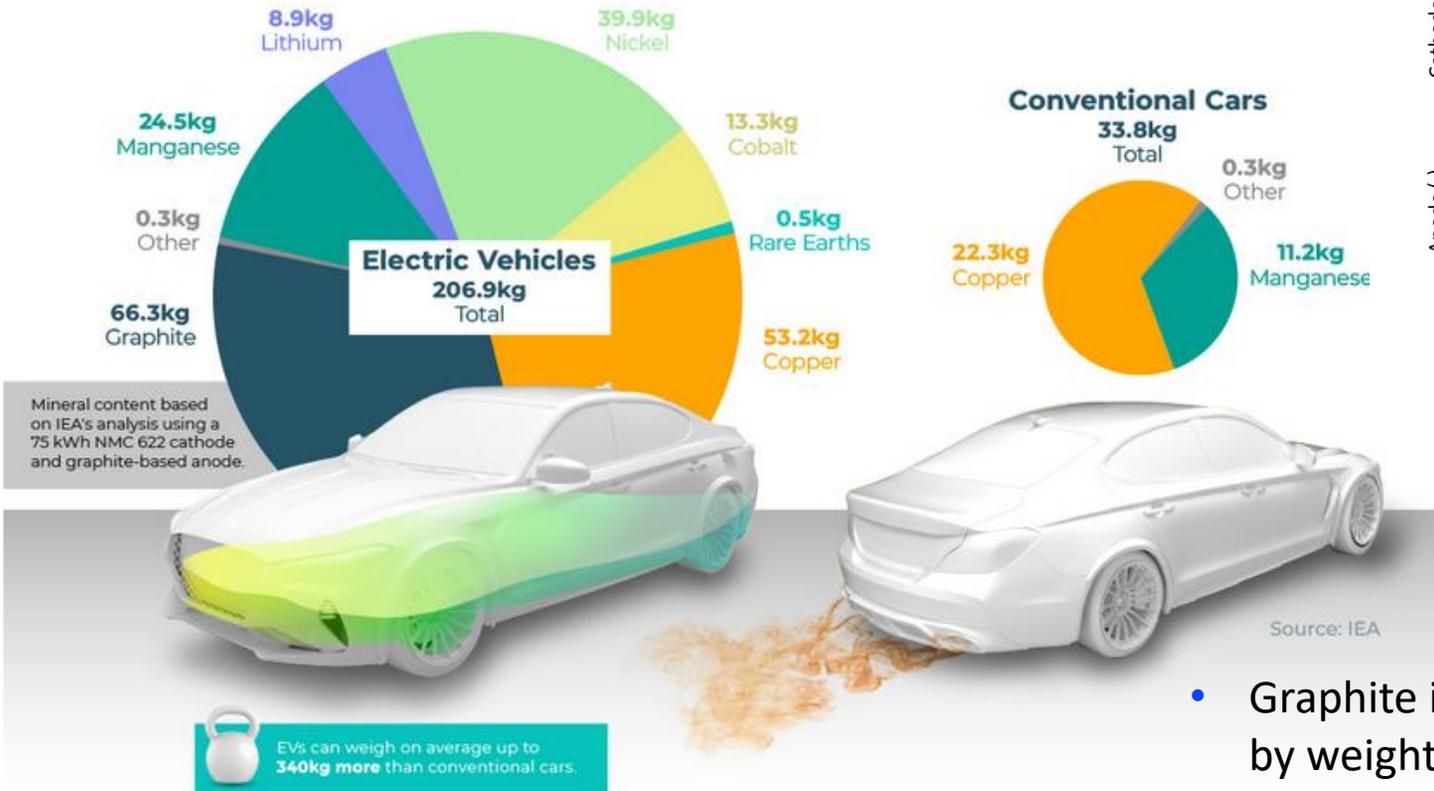


IEA. All rights reserved.

# Battery Types & Chemistries In Use Today

## Graphite is Critical - Regardless of Battery Chemistry and Design

### Electric Car Vs. ICE Car Battery Metals Content (kg/Vehicle)



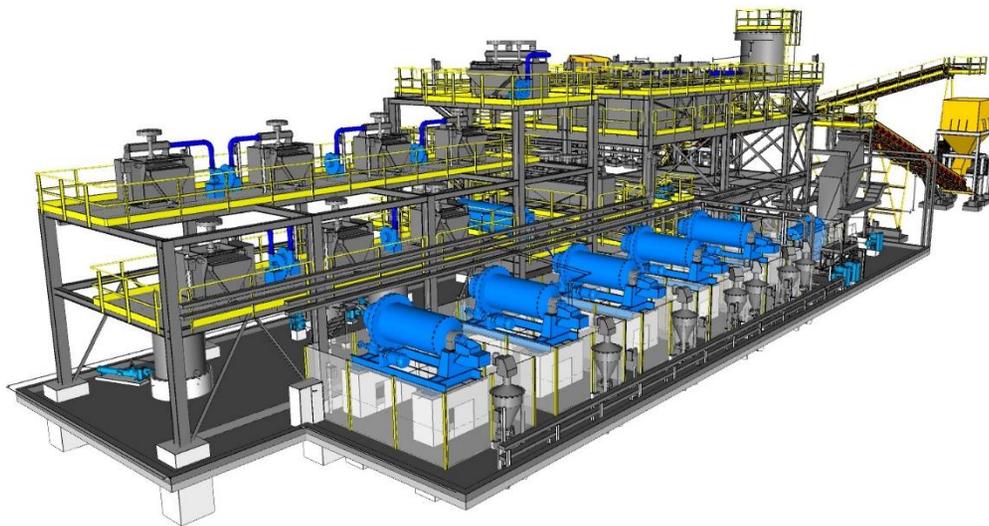
Source: Visual Capitalist & The Role of Critical Minerals in Clean Energy Transitions. IEA 2021

- Graphite is the largest battery metal by weight
- Electrification doesn't happen without graphite
- Not all graphite is suitable for battery applications

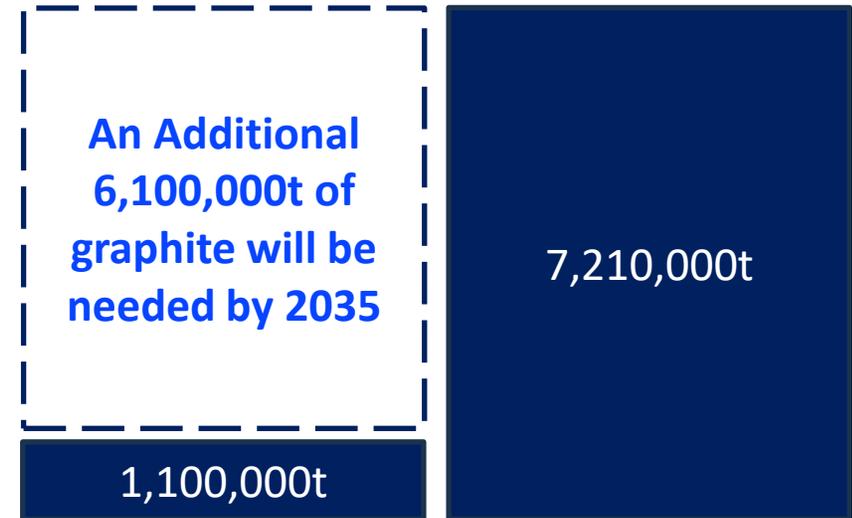
# Supply Chain Imperatives

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

- Global graphite demand is growing at >20% CAGR driven mainly by EVs and stationary storage applications
- 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**.



### 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).
- Graphite accounts for approximately 15% of cost of the LiB batteries but is the largest precursor input by weight at approximately 30%.

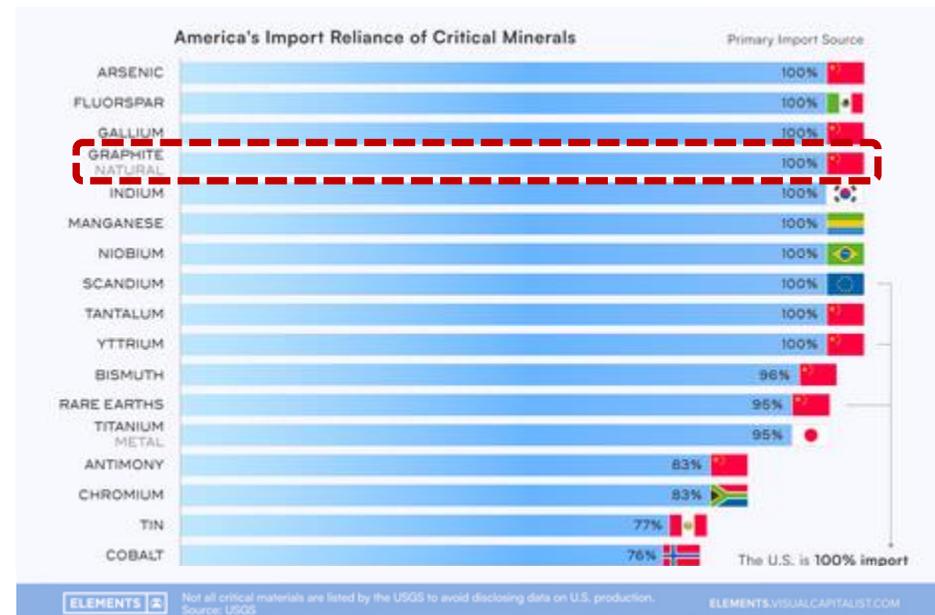
# Supply Chain Imperatives

## 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**



### MEDIUM TERM 2025-2035



Source: DOE Critical Materials Assessment (2023)

