

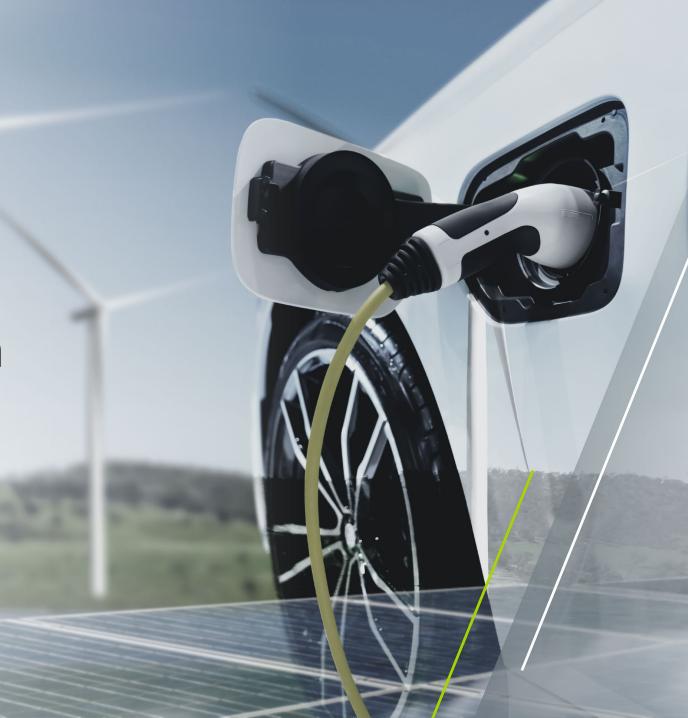
Corporate Presentation

Boron and Lithium Enabling Three Global Mega-trends





September 2022



Disclaimer



FORWARD-LOOKING STATEMENTS

The information in this Presentation includes "forward looking statements". All statements other than statements of historical fact included in this Presentation regarding our business strategy, plans, goals and objectives are forward looking statements. When used in this Presentation, the words "believe", "project", "expect", "anticipate", "estimate", "intend", "budget", "target", "aim", "strategy", "estimate", "plan", "guidance", "outlook", "intend", "may", "should", "will", "would", "will be", "will continue", "will likely result" and similar expressions are intended to identify forward looking statements contain such identifying words. These forward looking statements are based on 5E's current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. We caution you that these forward looking statements are subject to all of the risks and uncertainties, most of which are difficult to predict and many of which are beyond our control, incident to the extraction of the critical materials we intend to produce and advanced materials production and development. These risks include, but are not limited to: our limited operating history in the borates and lithium industries and no revenue from our proposed extraction operations at our properties; our need for substantial additional financing to execute our business plan and our ability to access capital and the financial markets; our status as an exploration stage company dependent on a single project with no known Regulation S-K 1300 mineral resources; our lack of history in mineral production and the significant risks associated with achieving our business strategies, including our downstream processing ambitions; our incurrence of significant net operating losses to date and plans to incur continued losses for the foreseeable future; risks and uncertainties relating to the development of the Fort Cady Integrated Boron Facility ("Fort Cady"), including our ability to timely and

You are cautioned not to place undue reliance on any forward looking statements, which speak only as of the date of this Presentation. Except as otherwise required by applicable law, we disclaim any duty to update and do not intend to update any forward looking statements, all of which are expressly qualified by the statements in this section, to reflect events or circumstances after the date of this Presentation.

MARKET AND INDUSTRY DATA

This Presentation has been prepared by 5E and includes market data and other statistical information from third party sources, including independent industry publications, government publications or other published independent sources. Although 5E believes these third party sources are reliable as of their respective dates for the purposes used herein, neither the Company nor any of its affiliates, directors, officers, employees, members, partners, shareholders or agents makes any representation or warranty with respect to the accuracy or completeness of such information. Although the Company believes the sources are reliable, it has not independently verified the accuracy or completeness of data from such sources. Some data is also based on 5E's good faith estimates, which are derived from its review of internal sources as well as the third party sources described above. Additionally, descriptions herein of market conditions and opportunities are presented for informational purposes only there can be no assurance that such conditions will actually occur or result in positive returns.

