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# Pressure BioSciences Announces First Close and Customer for its Revolutionary Water-Soluble CBD Manufacturing System, the BaroShear K45

***Company Enters the Multi-Billion Dollar CBD Market with Proprietary Instrument System Designed to Significantly Improve the Processing of CBD Oil into High Quality, Water-Soluble Nanoemulsions***

**SOUTH EASTON, MA / ACCESSWIRE / July 25, 2019** / Pressure BioSciences, Inc. (OTCQB: PBIO) ("PBI" or the "Company"), a leader in the development and sale of broadly enabling, pressure-based instruments, consumables, and platform technology solutions to the worldwide life sciences industry, today announced the initial sale of its revolutionary BaroShear™ K45 processing system. This novel instrument system is based on the Company's proprietary Ultra Shear Technology™ (UST™) platform. The BaroShear K45 is a unique and powerful nanoemulsification system designed to resolve one of the most critical problems facing CBD manufacturers today: the extremely poor water solubility of CBD Oil.

CBD is a non-psychoactive compound that has been broadly demonstrated to offer powerful health benefits, addressing a variety of challenging medical conditions. CBD is extracted from the cannabis plant in an oil form. After ingestion of CBD, because oils are not well absorbed by human and other animal water-based bodies, most of the CBD is flushed from the system, leaving little of the product absorbed and circulating to provide its beneficial properties. Because of these solubility issues, many CBD products on the market today contain a costly and inefficient over-abundance of CBD, and/or undesirable chemicals that may have been used to try and improve its solubility in water.

Processing most oil-based products into nanometer-size droplets in emulsions with water ("nanoemulsions") often improves their absorption, medicinal benefits, visual appearance, and sensory presentation. Unfortunately, traditional processing methods used to make nanoemulsions struggle with this challenge. PBI's patented UST platform uses ultra-high pressure to create extreme shearing forces that create highly stable, homogenized nanoemulsions of materials that normally do not mix, such as CBD Oil and water. To view PBI's UST-processed CBD Oil being added to a soft drink, a sports drink, and a beer, please use the following link: [PBI UST CBD Video 040219](#).

Mr. Christopher Holden, Founder of Nano CBD Cosmetics LLC, commented: "We are thrilled to be the first purchaser of the BaroShear K45 system. This groundbreaking technology will enable companies producing nano-scale CBD emulsion products to meet the ever-increasing demand for CBD nanoemulsion products. In fact, our own nano-CBD products are currently selling faster than we can produce them. However, with PBI's cutting-edge technology, we expect to increase our nano-emulsified, water-soluble CBD production

capacity to many multiples of what it is today...and that is huge.”

Mr. Dan Jorgenson, a Director of Nano CBD Cosmetics LLC, said: “We strongly believe that nano-emulsified CBD products will soon become established as an important new standard in the industry. Consequently, Chris and his team have spent significant time working on the development of our own nanoemulsification strategies, while concurrently evaluating options from multiple sources. In the end, we came to the inescapable conclusion that PBI’s BaroShear K45 CBD processing system offers the most important opportunity that we have identified to truly revolutionize the water-soluble, nano-CBD industry.”

The total cannabinoid market is expected to hit \$89 billion by 2024 (<https://mordorintelligence.com/industry-reports/cannabis-market>), with CBD oil-based products being the cornerstone of the non-psychoactive portion of this exploding market. For CBD products commonly consumed orally - including CBD oils in edibles and beverages - absorption is typically below 10% (ERTH 8/28/2018: Water Soluble CBD - The Science of Nanoemulsions and Bioavailability). PBI believes that processing with the UST-based BaroShear K45 system will deliver greatly improved absorption results (potentially as high as 90%) for CBD and a universe of other oil-based supplements.

Richard T. Schumacher, President and CEO of PBI, said: “From my first meeting with both Dan and Christopher earlier this year, I was impressed with their knowledge of the industry, the quality of their products, and their dedication to their company and customers. I was most impressed with their commitment to make and sell only the highest quality CBD products possible. Although they have spent significant time and money developing their own methods to make water-soluble CBD, they ultimately were compelled to invest in PBI’s UST-based method for achievement of truly superior and stable nanoemulsion results. They are fully committed to switching to the BaroShear K45 system as it becomes available from our initial production run. We applaud their dedication to their customers and feel privileged to welcome them into the PBI Family”.

Mr. Schumacher continued: “We are also pleased to announce that we are in advanced discussions with over a half dozen additional companies about the potential of their purchasing the BaroShear K45 processing system. Since we plan to make only about a dozen processing systems in our initial manufacturing run, we are optimistic that purchase orders will be received for all available BaroShear K45 systems well before our original forecast of September 30, 2019. This is truly an exciting time to be a stakeholder in PBI.”

### **About Pressure BioSciences, Inc.**

Pressure BioSciences, Inc. (OTCQB: PBIO) is a leader in the development and sale of innovative, broadly enabling, pressure-based solutions for the worldwide life sciences industry. Our products are based on the unique properties of both constant (i.e., static) and alternating (i.e., pressure cycling technology, or PCT) hydrostatic pressure. PCT is a patented enabling technology platform that uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels to safely and reproducibly control bio-molecular interactions (e.g., cell lysis, biomolecule extraction). Our primary focus is in the development of PCT-based products for biomarker and target discovery, drug design and development, biotherapeutics characterization and quality control, soil & plant biology, forensics, and counter-bioterror applications. Additionally, major new market opportunities have emerged in the use of our pressure-based technologies in the following areas: (1) the use of our recently

acquired, patented technology from BaroFold, Inc. (the “BaroFold” technology) to allow entry into the bio-pharma contract services sector, and (2) the use of our recently-patented, scalable, high-efficiency, pressure-based Ultra Shear Technology (“UST”) platform to (i) create stable nanoemulsions of otherwise immiscible fluids (e.g., CBD Oil and water) and to (ii) prepare higher quality, homogenized, extended shelf-life or room temperature stable low-acid liquid foods that cannot be effectively preserved using existing technologies.

## **Forward Looking Statements**

This press release contains forward-looking statements. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed, implied or inferred by these forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "would," "expects," "plans," "intends," "anticipates," "believes," "estimates," "predicts," "projects," "potential" or "continue" or the negative of such terms and other comparable terminology. These statements are only predictions based on our current expectations and projections about future events. You should not place undue reliance on these statements. In evaluating these statements, you should specifically consider various factors. Actual events or results may differ materially. These and other factors may cause our actual results to differ materially from any forward-looking statement. These risks, uncertainties, and other factors include, but are not limited to, the risks and uncertainties discussed under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, and other reports filed by the Company from time to time with the SEC. The Company undertakes no obligation to update any of the information included in this release, except as otherwise required by law.

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