# Supply Chain Imperatives

## Provenance and Security of Supply is Increasingly Important as Industry Deglobalizes

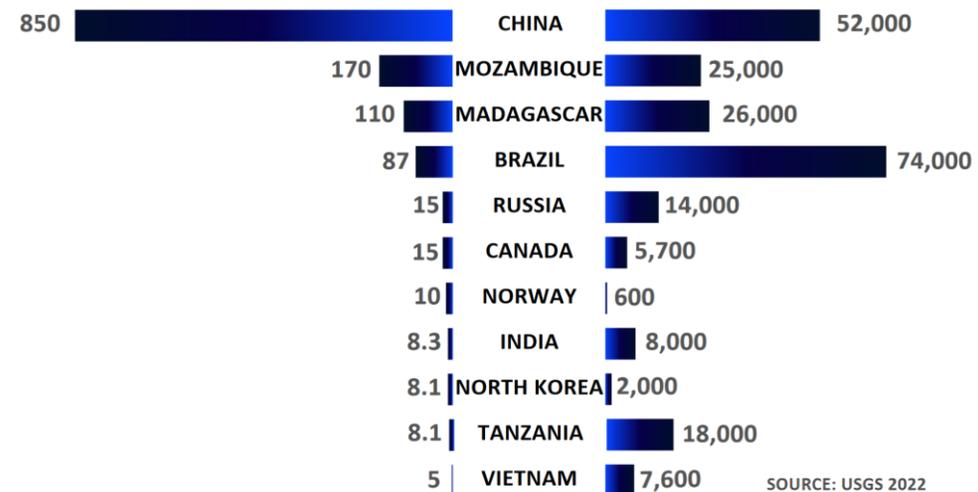
- Natural graphite is a **geologically abundant mineral**.
- In 2022, China accounts for 68% while the **top four countries account for 97% of global graphite concentrate production**
- U.S. currently:
  - **Produces no graphite concentrates**
  - **Produces no battery anode materials**
  - **Has 3 development projects with defined resources/reserves**
- EU currently produces **0.9% of global graphite concentrates**
- **Midstream & Downstream Upgrading Critical to Success**
- **Asia accounts for virtually 100% of mid-stream and downstream upgrading** of the cathode and anode materials for LiB production.



### GRAPHITE (NATURAL)

#### WORLD MINE PRODUCTION AND RESERVES, BY COUNTRY

(IN 1000 METRIC TONS)



SOURCE: USGS 2022

# Santa Cruz Graphite Mine - Brazil

## Production Q3/2024 with Simple Proven Operations



Phase 1 – 12,000 tpy  
94-96% Cg Concentrates

Phase 2 – 25,000 tpy  
94-97% Cg Concentrates

Phase 3 – 50,000 tpy  
94-97% Cg Concentrates

Q3 2024

Q1 2027

H1 2029

### Stable, Mining Friendly Jurisdiction

With 80+ years of graphite production

### Simple, Proven Flowsheet & Technology

Experienced graphite ops team

### No Tailings Dam

With small environmental footprint

### Large Land Package (19,000Ha)

Scalable Asset w/ 3% Explored

### Phased, Modular Construction

Profitable at Small Scale



### Open-Pit Mining & No Drill & Blast

With low strip ratio

### Superior Infrastructure

With gas, electric and excellent logistics

### Phase 1 Fully Permitted & Licensed

Environmental & mining

### Low Capital Intensity

With First Quartile of OPEX

### Tax Incentives/Benefits

For 10 Years / Renewable



Itabela, Bahia



# Phased, Modular Production – Santa Cruz Mine



Revenue and Cashflows beginning in 2024 with Go-To-Market Commercial Strategy

**R\$405M TOTAL INVESTMENT**

LIFE OF MINE – 13 YEARS  
(US\$78M)

R\$156M CAPEX  
(US\$ 30M)

R\$182M CAPEX  
(US\$ 35M)

R\$68M CAPEX  
(US\$ 13M)

**2029/S1:**

Phase 3: Start of Commercial Production

+25.000 tpa Concentrates

**2027/Q1:**

- Phase 2: Start of Commercial Production +25.000 tpa Concentrates

**2024/Q4:**

- Phase 1: Start of Commercial Production 12.000 tpa Concentrates

2010: DISCOVERY

Gross Annual Revenue: R\$75 – 80M  
(US\$14-15M)

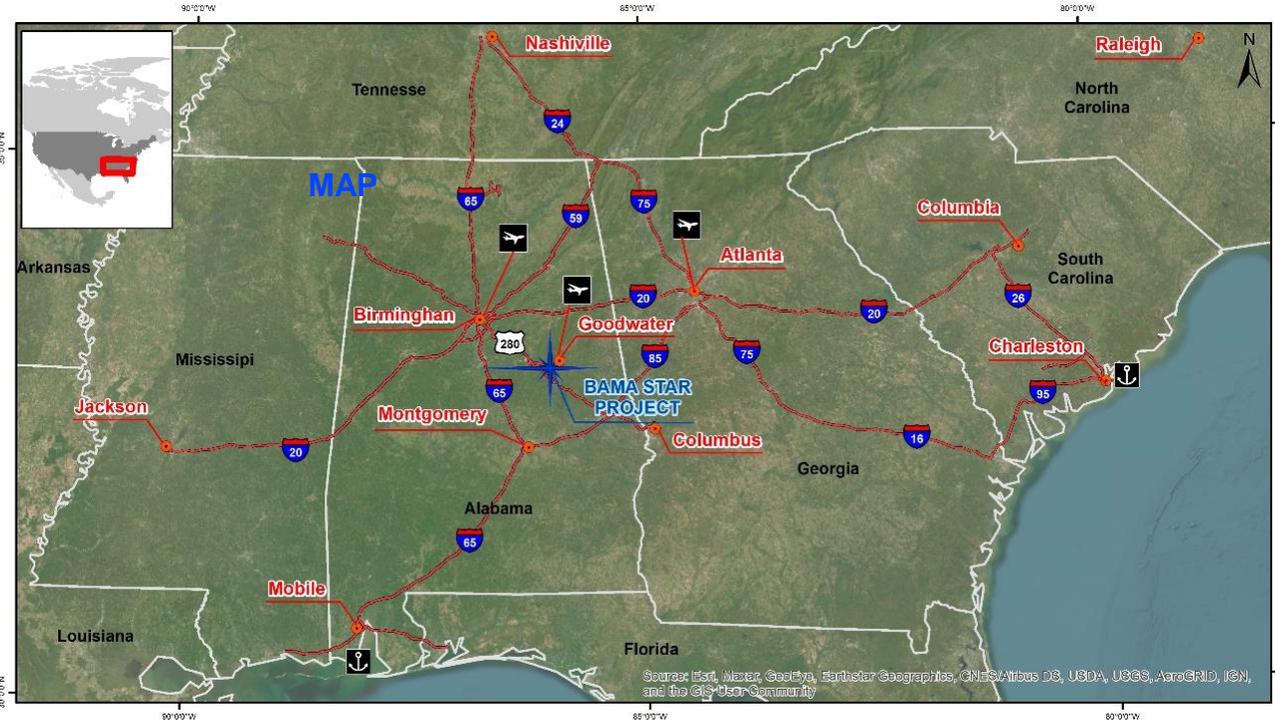
R\$240 – 250M  
(US\$46-48M)

R\$440 – 450M  
(US\$86-90M)



# BamaStar Graphite Project – U.S.

## Vertically Integrated Production In Southeast U.S. Planned by 2027



**BamaStar  
Graphite Mine  
(AL. US)**

**Phase 1 – 25,000 tpy  
94-97% Cg Concentrates**

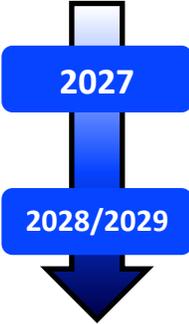
**Phase 2 – 50,000 tpy  
94-97% Cg Concentrates**