CAUTIONARY NOTE REGARDING RESERVES

Unless otherwise indicated, all mineral resource estimates included in this Presentation have been prepared in accordance with, and are based on the relevant definitions set forth in, the SEC's Mining Disclosure Rules and Regulation S-K 1300 (each as defined below). Mining disclosure in the United States was previously required to comply with SEC Industry Guide 7 under the Exchange Act ("SEC Industry Guide 7"). In accordance with the SEC's Final Rule 13-10570, Modernization of Property Disclosure for Mining Registrant, the SEC has adopted final rules, effective February 25, 2019, to replace SEC Industry Guide 7 with new mining disclosure rules (the "Mining Disclosure Rules") under sub-part 1300 of Regulation S-K of the Securities Act of 1933, as amended (the "Securities Act") ("Regulation S-K 1300" uses the historical property disclosure requirements included in SEC Industry Guide 7. Regulation S-K 1300 uses the Committee for Mineral Reserves International Reporting Standards ("CRIRSCO") - based classification system for mineral reserves and accordingly, under Regulation S-K 1300, the SEC now recognizes estimates of "Measured Mineral Resources", "Indicated Mineral Resources" and "Inferred Mineral Resources", and require SEC-registered mining companies to disclose in their SEC filings specified information concerning their mineral resources, in addition to mineral reserves. In addition, the SEC has amended its definitions of "Proven Mineral Reserves" and "Probable Mineral Reserves" to be substantially similar to international standards. The SEC Mining Disclosure Rules more closely align SEC disclosure requirements and policies for mining properties with current industry and global regulatory practices and standards, including the Australasian Code for Reporting of Exploration Results, Mineral Resources", efferted to as the "JORC Code". While the SEC now recognizes "Measured Mineral Resources" in these categories will be converted into a higher category of mineral resources or into mineral reserves.

For additional information regarding these various risks and uncertainties, you should carefully review the risk factors and other disclosures in our amended Form 10 filed with the U.S. Securities and Exchange Commission (SEC) on March 7, 2022, and our Form 10-Q filed with the SEC on May 12, 2022, and our Form 8-K filed with the SEC on August 11, 2022. Additional risks are also disclosed by 5E in its filings with the Securities and Exchange Commission throughout the year, as well as its filings under the Australian Securities Exchange.

Why 5E Advanced Materials?



Boron and 5E sit at the convergence of three global mega-trends

- Unique boron opportunity scarce and valuable
- Favorable supply / demand dynamics
- Vertically integrated business model focused on high value advanced materials
- Optionality with co-product lithium production and many boron end markets
- Catalyst rich



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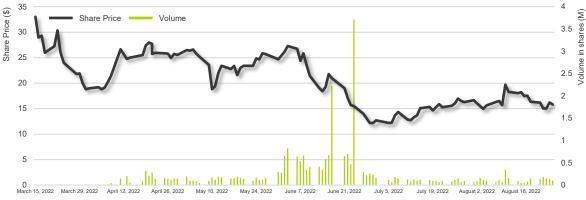
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Unique boron opportunity /
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Corporate Overview



Na sdaq	 ASX
FEAM	5EA
\$15.83/share	A\$2.29/share
43.3M	433.0M
4.8M	48.7M ¹
\$686M	A\$993M
\$78.4M ⁴	
VERITAS SECURITIES LIMITED	ORACLE CAPITAL
	\$15.83/share 43.3M 4.8M \$686M





¹ Common shares and CDIs are fully fungible and convert at the rate of 1 common share for 10 CDIs. Numbers as of June 30, 2022.

Options as of June 30, 2022

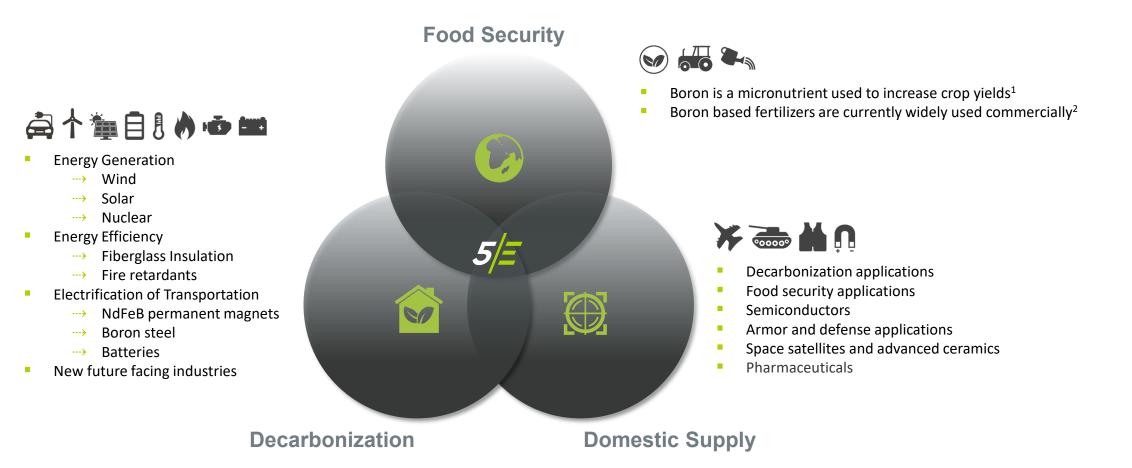
³ Regulation S-K 1300 Initial Assessment Report dated October 18, 2021 (using 2% cut-off grade) prepared by Millcreek Mining Group.

