



ARIANNE PHOSPHATE INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

THREE-MONTH PERIOD ENDED MARCH 31, 2023



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This Management's Discussion and Analysis ("MD&A") presents an analysis of the financial situation and operations of Arianne Phosphate Inc. ("Arianne" or the "Company") for the period ended March 31, 2023. This report was prepared in compliance with the provisions of Form 51-102, approved by the Board of Directors and dated May 23, 2023. It should be read in conjunction with the unaudited condensed interim consolidated financial statements for the three-month periods ended March 31, 2023 and 2022, (the "financial statements") and the consolidated audited financial statements for the years ended December 31, 2022, and 2021.

The Company's consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards ("IFRS") applicable to the preparation of interim financial statements, including International Accounting Standard ("IAS") 34, *Interim Financial Reporting*. All monetary amounts included in this MD&A are expressed in Canadian dollars, the Company's reporting, and functional currency, unless otherwise noted.

The accounting policies followed in the financial statements are consistent with those applied in the Company's annual financial statements for the year ended December 31, 2022, and, where required, in Note 2 of the unaudited condensed interim consolidated financial statements for the three-month periods ended March 31, 2023 and 2022.

Raphael Gaudreault, mining engineer, chief operating officer of Arianne, qualified person under NI 43-101, has reviewed the following technical disclosure.

Further information regarding the Corporation and its operations are filed electronically on the System for Electronic Document Analysis and Retrieval (SEDAR) in Canada and can be found on www.sedar.com.

FORWARD-LOOKING INFORMATION

Certain statements in this MD&A about our current and future plans, expectations and intentions, results, levels of activity, performance, goals or achievements, or any other future events or developments constitute forward-looking statements. The words "may", "will", "would", "should", "could", "expects", "plans", "intends", "trends", "indications", "anticipates", "believes", "likely", "predicts", "estimates" or "potential" or the negative or other variations of these words or other comparable words or phrases, are intended to identify forward-looking statements. Specific forward-looking statements in this MD&A include, but are not limited to, statements with respect to the general development of the business and the eventual start of commercial production and to the liquidity position of the Company. Forward-looking statements are based on information currently available to us and on estimates and assumptions made by us regarding, among other things, general economic conditions and the mining industry in general, in light of our experience and perception of historical trends, current conditions and expected future developments, as well as other factors that we believe are appropriate and reasonable in the circumstances. Although reasonable, the statements can entail known and unknown risks and uncertainties and, accordingly, actual results and future events could differ materially from those anticipated in such statements.

Arianne ensures to comply with all relevant environmental and social laws, regulations and permits in all material respects.

DESCRIPTION OF THE BUSINESS

Arianne is a company focused on the development of the Lac à Paul phosphate project (Lac à Paul) located in the Saguenay-Lac-St-Jean area, in the province of Quebec. The Company's shares are listed on the TSX Venture Exchange (symbol DAN), on the Frankfurt exchange (symbol JE9N) and on the OTCQX Market (OTCQX) (symbol DRRSF). The registered office of the Company is located at 393 Racine Street East, Suite 200, Chicoutimi, Québec, Canada G7H 1T2.

HIGHLIGHTS IN DEVELOPMENT ACTIVITIES

- In March 2023, the Company received engineering study updating its Lac a Paul expected capital expenditures ("CapEx"). The study was undertaken in late 2022 and early 2023 and estimates CapEx for the Lac à Paul project to be approximately US \$1.55 billion, based on a \$1.35 US/CAD exchange rate. The CapEx estimate also includes required infrastructure upgrades, including a hydroelectric transmission line from dam to site and, a ship-loading facility on the north shore of the Saguenay River.
- The Company has received positive results from tests that confirm its high-purity phosphate concentrate can be used in the production of technical grade phosphoric acid used in the production of batteries, since the lithium-iron-phosphate battery ("LFP") has emerged as a leading technology in batteries.

More details can be found in section **OPERATIONAL REVIEW AND HISTORY**.