**Value-Add / Active  
Anode Plant  
(US)**

**Phase 1  
20,000 tpy**

**Phase 2  
+ 20,000 tpy**

**Phase 3  
+ 20,000 tpy**



### Tier 1, Mining Friendly Jurisdiction

Historic Graphite Mine

### Simple, Proven Flowsheet & Technology

Experienced graphite ops team

### No Tailings Dam

With small environmental footprint

### Explore, Start Small & Scale

Environmental & mining

### Phased, Modular Construction

Profitable at Small Scale



### Open-Pit Mining & At-Surface Mineralization

With low strip ratio

### Superior Infrastructure

With gas, electric and excellent logistics

### Private Land & Mining Claims

Simplifies Permitting & Licensing

### Federal DOE & DOD Programs

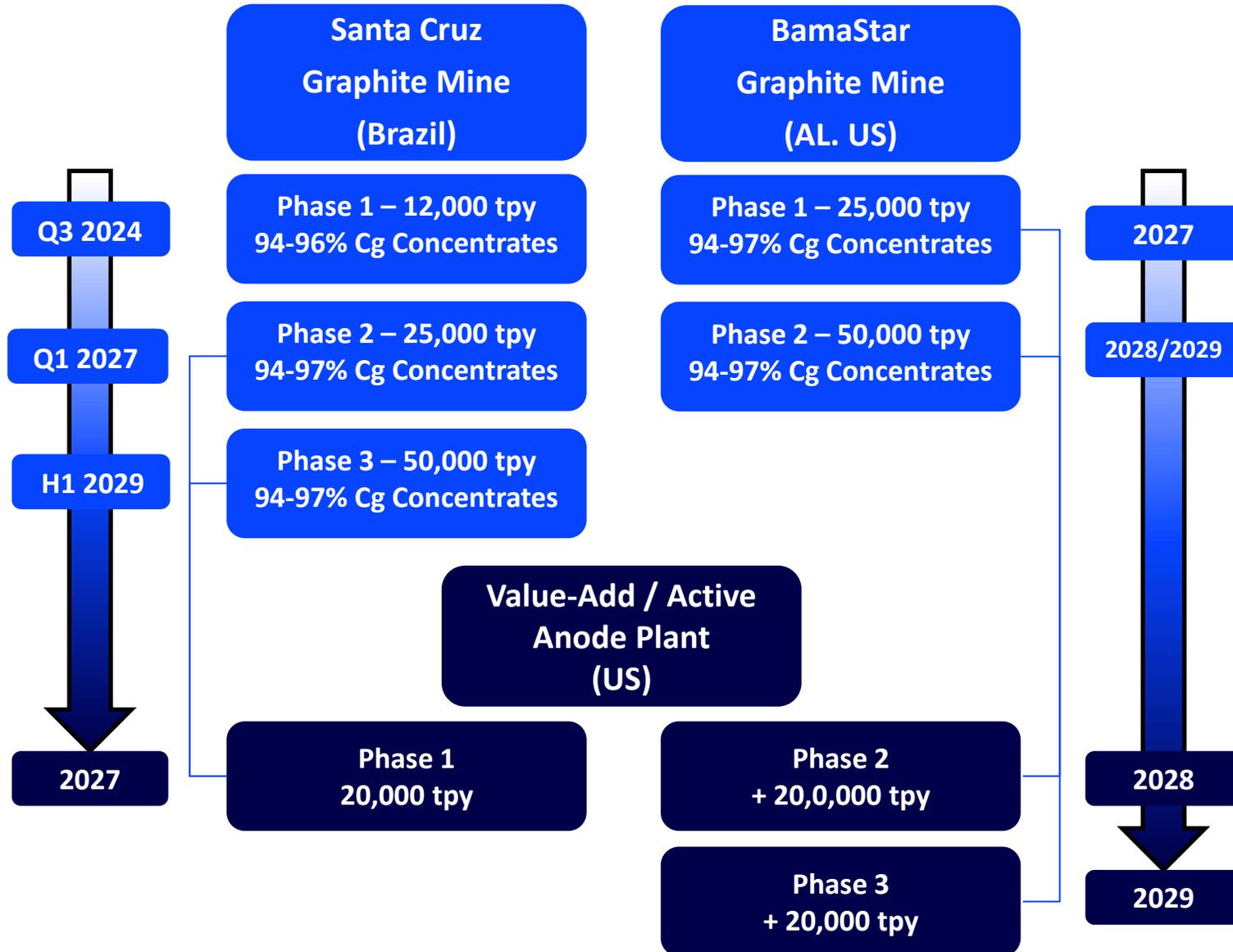
Aid and Speed Along Production

# South Star Battery Metals Highlights

## Safe Sourced, Vertically Integrated Graphite Production In the Americas

- Production starting at Santa Cruz in Q3 2024.
- 100,000 tpa of graphite concentrates & 60,000tpa 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 Plan



# Leveraging Government Support

## 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.**

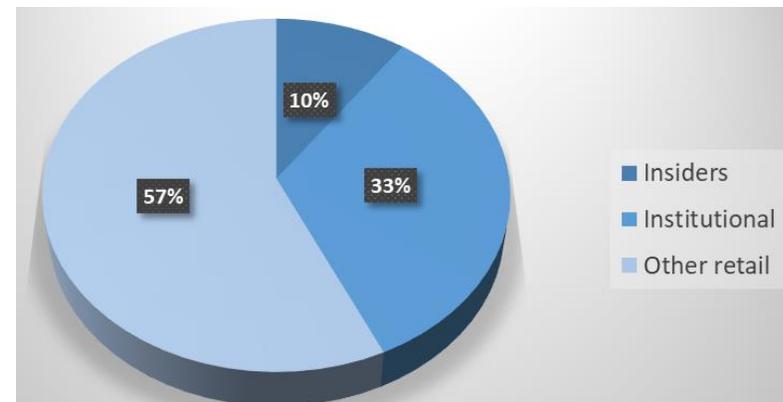


# STS Share Information & Comparables

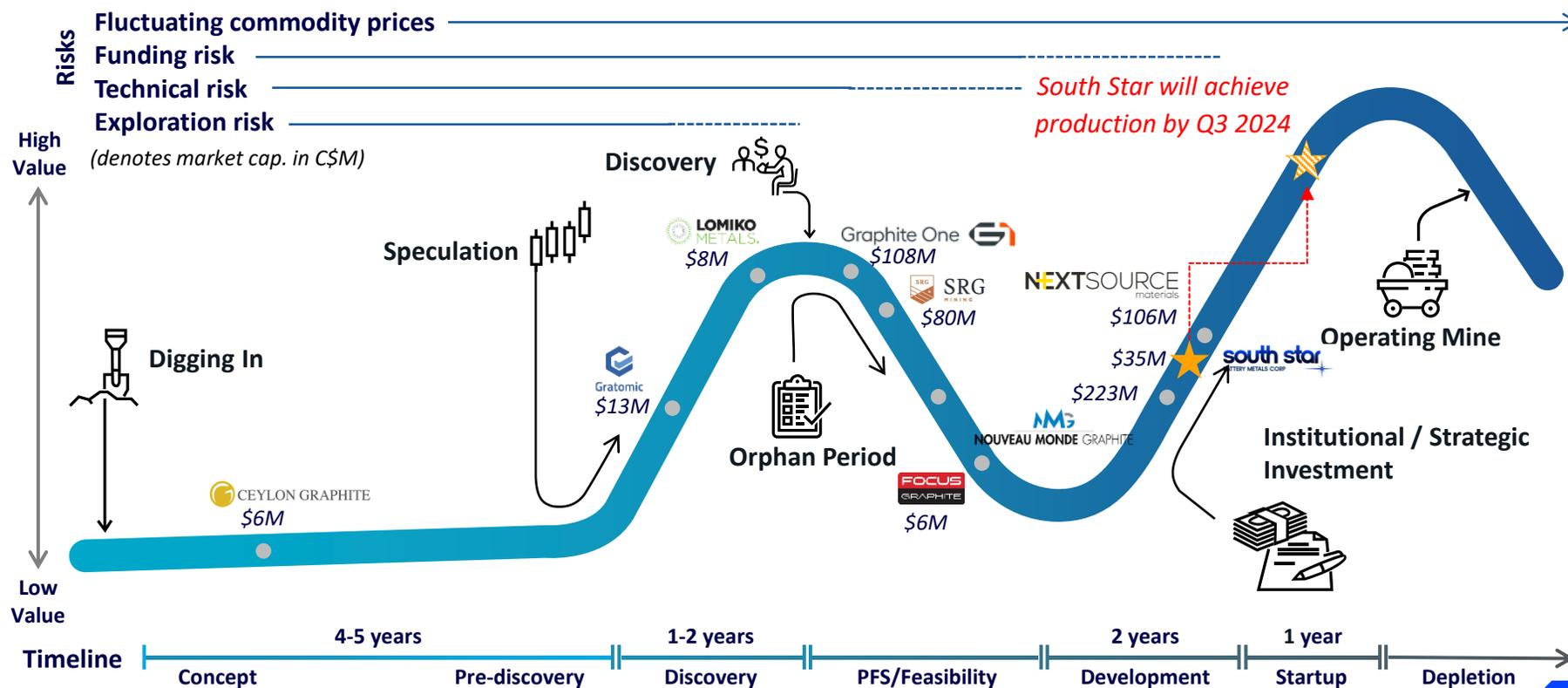
## Stock Information as of Oct. 1, 2024

### Cap Table (000s)\*

Total Outstanding	52,560
Warrants @ \$1.11	27,144
Options @ \$0.43	1,623
RSUs	334.0
Fully Diluted	81,661
Market Cap @ CAD \$0. 65	\$34.2M



“We don’t have any more time to waste. Every 1M EVs would require 80,000t of graphite.” – Senator Lisa Murkowski