⁴ Unrestricted cash \$68.4M

Boron and 5E at the Center of Three Global Mega-Trends 5/=



The element and 5E straddle three global mega-trends



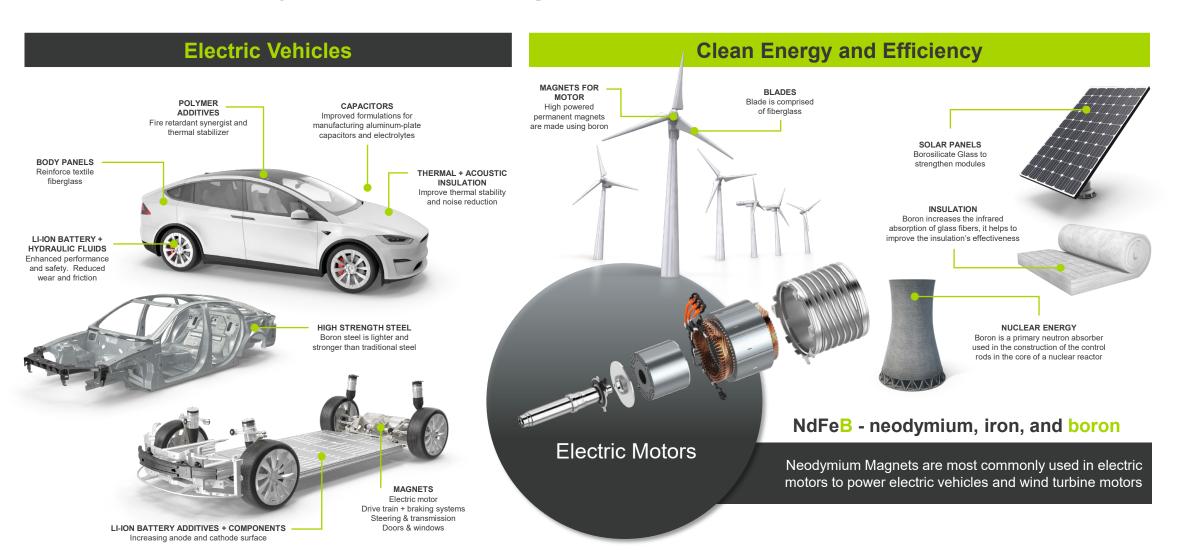
¹ Company commissioned University of Connecticut crop trial test: May 25, 2020.

² Credit Suisse Climate Transition Super Materials Equity Research Report dated December 7, 2021; and Boron and SOP Market Overview Report, April 6, 2018, prepared by Context

Decarbonization



Boron is an enabler of many decarbonization technologies¹

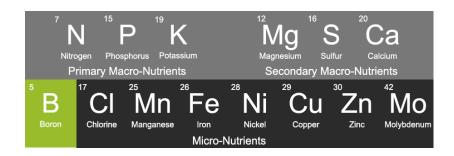


¹ Credit Suisse Climate Transition Super Materials Equity Research Report dated December 7, 2021.

Food Security

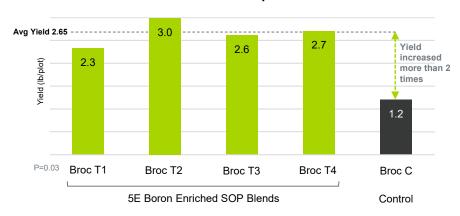


Boron is helping to keep the world fed as an essential micronutrient required by crops

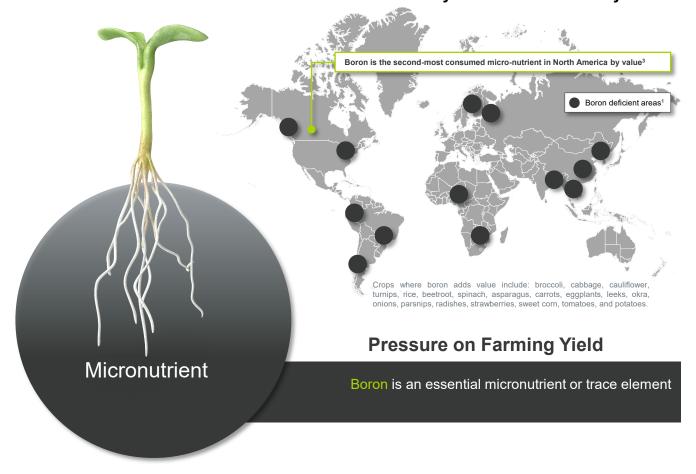


Boron is an important micronutrient in feeding a growing global population. World population is forecasted to grow 35% to 9.8B by 2050², requiring higher farming yields to meet global food production needs.

5E/UConn Broccoli Crop Yield Trials⁴



Crop yield is becoming an important food security issue as the availability of arable land has decreased by 15% over the last 30 years²



¹ The University of Adelaide Fertiliser Technology Research Centre "Boron fertilizers: use, mobility in soils and uptake by plants" presentation, International Agriculture Symposium of Boron (AGROBOR 2016).

² The World Population Prospects report: The 2017 Revision, published by the UN Department of Economic and Social Affairs

Boron and SOP Market Overview Report, April 6, 2018, prepared by Context.

⁴ Company commissioned University of Connecticut crop trial test: May 25, 2020.

