

***ARIANNE PHOSPHATE INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS***

**Year ended December 31, 2018**



**TABLE OF CONTENTS**

FORWARD-LOOKING INFORMATION	3
DESCRIPTION OF THE BUSINESS	3
HIGHLIGHTS	3
OBJECTIVES	5
FEASIBILITY STUDY (“FS”)	6
OPERATIONAL REVIEW	6
PHOSPHATE INDUSTRY TRENDS	11
SUSTAINABLE DEVELOPMENT	12
SELECTED ANNUAL INFORMATION	13
FINANCIAL POSITION ANALYSIS	14
CASHFLOWS, LIQUIDITY AND CAPITAL MANAGEMENT	15
FINANCING	16
SUMMARY OF QUARTERLY RESULTS	17
SUMMARY OF FINANCIAL ACTIVITIES FOR THE THREE-MONTH PERIOD ENDED DECEMBER 31, 2018	18
RELATED PARTY TRANSACTIONS	18
OFF BALANCE SHEET ARRANGEMENTS	19
OBLIGATIONS AND COMMITMENTS	19
SIGNIFICANT ACCOUNTING POLICIES, APPLICATION OF NEW ACCOUNTING STANDARDS AND CRITICAL ACCOUNTING ESTIMATES	20
FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL MANAGEMENT	20
EVENTS AFTER THE REPORTING PERIOD	20
INFORMATION ON SHARES OUTSTANDING	20

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 year ended December 31, 2018. This report was prepared in compliance with the provisions of Form 51-102F1, approved by the Board of Directors and dated March 20, 2019. It should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 2018 (the "financial statements").

The financial statements for the year ended December 31, 2018, were prepared in accordance with International Financial Reporting Standards ("IFRS").

All amounts presented in the MD&A are in Canadian dollars (CAD) unless otherwise noted.

## **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 host country 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 US Stock Exchange Over-the-Counter (OTC) (symbol DRRSF). The registered office of the Company is located at 393 Racine Street East, Suite 200, Chicoutimi, Québec, Canada G7H 1T2.

## **HIGHLIGHTS**

- In December 2018, the Company extended its secured credit facilities with Mercury which will now have a maturity of June 30, 2020. These credit facilities will continue to bear interest at an

annual rate of 15%, with all interest capitalized through maturity. The Company has also issued Mercury 22,417,458 non-transferable warrants with an exercise price of \$0.425 per share. The warrants are exercisable through June 30, 2020. As required under the policies of the TSX Venture Exchange, 17,338,739 non-transferable warrants originally issued to Mercury have been cancelled as a result of the new extension.

Arianne has also closed on an unsecured loan in the aggregate amount of \$1.5 million with third party lenders. This loan will bear interest at a rate of 12% per annum and mature on December 19, 2019. In conjunction with the loan, Arianne issued the lenders 2,117,646 non-transferable warrants at an exercise price of \$0.425 per share, exercisable until December 19, 2019.

- In December 2018, Arianne announced its second formal offtake agreement for the purchase and marketing of its high-purity phosphate concentrate. Under the terms of the agreement, the buyer has a commitment to purchase a specific annual quantity of phosphate concentrate and, has been granted an option to purchase additional amounts under certain terms and conditions.
- In October 2018, the Company announced that the Port of Saguenay received a favorable decision with regards to the construction of a maritime terminal facility on the north shore of the Saguenay River. Granted by the Minister for the Environment and Climate Change, the Honorable Catherine McKenna, this decision now paves the way forward for the construction of a terminal that will allow for the shipping of Arianne's phosphate concentrate to customers around the world. In light of this announcement, the Company determined that the technical feasibility and commercial viability of the Lac à Paul property had been established and, accordingly, the Company reclassified capitalized costs associated with the Lac à Paul property from exploration and evaluation assets and mining properties to mineral property under development within property, plant and equipment.
- In September 2018, the Company announced the formal execution of its first offtake agreement. Under the terms of the Agreement, the buyer has entered into a long-term contract to purchase Arianne's high-purity phosphate concentrate which, will be shipped to the buyer's processing plant for further processing into downstream phosphate products. The offtake agreement also has 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.
- In August 2018, the Company announced the appointment of Mr. Claude Lafleur, to the Company's Board of Directors.
- In August 2018, the Company announced that it has partnered with the Province of New Brunswick to further its review of constructing a phosphoric acid plant in Belledune, New Brunswick. As part of this agreement, the Government, through Opportunities New Brunswick ("ONB"), will provide a financial contribution toward the cost of a prefeasibility study, the next step in Arianne's assessment of its downstream opportunity.
- In August 2018, the Company announced it has entered into a Memorandum of Understanding ("MoU") for the supply of sulphuric acid. Aside from phosphate rock, a phosphoric acid plant would also require a supply of sulphuric acid that could be consistently delivered in timely fashion. It is on this basis that Arianne has entered into an MoU with a large marketer of sulphuric acid. This agreement will allow the Company to work with a strong industry player that can