# 2024 STS Value Creation Catalysts

## First New Graphite Production in the Americas Since 1996

### Santa Cruz Graphite Mine

- Phase 1 Commissioning & Start of Commercial Production (Q3/24)
  - Step-up to 12,000tpy installed capacity
  - Lasso Curve suggests rerating
- Exploration and Resource/Reserves Expansion (Q3/Q4 2024)
- ✓ Environmental Permitting and Mining License for Phases 1, 2 & 3
- Commercial Agreements/Offtakes (Ongoing)
  - Qualification for Alkaline/Value – Add Applications (12 months)
- NI43-101 Feasibility Study (Q4/25)

### Alabama Graphite Project

- NI43-101 Preliminary Economic Assessment (Q3/24)
- Preliminary Environmental Characterization (Q4/24)
- Value-Add & Battery Suitability/Characterization Testing Program (Q3/24)



# South Star

BATTERY METALS CORP



TSXV: **STS** | OTCQB: **STSBF**  
[www.southstarbatterymetals.com](http://www.southstarbatterymetals.com)

For more information,  
please contact:

Richard Pearce  
CEO/President

South Star Investor Relations  
+1 (604) 706-0212 X3002

Email: [invest@southstarbatterymetals.com](mailto:invest@southstarbatterymetals.com)

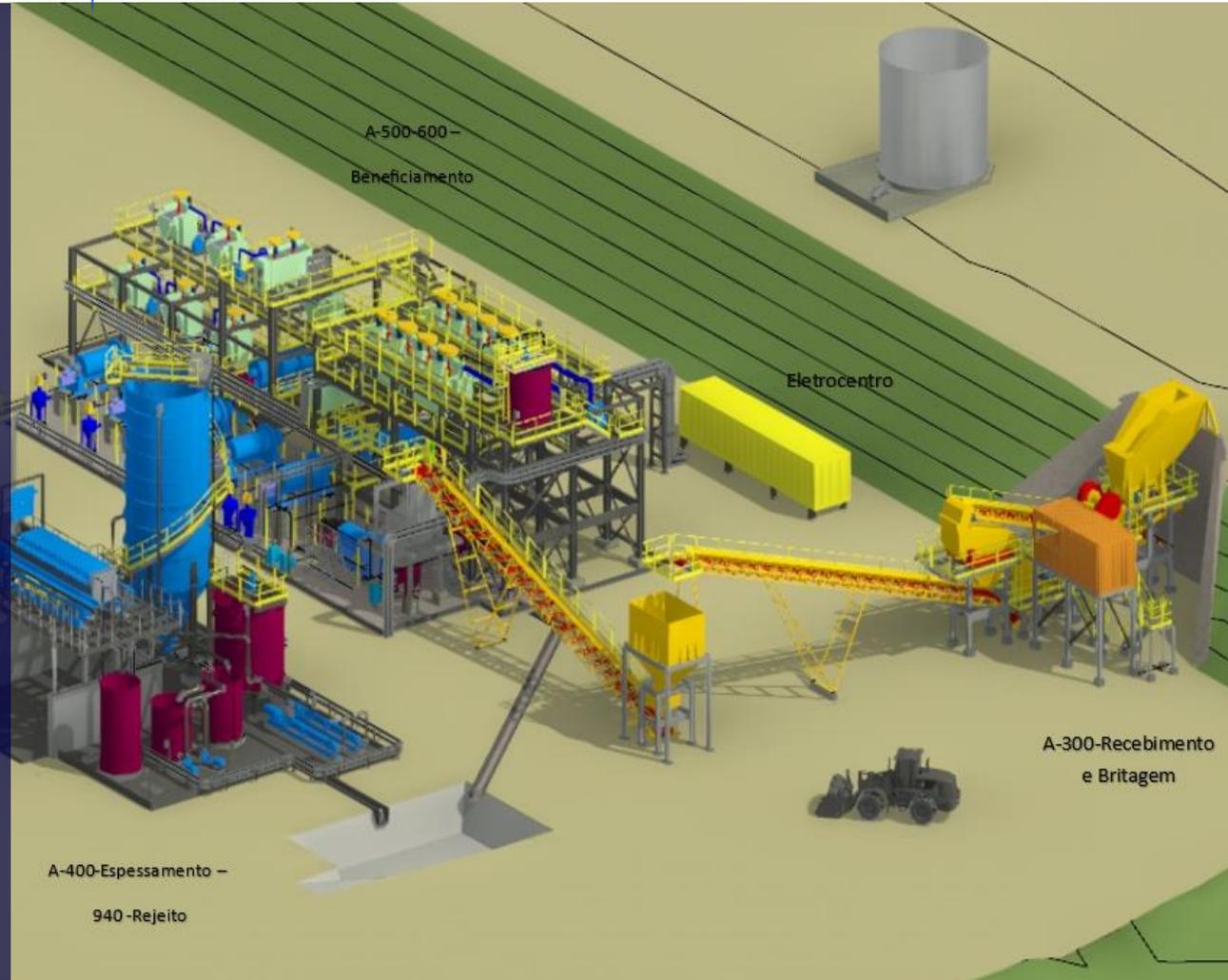
Email: [info@southstarbatterymetals.com](mailto:info@southstarbatterymetals.com)

Web: [www.southstarbatterymetals.com](http://www.southstarbatterymetals.com)

Twitter: [@southstarbm](https://twitter.com/southstarbm)

Facebook: [@southstarbatterymetals](https://facebook.com/southstarbatterymetals)

LinkedIn: [@southstarbatterymetals](https://linkedin.com/company/southstarbatterymetals)



Suite 1507 - 750 West Georgia Street  
Vancouver, British Columbia  
Canada, V6E 3M5