Secure Critical Supply Chains



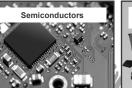
5E is aiming to reduce reliance on Turkish resources and Chinese processing

New US Climate Bill Seeks to Bolster Domestic Critical Minerals Supply Chain

August 7th, 2022 The Act includes incentives to increase the production of electric vehicles, renewables, and critical minerals as part of a policy to reduce reliance on Chinese and Russian supplies.

Executive order: Building Resilient Supply Chains, Revitalizing American Manufacturing, And Fostering Broad-based Growth

Review of America's Supply Chains vulnerabilities.



20% Rio Tinto²





80% downstream

processing of boron

carbides in China²



Earth Value Chain

earth permanent magnets manufactured.

China Is Moving Rapidly Up the Rare

August 7th, 2022 China is making an unrelenting effort to integrate and upgrade its rare earth supply chain of upstream mining, processing, manufacturing, and deeper applications. Although it has only about one-third of the world's rare earth reserves, China now accounts for 60% of global rare earth mined production, 85% of rare earth processing capacity, and over 90% of high-strength rare

CHIPS and Science Act Will Lower Costs, Create Jobs, Strengthen Supply Chains, and Counter China

August 9th, 2022

Act to strengthen American manufacturing, supply chains, and national security, and invest in research and development, science and technology, and the workforce of the future to keep the United States the leader in the industries of tomorrow, including nanotechnology, clean energy, quantum computing, and artificial intelligence.

Secure U.S **Domestic Supply**

5E - Initial SSBF production targeted for 2023

65% Turkish Government¹

US focused on onshoring critical materials. Today, 80% of downstream boron processing takes place in China² with 65% of global supply produced in Turkey1

¹ Turkish market share, Daily Sabah: Turkey's boron sales smash record with \$1B in 2021, and 5E company estimates.

² Global Market Insights Inc., U.S. Geological Survey, and INTEK Inc.

Future Facing Technology and Markets

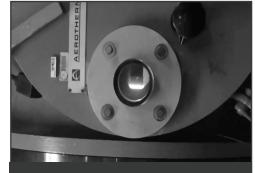
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High value-in-use as an enabler of new technologies and markets



Cancer Treatment¹

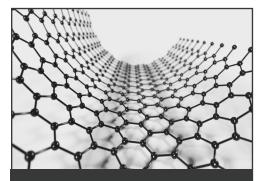
Boron Neutron Capture Therapy (BNCT) is a type of radiation therapy. A substance that contains boron is injected into a blood vessel. The boron collects in tumor cells. The patient then receives radiation therapy with atomic particles called neutrons. The neutrons react with the boron to kill the tumor cells without harming normal cells. Boron neutron capture therapy is being studied as a treatment for glioblastoma multiform and recurrent head and neck cancer.



Nano Technology²

Boron Nitride Nanotubes (BNNT) is a new material with great potential. It is considered one of the world's strongest and most advanced fiber. BNNT offers significant material benefits in:

- aviation
- automotive
- space travel
- · advanced fabrics
- insulation
- filtration
- · electronics and
- defense systems



Advanced Materials³

Boron is one of the most chemically and physically versatile elements, and can be manipulated to form a strong but flexible 2-dimensional structure called borophene.

Borophene applications include:

- supercapacitors
- energy storage devices
- biosensors
- batteries
- · flexible electronics
- hydrogen storage



Novel Technology

5E Advanced Materials is currently focused on advancing a research collaboration with Georgetown University for the development of boron-based materials in permanent magnets.

This research has the potential to create novel intellectual property and commercialization pathways for 5E as it pertains to the manufacturing of boron enhanced permanent magnets with a specific focus on enhancing performance through increased usage of boron.

¹ National Cancer Institute "Dictionary of Cancer Terms"

² Dr Catharine Fay, Senior NASA Scientist (NASA Langley Research Center) TEDx talk Arendal, Norway

³ National Library of Medicine "The Emergence and Evolution of Borophene" Ou M, Wang X, Yu L, Liu C, Tao W, Ji X, Mei L. The Emergence and Evolution of Borophene. Adv Sci (Weinh). 2021 May 2;8(12):2001801. doi: 10.1002/advs.202001801. PMID: 34194924; PMCID: PMC8224432.

Unique Boron Opportunity

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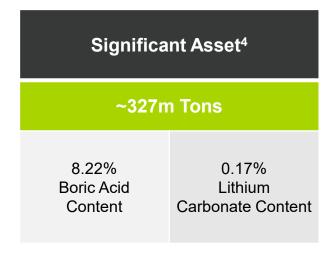
SALT WELLS