OTHER HIGHLIGHTS

- On March 31, 2023, the Company announced the issuance of 3,899,424 shares as its annual interest payment due on the same date, at a price of \$0.5107. Also, the Company announced a repayment of \$1M on the outstanding credit line.
- On March 16, 2023, the Company sold its 1.5% royalties covering 25 claims in the James Bay area to Lithium Royalty Corp for \$2,350,000.
- On January 24, 2023, the Company appointed Marco Gagnon as Chairman of the Board of Directors and named Dr Raef Sully as Director.

OPERATIONAL REVIEW AND HISTORY

Although 85% of the world's phosphate production is used in fertilizer, there is a growing demand from other specialty applications. Due to the nature of Arianne Phosphate's deposit, it allows the Company to produce a very high-purity, low-contaminant phosphate concentrate that can be used for other applications, as well as, for fertilizer. Arianne has been active in pursuing several opportunities that would allow its product a greater potential customer base.

LITHIUM-IRON-PHOSPHATE (LFP) BATTERY

Over the last several years, the LFP battery has been gaining greater penetration among certain segments of the automotive industry with, several large companies increasing the number of vehicles using these batteries. Since the beginning of 2023, major automobile companies announced the construction of their

LFP plants in the United States and Canada, while others are considering adopting LFP batteries. Also, a major foreign player in phosphoric acid has received a grant from a US government agency to build a cathode manufacturing facility in the US. A constraint on some of the current battery technologies has been the ability to source both an ample and safe supply of the necessary materials to produce these batteries, a challenge that is impacting the industry. In the case of LFP batteries, both iron and phosphate are easier to source and, should provide for the substantial growth that is expected to come over the next few years.

Arianne's high-purity concentrate can work across a wide spectrum of needs, from fertilizer through to more advanced applications, and Arianne's location in a safe geopolitical environment provides security of supply for those looking to source their phosphate.

Arianne completed a pre-feasibility study with Prayon (see Press Release dated October 30, 2019) several years ago and, given the demand for purified phosphoric acid, the Company continues to look at opportunities to expand further downstream and be a producer for the LFP market. Arianne phosphate concentrate responded extremely well during the process in 2019 and was capable of producing a 60% P₂O₅ Merchant Grade Acid ("MGA") and opposed to usual 52% MGA and, therefore, should be able to be sold at higher margin. Further, because of the high-quality nature of the Arianne phosphate concentrate input, the gypsum by-product produced during the process appears to have commercial value, as opposed to the typical contaminated waste generated by using traditional phosphate rock sources.

Tests were performed during 2022, using phosphoric acid samples produced by Prayon Technologies, a division of PRAYON S.A. ("Prayon"), a world leader in the production of purified phosphoric acid and, a necessary ingredient in the production of LFP batteries. The report extensively details the full process of converting Arianne's phosphate concentrate into acid, reviewed various methods of doing so, optimized performance/recoveries and provided full specifications. Aside from the reports, Arianne also received samples of the purified phosphoric acid made from its phosphate concentrate and produced through the process. Both reports and samples are currently being made available to companies interested in having access to Arianne's phosphate concentrate or, products made from it.

DIRECT APPLICATION

Arianne is working with Riviere-du-Loup Cegep on the development of a new breed of fertilizers using organic waste and Arianne's high-purity, low-contaminant phosphate concentrate.

Currently, the industry practice is to take mined phosphate concentrate and ship it to a phosphoric acid facility. There, it is combined with sulphuric acid and other ingredients to make 'downstream' phosphate-based fertilizers such as MAP and DAP. By working with both research and commercial organizations, Arianne is looking at ways to alter the traditional process and combine its concentrate with organic waste or other bacteria that would allow its phosphate concentrate to effectively be used in farming without the requirement of traditional acidulated fertilizer products.

For the agricultural industry, it could allow the farmer the ability to move away from acid-based processes and, by integrating with organic waste, allow for a more circular and environmentally friendly process. Logistically, it would also allow Arianne to be less reliant on downstream facilities to purchase its phosphate and transform it into fertilizers.

HYDROGEN-BASED TECHNOLOGY

Currently, electrolyzers 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.

Arianne Phosphate is working with the Université du Québec à Trois-Rivières UQTR”) to assess the use of Arianne’s high-purity phosphate concentrate in electrolyzers that produce hydrogen for use in hydrogen fuel cells. UQTR’s work is focusing on designs around the proton exchange membrane (“PEM”).