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

# **APPENDIX 1 – SANTA CRUZ GRAPHITE MINE (Bahia, Brazil)**

# Investment Highlights

## Santa Cruz De-risked



# Santa Cruz Graphite Mine

## Phase 1 In Construction

### INFRASTRUCTURE COMPETITIVE ADVANTAGES

#### Excellent Infrastructure

**1.3 km**  
from paved  
highway

Federal BR 101



Power, gas,  
water all  
within 5 km

New Itabela Substation



**Major port**  
of Ilheus is  
270 km away via  
paved federal  
highways

Ilheus Port



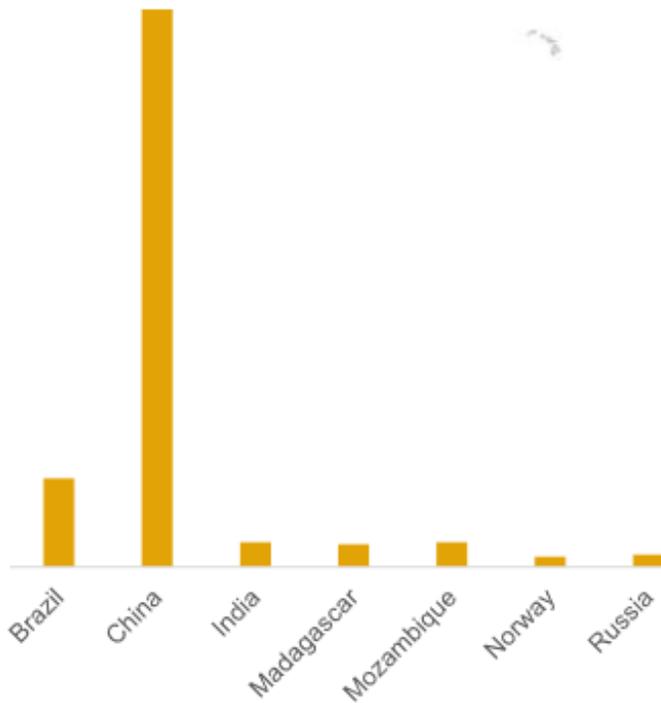
Itabela

**Experienced**  
workforce  
nearby

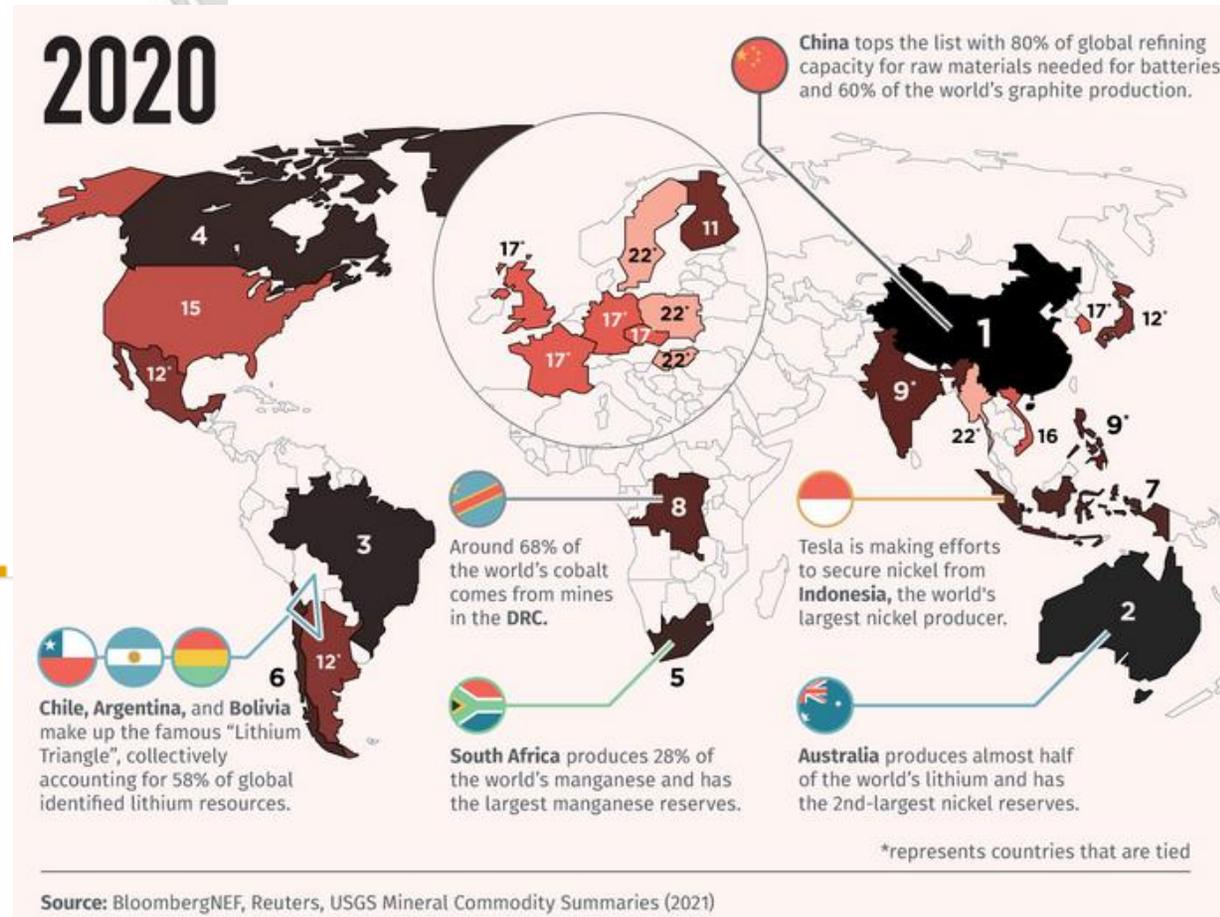
# Global Battery Market

## Brazil - Premier Battery Metals Jurisdictions

- Brazil is the largest graphite producer of high-quality graphite outside of China with **80+ years of continuous production** and **3<sup>rd</sup> most important country** in EV Battery Supply Chain.