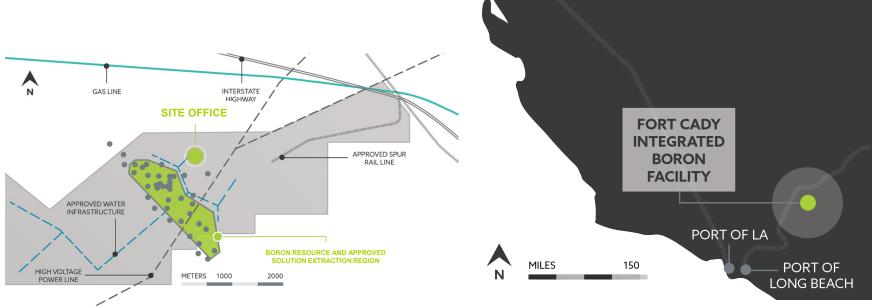
PROJECT

NEVADA

Initial production on schedule for 2023

- Duopoly Supply Market 65% Turkish Government / 20% Rio Tinto
- Rio Tinto reserves expire in 2042 after +100 years of operation¹
- Only six new visible projects globally Only 5E substantially permitted
- 5E targeting 500kstpa² of boric acid equivalent and several thousand tons of lithium carbonate at full production – Less than 5% of global demand in 2030³





CALIFORNIA

¹ Rio Tinto 2017 Annual Report "write back of Ore Reserves the operating life of RTB Boron has been reduced by 7 years and is anticipated to run until 2042."

² 5E company aspirational target consistent with disclosure provided in Form 10-Q released May 12, 2022.

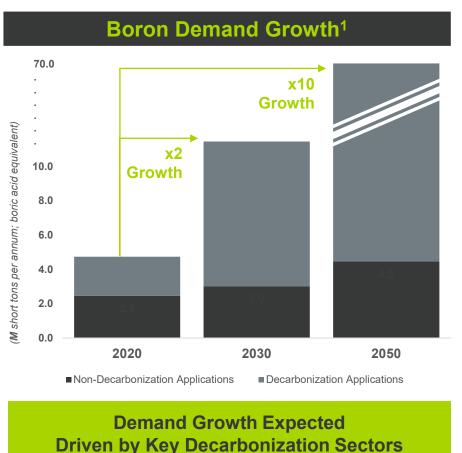
³ Credit Suisse Climate Transition Super Materials Equity Research Report December 7, 2021 (High Demand case).

⁴ Regulation S-K 1300 Initial Assessment Report dated 18 October 2021 (using 2% cut-off grade), Millcreek Mining Group.

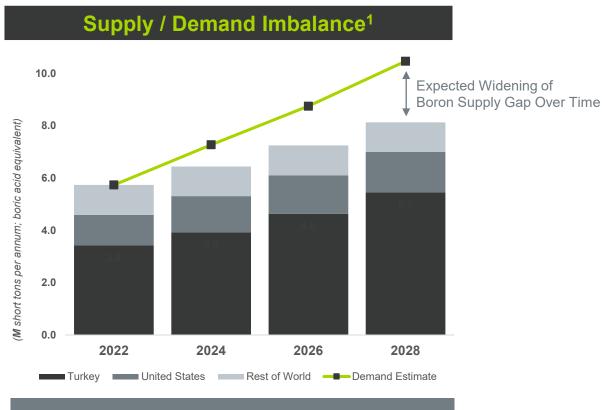
Favorable Supply / Demand Dynamics



Substantial demand growth with limited new supply options







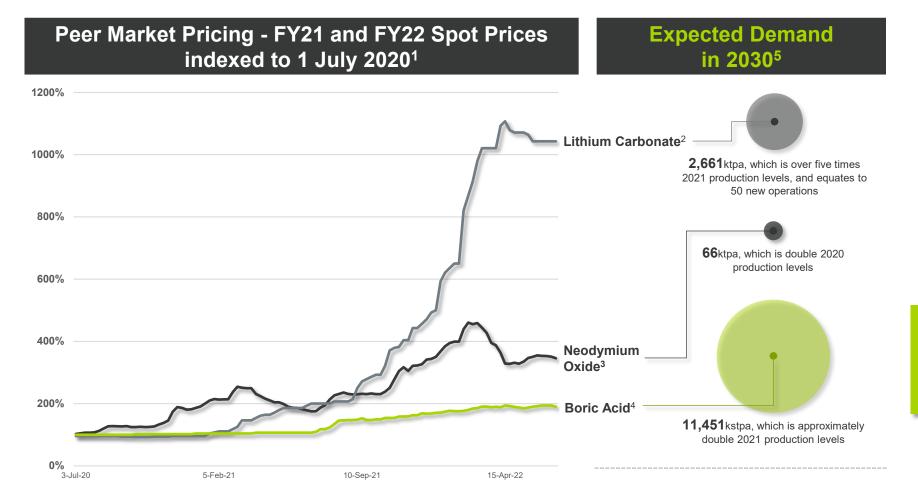
Continued Supply Pressures Bringing the BORON Supply Gap into Focus

¹ Credit Suisse Climate Transition Super Materials Equity Research Report December 7, 2021 (High Demand case). Note: Elemental boron figures converted to boric acid equivalent at a ratio of 1-to-5.72, then to short tons at 1.1

Favorable Pricing Dynamics



The potential for a step change in boron pricing supported by other leading decarbonization inputs



Outlook and market demand for permanent magnet motors (Neodymium as proxy for Rare Earths) and batteries (Lithium) have driven sharp pricing increases

Decarbonization and Food Security applications have the potential to drive a step change in boron pricing

¹ Spot prices indexed to July 1, 2020 on a price/kg basis.