OFF-TAKE AGREEMENTS

In September and December 2018, the Company announced the formal execution of two off-take agreements. Under the terms of those agreements, the buyers have entered into long-term contracts to purchase Arianne’s high-purity phosphate concentrate which will be shipped to the buyers’ processing plant for further processing into downstream phosphate products. The off-take agreements also have a mechanism whereby it can be extended beyond the initial contract period and applies pricing that accounts for the high quality of Arianne’s concentrate. The Company is conducting ongoing discussion and negotiations with addition potential customers and off-takers.

At the end of 2021 and beginning of 2022, Arianne had extended the existing offtake agreements, which demonstrates the interest of the market in our rock and the support we receive from our future clients.

PAUL PROJECT RESERVES

Proven and Probable (P&P) reserves estimated in the Feasibility study published in October 2013 are presented in the next table.

Reserve ⁽¹⁾	Paul Zone (cut-off grade: 3.5% P ₂ O ₅)	
	Tonnage (Mt)	Grade (% P ₂ O ₅)
Proven (P)	313.71	6.92
Probable (P)	158.38	6.80
Total (P&P)	472.09	6.88

(1) Reserves were estimated in 2013 from the Paul Zone resources estimate at the time which amount 590M.24 Mt at 7.13%P₂O₅ (cut-off grade of 4.0%P₂O₅).

PAUL PROJECT RESOURCES

Through further exploration activities completed in 2014, additional resources were estimated on the project. All the up-to-date resources of the Lac à Paul project are presented in the next table.

Resources presented were published in press releases from February 18. 2015. July 16. 2014. May 15. 2014 and November 8. 2011.

	Measured (M) ⁽²⁾		Indicated (I) ⁽²⁾		Total (M&I) ⁽²⁾		Inferred (I) ⁽²⁾	
	Mt	%P ₂ O ₅	Mt	%P ₂ O ₅	Mt	%P ₂ O ₅	Mt	%P ₂ O ₅
Paul + extensions⁽¹⁾ (cut-off grade: 4 %P ₂ O ₅)	317.64	7.29	385.06	7.05	702.7	7.16	26.01	6.58
Nicole (cut-off grade: 3.5 %P ₂ O ₅)							78.20	5.34
Manouane (cut-off grade: 2.43 %P ₂ O ₅)	136.90	5.93	26.90	5.64	163.80	5.88		
Traverse (cut-off grade: 3.5 %P ₂ O ₅)							17.00	5.98
TraMan Sud (cut-off grade: 3.5 %P ₂ O ₅)							146.00	5.30
Zone 2 (cut-off grade: 2.43 %P ₂ O ₅)							64.00	4.55

(1) **Cautionary Statements:** M+I Resources are inclusive of P&P reserves

(2) **Cautionary Statements:** Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. It is uncertain if further exploration will result to upgrade this inferred resource at indicated and measured resources.

METALLURGY

In 2020, the Company conducted metallurgical tests performed at COREM Labs in Quebec City, Canada. Arianne weighed the benefits of using a different collector agent sourced from NordChem, a Canadian-based company that provides tailor-made chemicals to the mining industry. Results from these tests demonstrated that Arianne could produce a phosphate concentrate averaging 40.25% P₂O₅ with recoveries ranging between 91.1% and 93.2% and, combined with the rapidity with which this collector acts, would also produce cost savings in the production of our high purity concentrate.

In 2020, Arianne also received further results from tests designed to optimize its metallurgical process. The process was run at lower water temperatures to simulate the water temperatures available at site through most of the operating year. Using water at 4°C, as opposed to the originally tested 20°C, showed no adverse effect on the recoveries or quality of Arianne's phosphate concentrate and thus, will allow Arianne to produce the same quality product while reducing the time and costs associated with heating.

The tests conducted in 2013 for the feasibility study demonstrated the possibility of producing an apatite concentrate containing 38.6% P₂O₅ with a recovery of 90%. Additional tests carried out at the request of potential clients have significantly improved the quality of the concentrate by lowering the content of certain contaminants, thus reducing the minor elements ratio (MER) from 0.089 to 0.030. These tests allowed us to produce more than one tonne of concentrate with a 40% P₂O₅ content.