Graphite Supply 2020 by Country

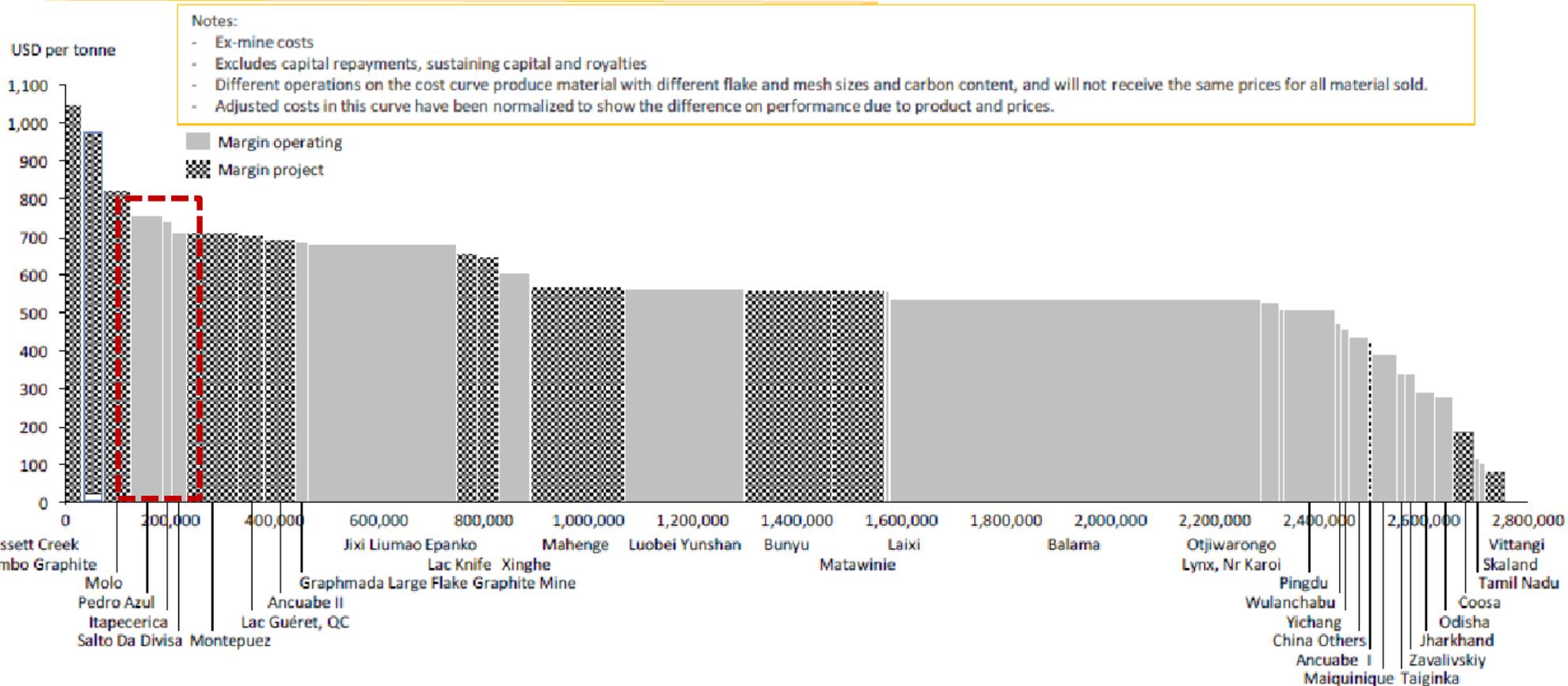


EV Supply Chain Ranking By Country

## Brazil - Premier Battery Metals Jurisdictions



### Graphite industry margin curve 2030 (adjusted)



**Top 3 Most Profitable Operating Mines in World are in Located in Brazil**

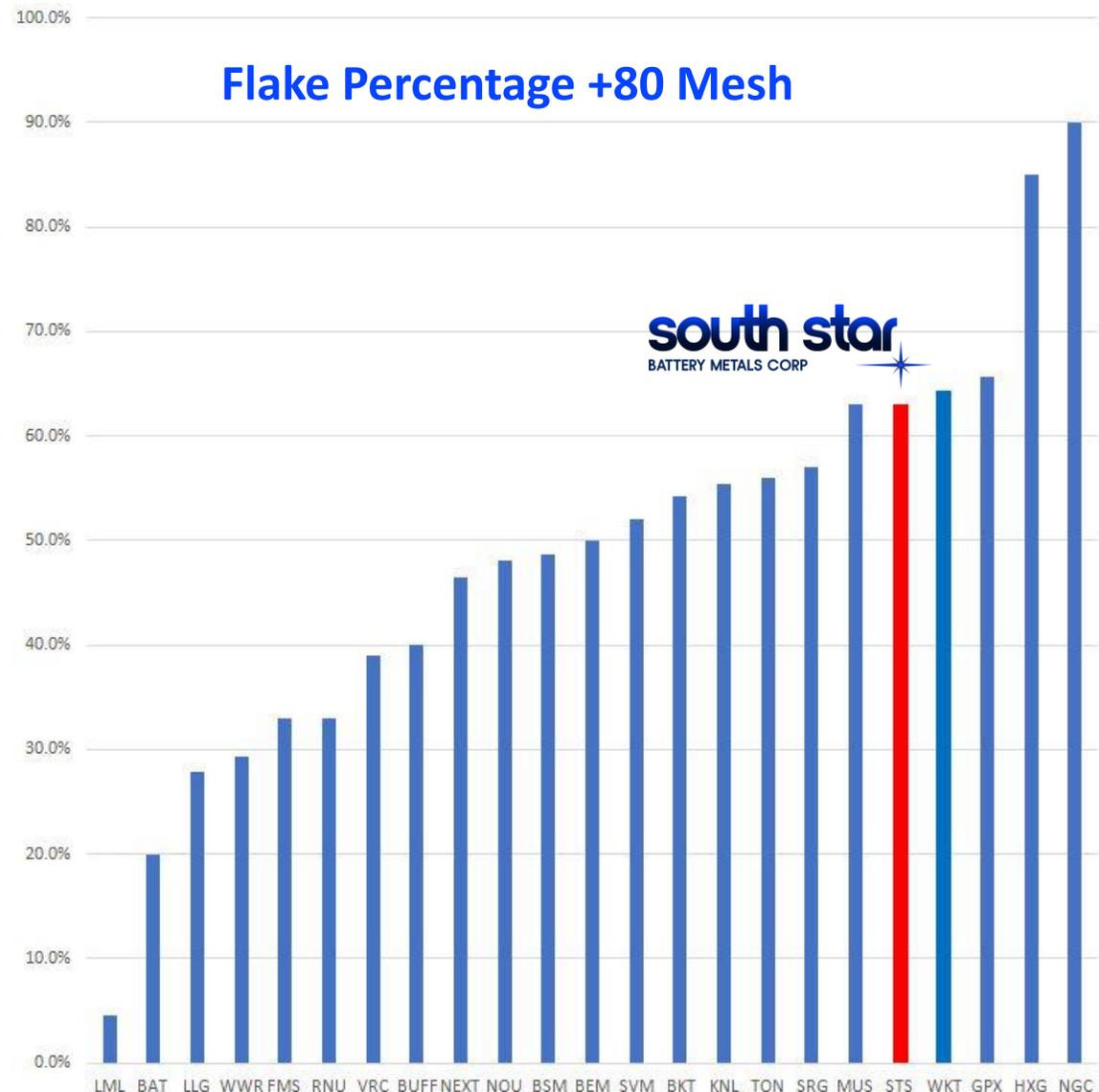
# Santa Cruz World-Class Flake Sizes

## 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%
<b>Recovery 88%</b>		

+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).*



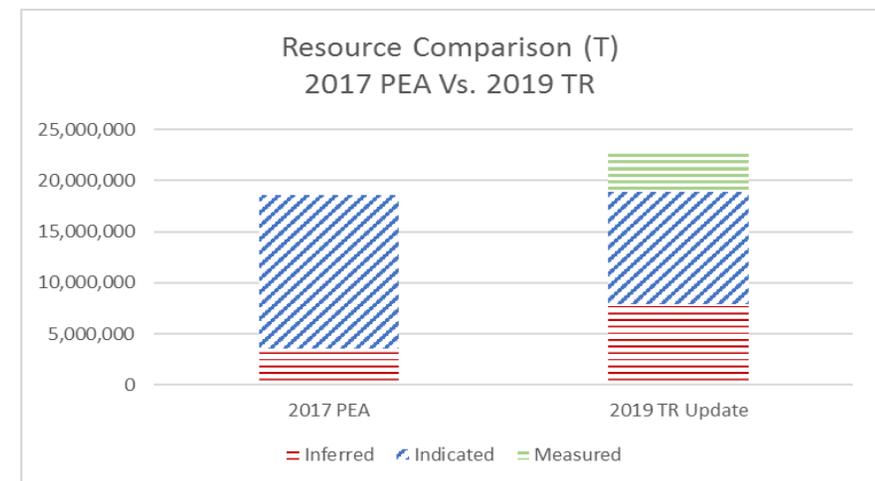
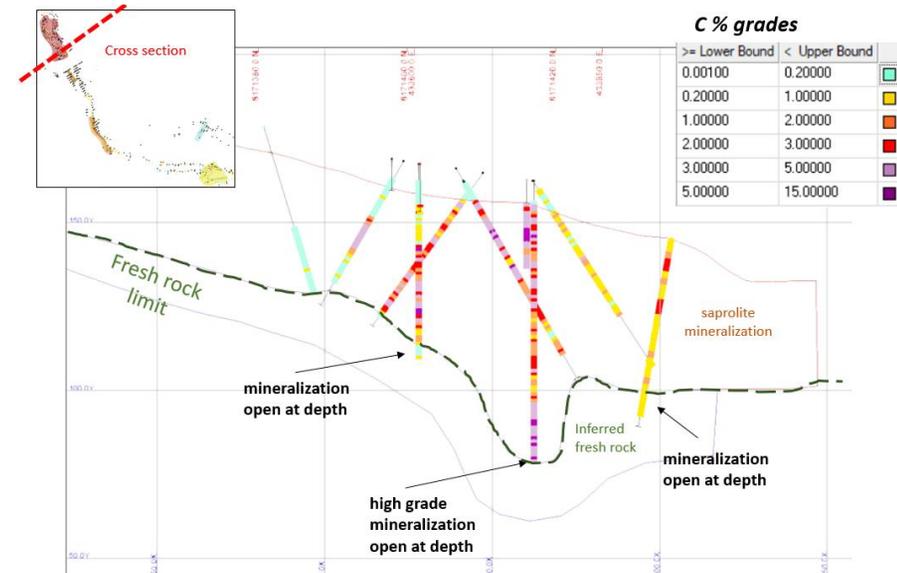
# 2019 Santa Cruz Update Resource Estimate\*

The 2019 updated Resource Estimate shows strong geologic potential and continuity of high-quality graphite mineralization in friable, easily mined, weathered materials. New areas with at-surface mineralization were discovered, and the deposit is open both along strike and at depth.

## Santa Cruz Graphite 2019 Mineral Resources Update Summary\*

Category	Tonnage (t)	C (%)	In-situ Graphite (t)
Measured	3,947,550	2.40	94,740
Indicated	10,955,570	2.25	246,500
<b>Total M&amp;I</b>	<b>14,903,100</b>	<b>2.29</b>	<b>341,240</b>
Inferred	7,911,450	2.32	183,550

\* Cautionary Note: This updated resource estimate is considered by STS to meet the requirements of a resource and reserve estimate technical report as defined by Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101") Standards of Disclosure for Mineral Projects. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves (as defined in NI 43-101). Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Measured or Indicated Mineral Resources.



# 2020 Santa Cruz Preliminary Feasibility Study\*

The financial analysis in 2020 PFS shows very favourable and robust results that highlight the Santa Cruz Project's advantages in the graphite sector.

## Key Financial Results

Post-tax NPV <sub>5%</sub>	US\$ 81,200,000
Post-tax all Equity IRR	35% p.a.
Post-Tax Free Cash Flow (LOM)	US\$129M
Payback Period	4 years

## Key Parameters

Mining Method	Open Pit
Process/Metallurgy	Milling & Flotation
Life of Mine	12 years
Annual Production (years 1-2):	5,000 t p.a.
Annual Production (year 4-11):	25,000 t p.a.
Capital Costs – Phase 1	US\$ 7,300,000
Capital Costs – Phase 2	US\$ 27,200,000
Avg. Operating Costs(LOM):	US\$ 396 per tonne of conc.
Avg. Weighted Price:	US\$ 1287/t

## Santa Cruz Graphite Mineral Reserves Summary\*

Mineral Reserve Estimate	Tonnage	Cg	In-situ Graphite
	(t)	(%)	(t)
Proven	3,989,635	2.49	99,340
Probable	8,318,795	2.35	195,490
<b>Total P&amp;P</b>	<b>12,308,500</b>	<b>2.40</b>	<b>295,400</b>



\* Cautionary Note: This PFS is considered by STS to meet the requirements of a Preliminary Feasibility Study as defined by Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101") Standards of Disclosure for Mineral Projects. The economic analysis contained in the technical report is based, in part, on Inferred Resources (as defined in NI 43-101) and is preliminary in nature. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves (as defined in NI 43-101). Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Measured or Indicated Mineral Resources. There is no certainty that the reserve's development, production and economic forecasts on which the PEA is based will be realized.

## Long-term strategic partnership with Sprott Resources Streaming & Royalty Corp.

- The Phase 1 stream payment has a **US\$10M cash consideration to fund 100% of required Phase 1 CAPEX**, which allows South Star to start construction in the next 45-60 days with commercial production scheduled for Q2 of 2023.
- The Phase 2 stream payment has a **minimum of US\$9M and up to US\$18M cash consideration for partial funding of Phase 2 CAPEX** (US\$27M<sup>1</sup>), subject to SRSR Phase 2 due diligence as well as investment committee update and approval.
- **US\$2M advance loan** with use of proceeds to be used for equipment down payments, land acquisition, contractor mobilization and engineering support services.
- **Minimal shareholder equity dilution** for up to US\$28M cash consideration.
- South Star has the **option to buy back 100% of Phase 2 Stream**.
- **Automatic stepdown of 50% of Phase 1 Stream** after sales and delivery of 75,000 tonnes of concentrate.
- Excellent **post-stream LOM EBITDA margin of 51%** (Phase 1 Stream + 100% Phase 2 Stream).
- **Compelling combined cost of capital** with significantly lower total financing costs compared to other available capital market alternatives.

(1) Based on 2020 PFS Study

(2) Refer to April 5<sup>th</sup>, 2022 press release for additional details.

# PHASE 1 – LICENSING & PERMITTING

- Phase 1 Environmental Permit Approved for 4 Years Oct 15, 2020

Diário Oficial do  
**MUNICÍPIO**

Itabela

Quinta-feira  
15 de Outubro de 2020  
23 - Ano - Nº 2795

 Prefeitura de Itabela

Secretaria Municipal de Meio Ambiente

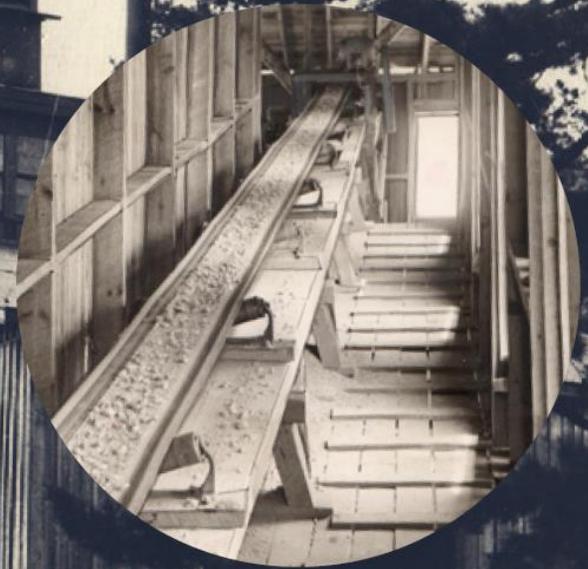
---

<b>LICENÇA AMBIENTAL SIMPLIFICADA</b>		
<i>Portaria SMMA</i>	<i>Publicação no M.P.</i>	<i>Validade</i>
Nº 028/2020	15/10/2020	15/10/2024
Empresa/Nome: BRASIL GRAFITE MINERAÇÃO LTDA.		