² Lithium Carbonate (99.5% Battery grade, CIF China, Japan & Korea, \$/kg). Source: Fastmarkets.

³ Nd oxide (\$/kg ex VAT, Shanghai). Source: Steelhome.

⁴ Chinese Boric Acid Prices. Source: echemi.com

Lithium demand - International Energy Agency Report, "Global Supply Chains of EV Batteries", July 2022 (APS scenario). Neodymium demand - International Energy Agency Report, "The Role of Critical Minerals in Clean Energy Transitions", May 2021 (SDS scenario). Boric Acid demand - Credit Suisse Climate Transition Super Materials Equity Research Report December 7, 2021 (high demand scenario) -Note: Lithium data converted to Lithium Carbonate at 5.323 times. Elemental boron figures converted to boric acid equivalent at 5.72, times and to short tons at 1.1.

Business Model Designed to Drive Shareholder Value

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Fully integrated business model to capitalize on 5E's competitive advantage

Fully Integrated Business Model

1. EXTRACTION

Backwards integration

- Access to low-cost supply
- 500kstpa target run-rate boron production¹
- Targeting several thousand tpa lithium carbonate production²

2. PROCESS

- Relatively low carbon footprint
- Attractive cost profile with potential co-product sales (lithium, gypsum)
- Build or buy advanced material capabilities

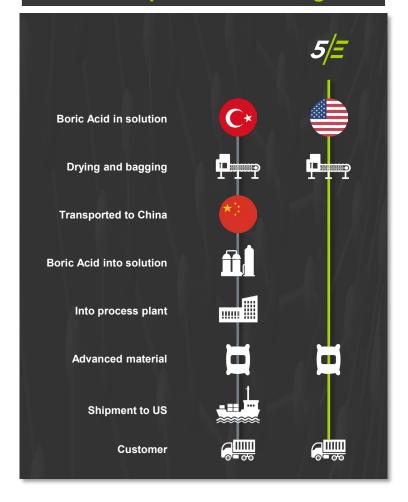
3. VALUE-ADD

- Enter agreements to deliver Boron Advanced Materials
- Go-to-market strategy to be underpinned by long-term partnerships
- R&D to innovate new future facing-enabling applications

MINERAL Raw Material Boric Acid Boric Acid APPLICATIONS Carbides/Nitrides

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5E Competitive Advantage



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¹ 5E company aspirational target consistent with disclosure provided in Form 10-Q released May 12, 2022.

² Refer to 5E "Third Quarter 2022 Results" press release dated May 13, 2022 (Project Update).

Substantial Optionality

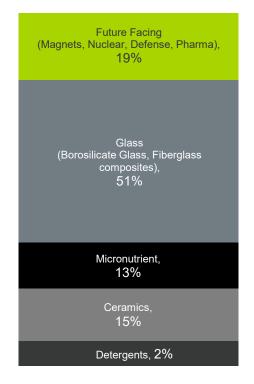


Major existing and new boron markets with co-product lithium opportunities

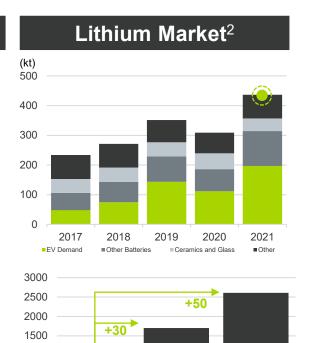
Emerging Boron Markets¹

1.6M tons of new demand expected from future facing industries Food Electrification of Security, Transportation, 23% 31% Domestic Supply Green Energy Generation and (non-Decarbonization), 29% Efficiency, 17%

Boron Markets Today¹



Wide Range of Traditional Applications, with Limited Substitutability



50 new Lithium projects are required to meet stated market demand by 2030

STEPS 2030 APS

1000

500

2021

Global Market Insights, Inc.

² International Energy Agency Report, "Global Supply Chains of EV Batteries", July 2022 (STEPS and APS scenario) - Note: Original Lithium data converted to Lithium Carbonate using 5.323 times conversation ratio