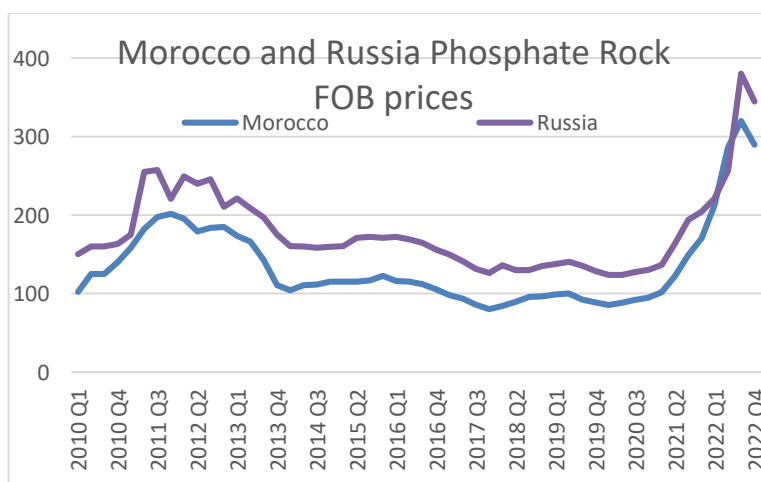
PHOSPHATE INDUSTRY TRENDS

The ongoing conflict between Russia and Ukraine has disrupted the supply of many commodities from Russia and has created huge implications for the fertilizer market. Russia is a very large producer and exporter of various fertilizers, including phosphate. They are also the only producers of high-purity rock (39%), having a igneous deposit. The Lac à Paul project can offer a domestic supply for North America, as well as export to other areas globally. This continues to highlight the importance of a safe geopolitical jurisdiction.

Global demand for phosphate is expected to increase over the medium and long term due to global population growth and a shift in dietary habits towards more protein-rich foods, before taking into consideration the additional needs related to LFP batteries. Within this context, the Lac à Paul project can satisfy a portion of this growing demand and provide a reliable and secure supply of high-quality phosphate rock. Phosphate has no substitute and is a key component essential to life. It helps root development and drought resistance in plants.

Phosphate purchasers (potential customers) are concerned with the security of supplies and are aware of the beneficial geopolitical situation regarding the region where the mine is located. The Lac à Paul project is located in a politically stable mining-friendly jurisdiction. As well, as a result of European legislation and environmental issues in North America, there has been a growing awareness surrounding the nature of the phosphate concentrate that is used in the production of fertilizer and other applications. Due to these growing concerns, the interest in higher purity phosphate rock, such as Arianne's, is projected to increase. Supply has also been constrained by China's export ban on phosphate fertilizers and now, the restriction on exports from Russia.

Since the beginning of 2021, the market of fertilizer had seen many disturbances. This is reflecting on the pricing of the phosphate rock which had been increasing significantly since the beginning of 2021.



Source: CRU

SELECTED FINANCIAL INFORMATION

THREE-MONTH PERIODS ENDED MARCH 31, 2023 AND 2022

DESCRIPTION	THREE-MONTH PERIOD ENDED MARCH 31, 2023	THREE-MONTH PERIOD ENDED MARCH 31, 2022
Net loss (a)	148,694	2,305,366
Basic and diluted loss per share	0.00	0.01

- (a) The net loss for the first quarter of 2023 was lower because in March 2023 the Company sold a 1.5% NRS lithium royalty for \$2,350,000 having a cost of nil.

CASHFLOWS, LIQUIDITY AND CAPITAL MANAGEMENT

As at March 31, 2023, the Company had a working capital of \$2,191,041, which included cash of \$5,150,564. Management of the Company believes that it has sufficient funds to maintain the status of its current obligations and keep its properties in good standing, to pay its ongoing general and administrative expenses and to meet its liabilities, obligations, and existing commitments beyond the ensuing 12 months as they fall due. In assessing whether the going concern assumption is appropriate, management considers all available information about the future. To continue the Company's future operations and fund its development expenditures, the Company will periodically need to raise additional funds, which may be completed in several ways, including, but not limited to, the issuance of new equity, debt financing or securing capital from potential partners. While management has been successful in securing financing in the past, there can be no assurance that it will be able to do so in the future or that these sources of funding or initiatives will be available to the Company or that they will be available on terms which are acceptable to the Company.