- GU Mining License Approved for 4 Years by ANM on Dec 31, 2020
- Phase 1 Construction Permit Approved Sept 15, 2022
- Phases 2 & 3 Environmental Permit Approved in Feb 2024
- Phases 1, 2, & 3 Definitive Mining License Approved in Jun 2024 for life-of-mine operations
- Permits and licenses renewed for equal periods during operations.

## **APPENDIX 2 – BamaStar Graphite Project (Alabama, U.S.)**

## THE ALABAMA GRAPHITE BELT



ORE CONVEYOR

- THERE WERE MORE THAN 50 PRODUCING GRAPHITE MINES WITHIN THE ALABAMA GRAPHITE BELT
- THE ABOVE PHOTO IS THE MILL BUILDING OF THE LAST OPERATING GRAPHITE MINE IN ASHLAND, ALABAMA, NEAR THE COOSA GRAPHITE PROJECT (SEPTEMBER 1949)

# Alabama Graphite Belt – Geology

**Weathered Graphitic Schist**  
Cg = 3.5%



**Graphitic Quartzite**  
Cg = 4.0%



# Alabama – BamaStar Graphite Project

## NI43-101 TR

- Detailed surface mapping
- Pilot Scale Metallurgical Test Work
- 2022 Diamond Drilling Campaign
- Mineralogical Studies
- NI 43-101 Mineral Resource Estimate & Technical Report – **04/2023**
- 2023 Diamond Drilling Campaign

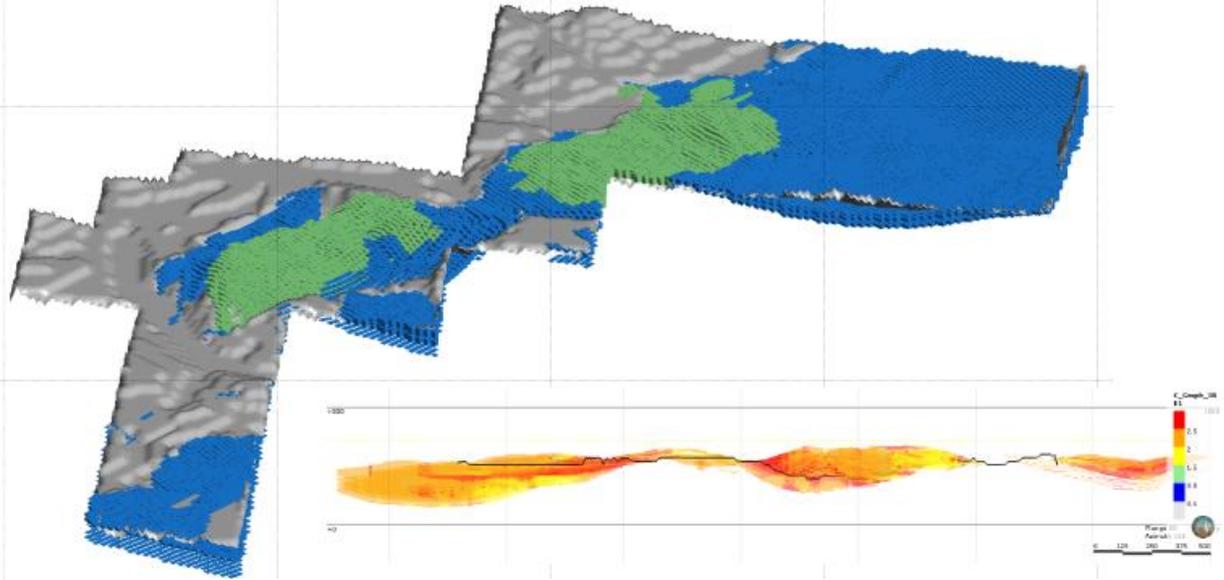
## NI43-101 PEA

- Materials Physical/Chemical Characterization
- Metallurgical Test Work / Flowsheet Design
- Value-add & Battery Testing Program
- Site Selection and Facilities Arrangement
- Environmental Characterization
- Updated NI43-101 Mineral Resource Estimate
- CAPEX/OPEX & Project Economics
- Preliminary Economic Assessment TR – **08/2024**

NI43-101 Feasibility Study TR– **Q1/2026**  
In Partnership with DOD Title III Program

# Alabama – BamaStar Graphite Project

## 2023 Maiden Resource Estimate

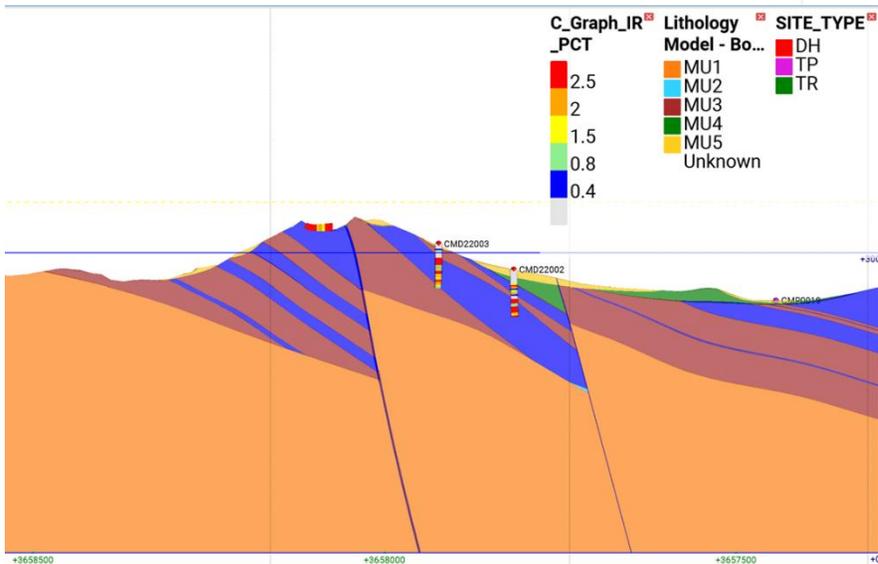


**Table 1. Mineral Resource Statement: Open Pit-Constrained Resources (1.1% Cg cut-off grade).**

Mineral Resource Category	Zone	Density (g/cm <sup>3</sup> )	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
	<b>Totals:</b>	<b>2.62</b>	<b>22</b>	<b>2.4</b>	<b>520,000</b>

**Table 2. Un-constrained Inferred Mineral Resources (1.1% Cg cut-off grade).**

Mineral Resource Category	Zone	Density (g/cm <sup>3</sup> )	Tonnes (M)	Graphitic Carbon (% Cg)	In-Situ Graphite (t)
Inferred	Central	2.64	11	2.5	270,000
	North	2.61	12	2.3	280,000
	<b>Total:</b>	<b>2.62</b>	<b>23</b>	<b>2.4</b>	<b>540,000</b>



\* Cautionary Note: Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Resources in this Mineral Resource Estimate are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as Indicated. However, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