Many Catalysts Achieved



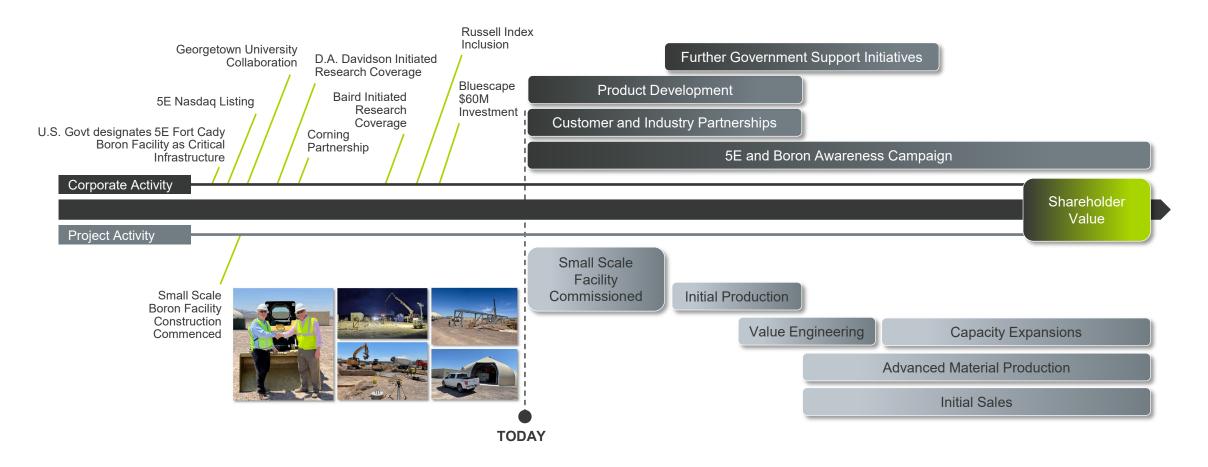
Meaningful catalysts already delivered in the first two quarters since Nasdaq listing



Potential Catalysts to Come



Further project and corporate catalysts in the pipeline to deliver shareholder value



Well Balanced Management Team with the Right Skills



Complementary skill sets to advance project and corporate initiatives



Tyson Hall

Tyson Hall was appointed Chief
Operating Officer of 5E
Advanced Materials, Inc. and
Fort Cady (California)
Corporation in September 2021.
Prior to joining 5E Advanced
Materials, Inc., Tyson served in
multiple roles at Pilgrim's Pride
Corporation where he was Head
of Case Ready Business Unit
from December 2020 to March
2021, Head of Commercial
Business Unit from October 2017
to November 2020, and Head of
Export Sales from September
2016 to September 2017. Before
joining Pilgrim's Pride
Corporation, Tyson held multiple
roles at Albemarle Corporation
where he was the Global
Business Director of
Performance Materials from
February 2015 to February 2016
and Global Business Director fo
Bromine and Derivatives from
May 2013 to January 2015.

ALBEMARLE Pilgrim's



Dr Dinakar (Dino) Gnanamgari

Dr. Dinakar Gnanamgari was appointed Chief Commercial Officer and Chief Technical Officer and Chief Technical Officer of 5E Advanced Materials, Inc. in September 2021. From May 2021 to September 2021, Dr. Dinakar served as Chief Commercial Officer and Chief Technical Officer of Fort Cady (California) Corporation, Prior to joining Fort Cady (California) Corporation, Dr. Dinakar was the Global Business Vice President of Lithium Specialties of Albemarle Corporation from January 2018 to May 2021. Before joining Albemarle Corporation where he was the Global Health Segment Manager from January 2017 to December 2017 and Global Product Manager from May 2016 to December 2017. Additionally, Dr. Dinakar was the North American Product Manager of Axalta Coating Systems Ltd. From May 2014 to April 2016.





Chantel Jordan SVP, General Counsel and CPO

Chantel Jordan is a member of the state bar of Texas and Missouri and was appointed Senior Vice President, General Counsel, Chief People Officer, and Corporate Secretary of 5E Advanced Materials, Inc. in November 2021. In April 2022, Chantel was appointed Corporate Secretary of Fort Cady (California) Corporation. Chantel served as Assistant General Counsel and Assistant Corporate Secretary of American Bureau of Shipping from July 2020 to November 2021, Assistant General Counsel from June 2019 to June 2020, and Senior Counsel from July 2012 to May 2019.





Chance Pipitone

Chance Pipitone was appointed Senior Vice President of Corporate Development and Investor Relations in September 2021. Prior to joining 5E Advanced Materials, Inc., Chanson was a Senior Investment Professional at multiple investment firms, including Luminus Management, LLC from April 2018 to August 2021, Salient Partners, L.P., from February 2015 to April 2018, and Center Coast Capital Advisors, L.P. (now Brookfield Asset Management, Inc.) from September 2012 to February 2015





J.T. Starzecki

J.T. is global business executive, with extensive experience in the resources sector with a focus on market and customer development, capital raising, project finance, business strategy, and product placement. Prior to joining 5E, he was the Chief Marketing Officer for Anglo American Crop Nutrients, as well as Board Advisor to various junior mining companies. J.T. holds a Bachelor of Arts degree in Accounting from St. John's University.

(AngloAmerican





Paul Weibel

Paul Weibel is an active Certified Public Accountant and was appointed Chief Financial Officer of 5E Advanced Materials, Inc. in November 2021, Chief Financial Officer of Fort Cady (California) Corporation in May 2021, and director of Fort Cady (California) Corporation in April 2022. Paul served as Corporate Secretary of Fort Cady (California) Corporation from August 2021 to April 2022 and Treasurer since April 2022. Previously, Paul was the Financial Controller of Genlith, Inc. from January 2017 to May 2021 and Finance Director of the Schooner Investment Group LLC from July 2014 to December 2014.



