

ARIANNE PHOSPHATE EXPLORING THE USE OF PHOSPHATE IN HYDROGEN-BASED TECHNOLOGIES

-Company is working with the University of Quebec at Three-Rivers in the use of phosphate in electrolysers and energy cells

DAN: TSX-V (Canada)

JE9N: FSE (Germany)

DRRSF: OTC (USA)

SAGUENAY, QC, Dec. 15, 2021 /CNW Telbec/ - **Arianne Phosphate (the “Company” or “Arianne”)** (TSXV: DAN) (OTC: DRRSF) (FRANKFURT: JE9N), a development-stage phosphate mining company, advancing its Lac à Paul project in Quebec’s Saguenay-Lac-Saint-Jean region, is pleased to announce that it is working with the University of Quebec at Three-Rivers (“UQTR”) to assess the use of Arianne’s high-purity phosphate concentrate in electrolysers that produce hydrogen for use in hydrogen fuel cells.

UQTR’s work is focusing on designs around the proton exchange membrane (“PEM”) within electrolysers that produce hydrogen for use in fuel cells. Currently, electrolysers have three main challenges for mass production: performance, durability and cost. The current research centers on the use of phosphate-based materials in the components of the electrolyser and would address these challenges. Phosphate does allow for greater ionic conductivity and will optimize hydrogen production. Heading this work will be Dr. Samaneh Shahgaldi, an Associate Professor and Canadian Research Chair at UQTR and, Adjunct Associate Professor at the University of Waterloo. Dr. Shahgaldi has also served in industrial and commercial roles, acting as Senior Research Scientist at Cummins/Hydrogenics.

“Although early in the process, electrolysers, as well as our recently announced work with LFP batteries, continues to demonstrate the increasing demands for phosphate beyond the agricultural sector,” said Brian Ostroff, President of Arianne Phosphate. “Arianne’s high-purity phosphate is ideal to meet the world’s growing demand for phosphate as it very well-suited for applications of all sorts; from fertilizer to advanced energy applications. Further, with the project located in Quebec, Canada, it addresses many offtakers’ concerns around security of supply; an issue that has, and continues to, affect the global availability of phosphate.”

In partnering with UQTR and Dr. Shahgaldi, Arianne continues its involvement with groups looking to use high-purity phosphate for specialty applications. Green hydrogen production is an industry that the Province of Quebec believes has a bright future and, the Government recently announced that it is currently assessing plans to move the industry forward.

Similarly, with regards to lithium-iron-phosphate (“LFP”) batteries, Quebec has been aggressively backing initiatives to be a major center for materials, technology, and

production, having initiated discussions with many industry players. Aside from this separate initiative involving electrolyzers for hydrogen fuel cells, Arianne announced last month (see Press Release dated November 3, 2021) that it is currently testing its high-purity phosphate concentrate to meet battery-grade specifications for LFP battery production.

As well, Arianne today has announced a grant of 595,000 stock options to members of the Board of Directors. Each Option entitles the holder to purchase one common share of the Company until December 14, 2031 at a price of \$0.41 per share, this being the closing price of the Company's shares on the trading day preceding the date of the grant. The Options are subject to a vesting period and are also subject to regulatory approval.

Qualified Person

Raphael Gaudreault, eng. Qualified Person by NI 43-101, has approved this release. Mr. Gaudreault is also the Company's Chief Operating Officer.

About Arianne Phosphate

Arianne Phosphate ("Arianne Phosphate Inc.") (www.arianne-inc.com) is developing the Lac à Paul phosphate deposits located approximately 200 km north of the Saguenay/Lac St. Jean area of Quebec, Canada. These deposits will produce a high-quality igneous apatite concentrate grading 39% P₂O₅ with little or no contaminants (Feasibility Study released in 2013). The Company has 185,464,469 shares outstanding.

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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Cautionary Statements Regarding Forward Looking Information

This news release contains "forward-looking statements" and "forward-looking information" within the meaning of applicable securities regulations in Canada and the United States (collectively, "forward-looking information"). Forward-looking information includes, but is not limited to, anticipated quality and production of the apatite concentrate at the Lac à Paul project. Often, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes", or the negatives thereof or variations of

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