provide the venture ongoing guidance on sulfuric acid pricing, logistics and industry supply/demand trends; all necessary aspects in determining the project's viability.

- In April 2018, the Company announced that it received a grant of \$1.5 million from the Ministry of Energy and Natural Resources of Quebec. This funding has been provided as part of the Government's plan to help advance the Quebec phosphate (apatite) sector. Arianne will be using this funding in support of its previously announced program to produce additional high-purity phosphate concentrate to fulfil demand from potential customers and, to conduct further pilot-scale tests. The tests will be conducted at COREM (Research Consortium for the Treatment and Processing of Mineral Substances) in Quebec City, where the Company conducted its previous pilot-scale tests, and, materials will be sent to parties that have expressed a strong interest in pursuing some form of offtake and/or a strategic partnership with Arianne.
- In March 2018, the Company announced that it has received an investment from the Government of Quebec by way of private placement of \$1,407,000 into the common shares of Arianne. Under the terms of the offering, the Company issued 2,333,333 units at a price of \$0.63 per unit. Each unit is comprised of one common share and one half of one common share purchase warrant. Each warrant entitles its holder to purchase one common share at a price of \$0.85 per share until March 14, 2021.
- In March 2018, the Company announced, the start of research and development work to integrate aluminum in the design of the trailer that will transport the phosphate concentrate from the Lac à Paul mine to the deep-water port that will be located in Sainte-Rose-du-Nord. The work will be done by the National Research Council of Canada (NRC) and Alcoa Innovation. In order to carry out this major work, Arianne will be able to rely on confirmed financial support from the *Centre québécois de recherche et de développement de l'aluminium* (CQRDA) and the *Société de la vallée de l'aluminium*.

## OBJECTIVES

The strategic objectives that guide management and the Company's directors can be summarized as follows:

- Assist the Port of Saguenay in securing their environmental permitting from "Canadian Environmental Assessment Agency" (CEEA) (done); and
- Continue to optimize its Lac à Paul project by reducing projected cash operating production costs and capital expenses (on going);
- Sign an "Impact and Benefit Agreement" (IBA) with the First Nations (on going);
- Secure financing for construction and development of the Lac à Paul project (the "Project") (on going).

Over the medium term, the Company's goal remains to build a profitable phosphate mine that will generate economic returns and benefits for our shareholders as well as stakeholders in the Saguenay-Lac-St-Jean region and Québec.

## FEASIBILITY STUDY (“FS”)

In October 2013, Arianne released the FS of its Lac à Paul phosphate mine project. The FS outlines an open pit mine, a mill producing a high-quality phosphate concentrate and a transport system to deliver the product to a year-round, deep-water port on the Saguenay River.

