

5E ADVANCED MATERIALS PROVIDES CAPEX AND OPEX OPTIMIZATION UPDATE WITH CONTINUED PRODUCTION PROGRESS

Key Highlights

- *Production targets set to move forward towards next phase of customer qualification*
- *Opportunity to reduce wellfield sustaining CAPEX identified and quantified*
- *Consistent head grade of 5.5% to 6.0% achieved*
- *Higher mining temperature provides OPEX optimization opportunity*
- *Key optimization exercise progresses to feed FEL2 engineering program*

HESPERIA, CA., July 23, 2024 (GLOBE NEWSIRE) – 5E Advanced Materials, Inc. (Nasdaq: FEAM) (ASX: 5EA) (“5E” or the “Company”), a boron and lithium company with U.S. government Critical Infrastructure designation for its 5E Boron Americas Complex, is pleased to report continued progress towards steady state production and has identified CAPEX and OPEX optimization opportunities. While the operations team ramps towards its next target of three short tons per day, the engineering team continues to optimize CAPEX and OPEX, focusing on the mine plan, process, and biproduct mix.

At the end of June, the Company commenced its customer qualification program after producing commercial grade boric acid. To clear customer qualification, boric acid requires little to no moisture and impurities, as well as a specific particle size. Once initial production was achieved, the following 60 days were dedicated to refining the process to meet these customer specifications. After successful bench trials, the Company's technical and operations team made the necessary plant modifications to achieve commercial grade product. With confidence that the facility produces quality boric acid, the Company shipped initial samples.

Paul Weibel, Chief Executive Officer of 5E Advanced Materials commented, “our team has been diligently focused on producing boric acid at customer qualification specifications. Initial plant operations commenced in early April, and we achieved first production later that month. Within 60 days, our team delivered the first samples to key customer prospects. The team is now determined to achieve steady state operations, scale, and build inventory for the next phase of the customer qualification program, while producing quality product at planned rates.”

The next phase of customer qualification will require significantly more (up to 100 tons) boric acid for testing in a live manufacturing environment, and the next phase of customer qualification is targeted for Fall 2024. Over the previous weekend, the Company produced 2,800 pounds of boric acid, and the immediate target for production rates is three tons per day.

The Company's current technical report summary calls for a mine plan with 841 vertical wells. Initial recovery data and mine planning indicates that utilizing horizontal wells can increase solution flow rates, resource contact, and reduce the quantity of wells by a factor of up to ten which could meaningfully reduce CAPEX. For 5E, head grade equates to the quantity of boron in solution that is fed into the processing facility for crystallization. Based on historical reports from operations in the 1980's, the Company's predecessor parent company, American Pacific Borates, estimated head grade of 3.7%. Through the first six months of operation, actual head grade has consistently ranged between 5.5% and 6.0%, with an average of 9,822 ppm boron. The outperformance of head grade is attributed to mining solution entering the deposit at 140 degrees Fahrenheit where higher temperature drives a better head grade.

The Company's current technical report summary¹ assumes a head grade of 7.0% and we remain on track to achieve this level or better. After processing boric acid, the remaining solution includes deleterious elements, calcium, water, and 1.5% HCl. Through recirculation of the remaining solution, the 7.0% head grade or higher is expected to be achieved. As head grade increases, the process requires less energy for crystallization which would reduce OPEX costs. The Company's technical team is assessing the impact of increasing the temperature above 140 degrees such that OPEX is further reduced with less energy consumption.

Colemanite is a calcium-based deposit, and as boron is extracted, the process results in a calcium biproduct. The current technical report summary anticipates a gypsum biproduct which is not expected to add meaningful value. Other value-added biproducts such as calcium chloride and magnesium hydroxide are currently being assessed, in addition to the anticipated lithium stream. Magnesium is classified as a critical mineral according to the United States Geological Survey and production of magnesium hydroxide is expected to be accretive to cash costs and further reduce OPEX.

With production rates expected to ramp, line of sight on the next phase of customer qualification, and the optimization work currently in process near completion, the Company will prioritize its FEL2 engineering program with targeted completion in early 2025. Included in the scope of the FEL2 program is a capital estimate of +/- 25% for the 90,000 short ton per annum facility, which will drive an updated technical report summary and pre-feasibility report.

About 5E Advanced Materials, Inc.

5E Advanced Materials, Inc. (Nasdaq: FEAM) (ASX: 5EA) is focused on becoming a vertically integrated global leader and supplier of boric acid and boron specialty materials, complemented by lithium co-product production. The Company's mission is to become a supplier of these critical materials to industries addressing global decarbonization, food and domestic security. Boron and lithium products will target applications in the fields of electric transportation, clean energy infrastructure, such as solar and wind power, fertilizers, and domestic security. The business strategy and objectives are to develop capabilities ranging from upstream extraction and product sales of boric acid, lithium carbonate and potentially other co-products, to downstream boron advanced material processing and development. The

¹ Refer to the Company's announcement dated May 11, 2023. The Company confirms that it is not aware of any new information or data that materially affects the resource estimates, production targets or forecast financial information derived from the production targets, and that all material assumptions and technical parameters underpinning the resource estimates, production forecasts and forecast financial information derived from the production targets continue to apply and have not materially changed.

business is based on the company's large domestic boron and lithium resource, which is located in Southern California and designated as Critical Infrastructure by the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency.

Forward-Looking Statements

This press release includes "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. All statements other than statements of historical fact included in this press release regarding the company's business strategy, plans, goals, and objectives, including regarding the anticipated changes to the company's board of directors and management and anticipated benefits, are forward-looking statements. When used in this press release, the words "believe," "project," "expect," "anticipate," "estimate," "intend," "budget," "target," "aim," "strategy," "plan," "guidance," "outlook," "intent," "may," "should," "could," "will," "would," "will be," "will continue," "will likely result," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements are based on the Company'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 reserves and the inherent uncertainty in estimates of 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 project, including our ability to timely and successfully complete our Small Scale Boron Facility; our ability to obtain, maintain and renew required governmental permits for our development activities, including satisfying all mandated conditions to any such permits; the implementation of and expected benefits from certain reduced spending measures, and other risks and uncertainties set forth in our filings with the U.S. Securities and Exchange Commission from time to time. Should one or more of these risks or uncertainties occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward-looking statements. These risks are not exhaustive and the information in this press release may be subject to additional risks. No representation or warranty (express or implied) is made as to, and no reliance should be placed on, any information, including projections, estimates, targets, and opinions contained herein, and no liability whatsoever is accepted as to any errors, omissions, or misstatements contained herein. You are cautioned not to place undue reliance on any forward-looking statements, which speak only as to the date of this press release.

For additional information regarding these various factors, you should carefully review the risk factors and other disclosures in the Company's Form 10-K filed on August 30, 2023 and subsequent filings with the U.S. Securities and Exchange Commission throughout the year. Any forward-looking statements are given only as of the date hereof. Except as required by law, 5E expressly disclaims any obligation to update or revise any such forward-looking statements.

Additionally, 5E undertakes no obligation to comment on third party analyses or statements regarding 5E's actual or expected financial or operating results or its securities.

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