Summary



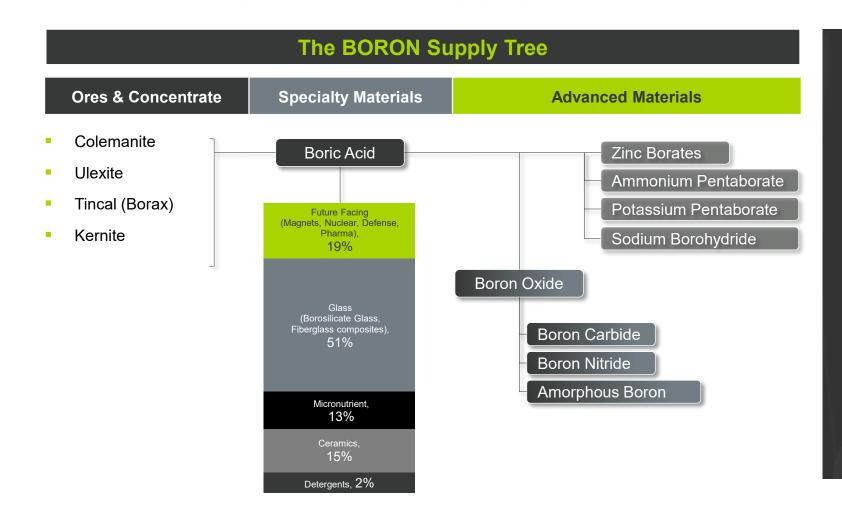
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- Unique boron opportunity scarce and valuable
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- Optionality with co-product lithium production and many boron end markets
- Catalyst rich



A. The Boron Supply Tree





Boric Acid provides a large foundation to sell into established and growing markets.

Advanced Materials add a high-value opportunity into existing and future facing industries with higher value-inuse based pricing.

Also creates opportunity to build an intellectual property portfolio.

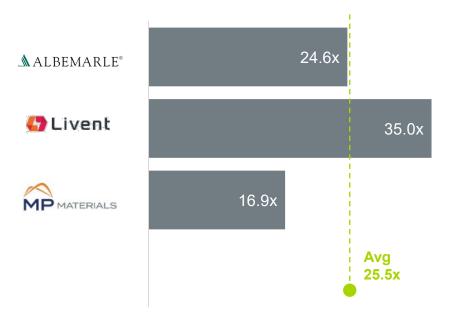
Source: SAI Industrial, LLC, Global Market Insights, Inc., and Company estimates.

B. Valuation Opportunity



Catalysts for Value Creation¹

Enterprise Value / 2022 LTM EBITDA Multiple



Significant valuation potential for Boron and 5E:

- Wider application set than battery metals
- Boron market is more concentrated with two producers at 85% of global supply
- Vertically integrated business model with significant U.S. resource
- High price and value-in-use product focus

¹ Factset data as of August 26, 2022.

C. Sustainability is an Important Focus for the Business



Building Blocks of 5E's Sustainability Strategy



PRODUCTION IMPACTS

Consume fewer resources

- In-situ extraction
- Closed loop water use
- Pre-heated solution
- Process energy management
- Integrated derivative production



ENERGY TRANSITION

Applications enable decarbonization

- Emissions reduction
- UN Sustainable Development Goals (SDG's)

COMMUNITY IMPACTS

Community prosperity

- Growing workforce
- Specialized training
- Local procurement and investment

FOCUS ON INNOVATION

New applications

- University research agreement
- Joint Development Agreements with customers
- Technical / research collaborations

BUILT-IN SUSTAINABILITY

'Clean sheet' advantage

- Board engaged
- Sustainability work underway
- Diverse Board and leadership
- Culture and mindset

D. Contribution to UN Sustainable Development Goals



The 5E operation and boron inputs into clean energy applications align across multiple UN SDG's

1 NO POVERTY	 Insulation adds climate resilience and reduces energy use and costs 	10 REDUCED INEQUALITIES	 Micronutrients help counter climate change effects on agriculture in poorer countries
2 ZERO HUNGER	 Micronutrients generate higher yields and support soil quality preservation 	11 SUSTAINABLE CITIES AND COMMUNITIES	 Visual displays and devices advance electrification Fiber optics enable access to services
3 GOOD HEALTH AND WELL-BEING	 EVs lower carbon emissions and reduce air pollution Pharmaceuticals support well-being Safe and healthy work environment 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 Boron enhances strength, durability, and life of products Cellulose insulation products use recycled material Closed loop water recycling
7 AFFORDABLE AND CLEAN ENERGY	 Renewable infrastructure accelerates transition to a net-zero future Process energy efficiency 	13 CLIMATE ACTION	 Permanent magnets and battery units improve EV performance and range Protective materials reduce resource use and extend asset life
8 DECENT WORK AND ECONOMIC GROWTH	Job creation and skills training	15 LIFE ON LAND	 In-situ extraction reduces land disturbance and eliminates overburden
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	 Composites improve performance and lifespan of sustainable infrastructure Local economic activity and infrastructure investment 	17 PARTNERSHIPS FOR THE GOALS	University research and technical collaboration

Source: United Nations: The Global Goals for Sustainable Development (SDGs).