# Alabama – BamaStar Graphite Project

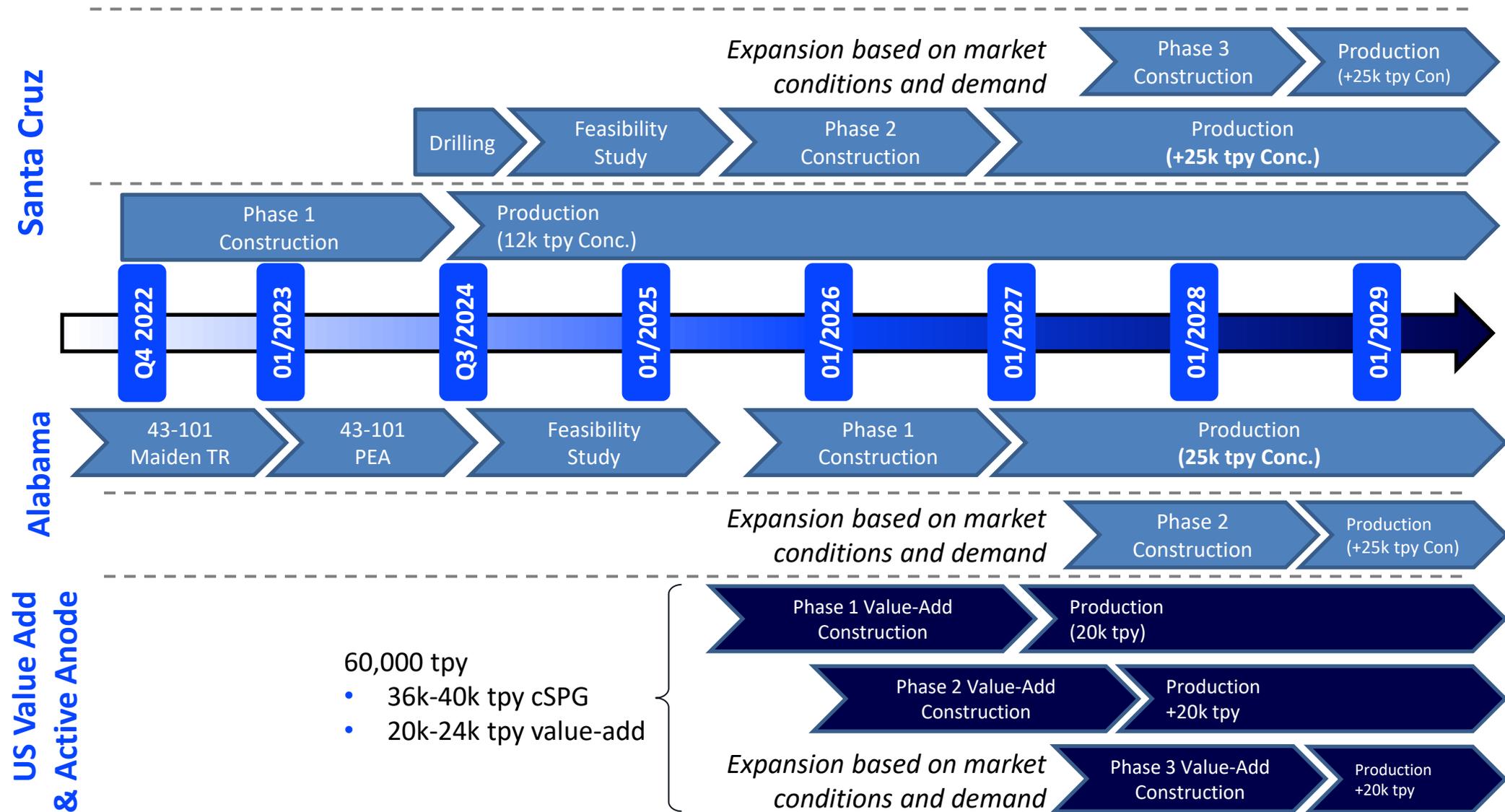
## Bench-Scale Testing at SGS - Canada



- Concentrate grade increased further to 97.41 % FC after 5 stages of cleaning flotation
- Only slight grade increases after, with significant decrease in recovery
- Ore described as well-liberated and easy to process
- Over 22 % of the concentrate was +180  $\mu\text{m}$  coarse and jumbo flake

# STS Catalysts & Strategic Schedule

- Development & Operations Roadmap



# **APPENDIX 3**

## **CORPORATE STRUCTURE / TEAM**

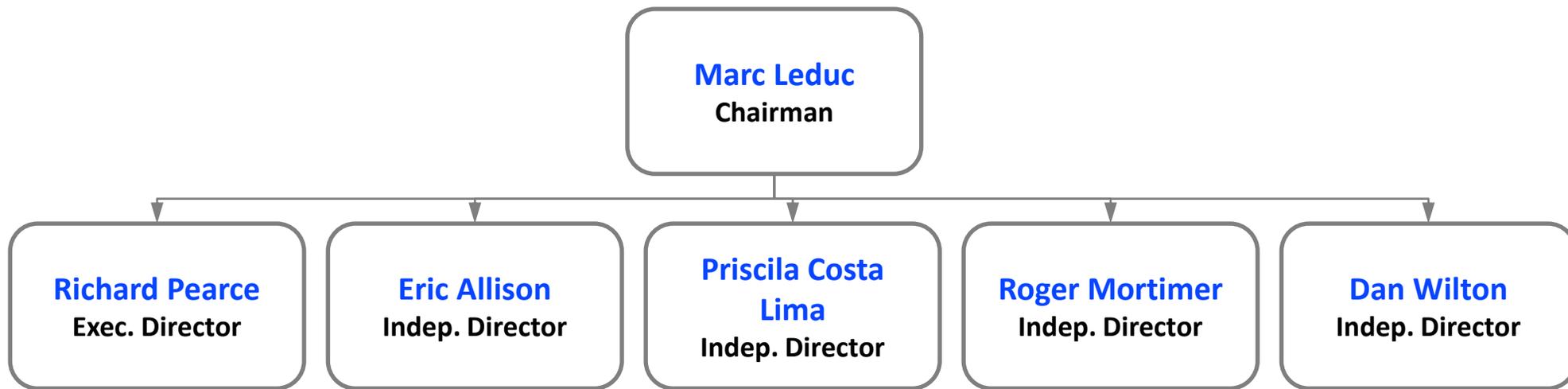
# Corporate Structure

- South Star Battery Metals Corp. is a public company, traded on the Toronto Venture Stock Exchange under the symbol STS and on the OTCQB under symbol STSBF.
- Brasil Graphite Corp. is a wholly-owned subsidiary incorporated in the Cayman Islands.
- Brasil Grafite Mineração Ltda. (“BGSA”) is a wholly-owned exploration and development company focused on developing the Santa Cruz Graphite Project (“Project”) in the state of Bahia, Brazil.
- BGSA owns 100% of the Santa Cruz Graphite Project.
- South Star Battery Metals Alabama is a wholly-owned subsidiary incorporated in Alabama.
- South Star Battery Metals Corp has a earn in agreement to earn up to 75% of the Alabama Graphite Project.

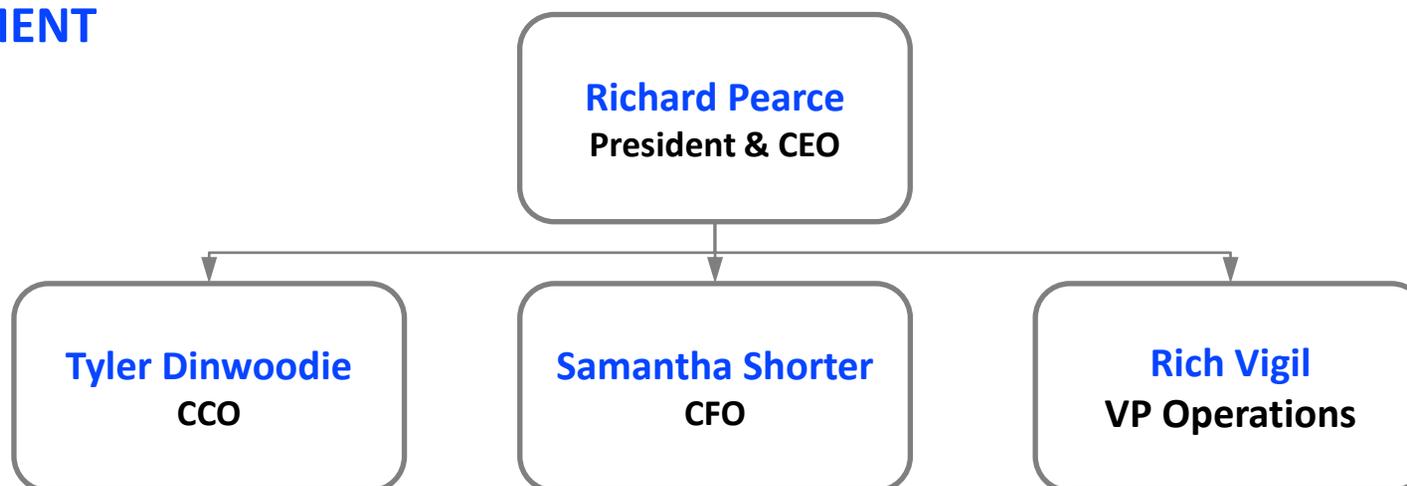


# Leadership Team

## BOARD OF DIRECTORS



## MANAGEMENT



# ESG & Sustainability

## ESG & Sustainable Production is part of our Corporate DNA

### ENVIRONMENTAL

- ✓ Renewable sources provide 80% of Brazilian energy generation
- ✓ Low cost, tax-incentive solar power project being studied
- ✓ Sustainable tailings management with filtered tailings/dry stack
- ✓ Effective water management & low freshwater demand with process water recirculated
- ✓ Waste characterized as inert/non-dangerous
- ✓ Low strip ratio
- ✓ Low vegetation suppression for project construction (<2 ha)
- ✓ Committed to provide community environmental education
- ✓ Progressive reclamation

+

### SOCIAL

- ✓ First major industry in the region
- ✓ Committed to responsible, equitable hiring practices in partnership w/ community/municipality
- ✓ Phase 1 – 60-65 Est. Direct Jobs
- ✓ Phase 1 – 350 Est. Indirect Jobs
- ✓ Phase 2 – 120-125 Est Direct Jobs
- ✓ Phase 2 – 700 Est. Indirect Jobs
- ✓ Committed to provide community training & educational opportunities
- ✓ Focus on worker safety w/ compensation tied to performance
- ✓ Committed to transparency and open communication
- ✓ Committed to community/stakeholder engagement
- ✓ Committed to ethical, professional interactions

+

### GOVERNANCE

- ✓ Review, evaluate and update regularly governance policies
- ✓ 2 Independent Directors
- ✓ Executive management primarily lives in Brazil and is on-site and hands-on
- ✓ TSX and OTC listing
- ✓ Audited financials
- ✓ Compensation tied to ESG performance
- ✓ Committed to joining key industry organizations and ESG frameworks
- ✓ Committed to transparency and open communications