WORKING CAPITAL

The working capital was \$2,191,041 as at March 31, 2023, compared to a working capital of \$1,478,826 as at December 31, 2022. The decrease is due to additional cash inflow from the sale of the lithium royalty for \$2,350,000 in March 2023.

CASH FLOWS PROVIDED BY (USED IN)	THREE-MONTH PERIOD ENDED MARCH 31, 2023	THREE-MONTH PERIOD ENDED MARCH 31, 2022
	\$	\$
Operating activities	(251,461)	(269,210)
Investment activities (a)	2,135,633	(150,195)
Financing activities	11,514	(11,208)
Increase (decrease) in cash and cash equivalents	1,895,686	(430,613)

- (a) The difference between 2023 and 2023 is the reception of \$2,350,000 from the sale of the lithium royalty in March 2023.

SUMMARY OF QUARTERLY RESULTS

DESCRIPTION	Q1-2023 (A)	Q4-2022	Q3-2022	Q2-2022
Net loss	(148,694)	(2,214,960)	(2,149,098)	(2,431,834)
Basic and diluted loss per share	(0.00)	(0.01)	(0.01)	(0.02)

DESCRIPTION	Q1-2022	Q4-2021	Q3-2021	Q2-2021
Net loss	(2,305,366)	(2,026,219)	(1,836,201)	(2,049,677)
Basic and diluted loss per share	(0.01)	(0.01)	(0.01)	(0.01)

- (A) The net loss for the first quarter of 2023 was lower because in March 2023 the Company sold a 1.5% NRS lithium royalty for \$2,350,000 having a cost of nil.

The information contained in the summary of quarterly results is presented in accordance with IFRS. Amounts in this table are presented in Canadian dollars which is also the functional currency.

OFF BALANCE SHEET ARRANGEMENTS

As of the date of this MD&A, the Company does not have any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on the results of operations or financial condition of the Company, including, and without limitation, such considerations as liquidity and capital resources.

APPLICATION OF NEW IFRS AND CRITICAL ACCOUNTING ESTIMATES

The preparation of consolidated financial statements in conformity with IFRS requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. Refer to note 2 in the unaudited condensed interim consolidated financial statements for the three-month periods ended March 31, 2023 and 2022. Also, there is a summary of significant accounting policies in notes 2 and 3 of the consolidated financial statements for the year ended December 31, 2022, and a summary of the critical accounting estimates and judgements in the note 4 of the audited financial statements for the year ended December 31, 2022.

FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL MANAGEMENT

The Company's financial instruments, financial risk and capital management are presented and described in the audited consolidated financial statements for the year ended December 31, 2022.

INFORMATION ON SHARES OUTSTANDING

	AS AT MAY 23, 2023
Common shares	194,626,772
Stock options	7,800,667
Warrants	41,410,776
Options granted to brokers	250,717

(s) Raphael Gaudreault
Raphael Gaudreault
Chief Operating Officer

(s) Geneviève Ayotte
Geneviève Ayotte
Chief Financial Officer

BOARD OF DIRECTORS AND OFFICERS

MARCO GAGNON, Chairman of the Board of Director

JEFFREY BECK, Chief Executive Officer and Director

BRIAN OSTROFF, President and Director

JIM COWLEY, Director

STEVEN L. PINNEY, Director

SIVA J. PILLAY, Director

DOMINIQUE BOUCHARD, Director

CLAUDE LAFLEUR, Director

RAEF SULLY, Director

RAPHAEL GAUDREALT, Chief Operating Officer

GENEVIÈVE AYOTTE, Chief Financial Officer

TICKER SYMBOLS

DAN: TSX-V (Canada)

JE9N: FSE (Germany)

DRRSF: OTCQX (USA)

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