### Study highlights

- Net present value (“NPV”) of US\$1,910.1 million before taxes at an 8% discount rate.
- Gross revenue, in real terms, of US\$16.1 billion, and operating cash flows of US\$7.4 billion.
- Internal rate of return (“IRR”) of 20.7% with a capital payback of 4.4 years before taxes and mining duties.
- A 26-year mine life (excluding pre-production) with an average annual phosphate concentrate production of 3 million tonnes with a grade of 38.6% P<sub>2</sub>O<sub>5</sub> and with average mill recovery of 90.0%.
- Initial capital cost of US\$1,215 million, comprised of US\$983 million for the mine and US\$232 million for the concentrate transport system that delivers product to the deep-water Port of Saguenay, open 365 days a year.
- Life of Mine (LOM) operating cash cost on board the ship in the deep-water Port of Saguenay of US\$93.7/tonne yielding an operating margin of 56% on an average selling price of US\$213/tonne.
- Measured and indicated mineral resources in the Paul Zone of 590 million tonnes grading an average of 7.13% P<sub>2</sub>O<sub>5</sub> at a 4.0% cut-off grade (used to estimate the mineral reserves).
- Production of 76 million tonnes of saleable concentrate at 38.6% P<sub>2</sub>O<sub>5</sub> from proven and probable mineral reserves of 472.1 million tonnes at an average grade of 6.9% P<sub>2</sub>O<sub>5</sub> (based on a 3.5% cut-off grade) for the Paul Zone mineral resource.
- Hydro-Québec confirmed power availability of 129 MW at the Chute des Passes power plant located 40 km from the mine.

## OPERATIONAL REVIEW

### 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.

### Downstream production of Phosphoric Acid

In June 2017, the Company signed a Memorandum of Understanding (“MoU”) with a major global producer of sulfuric acid, to explore the possibility of setting up a downstream operation that would produce phosphoric acid. The MoU will allow for both companies to combine their respective market knowledge and address how best to move the potential venture forward. Costs, logistics and end markets have been reviewed to determine the full extent of the opportunity. Matters such as capacity, end products and location have been studied to better assess feasibility and decisions regarding a possible business venture made from that review. As a result of these studies, a preliminary economic model has been built and further review with the potential partner is ongoing.

In August 2018, the Company continued its initial in-house review regarding the construction of a downstream phosphoric acid facility and, in conjunction with this review, the Company has entered into a MoU for the supply of sulphuric acid.

Aside from phosphate rock, a phosphoric acid plant would also require a supply of sulphuric acid that could be consistently delivered in timely fashion. It is on this basis, that Arianne has entered into an MoU with a large marketer of sulphuric acid. This agreement will allow the Company to work with a strong industry player that can provide the venture ongoing guidance on sulfuric acid pricing, logistics and industry supply/demand trends; all necessary aspects in determining the project's viability.

In August 2018, the Company announced that it has partnered with the Province of New Brunswick to further its review of constructing a phosphoric acid plant in Belledune, New Brunswick. As part of this agreement, the Government, through Opportunities New Brunswick (“ONB”), will provide a financial contribution toward the cost of a prefeasibility study, the next step in Arianne's assessment of its downstream opportunity.

In Q1 2019, the Company has delivered samples of its Lac à Paul phosphate rock to commence the metallurgical test work which forms the basis of the prefeasibility study. Consultants have further been engaged and are awaiting the test work results to finalize the initial flow sheet for the plant.

### **Paul area growth potential**

Through further exploration activities completed in 2014, Arianne estimated, in 2015, measured and indicated resources<sup>1</sup> on the Paul Eastern Extension of 12.5 million tonnes at 6.31% P<sub>2</sub>O<sub>5</sub> with a 4.0% P<sub>2</sub>O<sub>5</sub> cut-off grade. Additionally, an updated resource estimate, from the geological remodeling of the Paul Zone and its Western Extension, now amount to 690 million tonnes at 7.18% P<sub>2</sub>O<sub>5</sub> with a 4.0% P<sub>2</sub>O<sub>5</sub> cut-off grade in the measured & indicated category<sup>(1)</sup>. In total, Arianne's resource estimate on the Paul area in 2015 shows measured and indicated resources<sup>(1)</sup> of 703 Mt at 7.16% P<sub>2</sub>O<sub>5</sub> with a 4.0% P<sub>2</sub>O<sub>5</sub> cut-off grade. The Paul Zone and both its Extensions are still open on the east and west sides as well as in depth.

### **Other apatite mineralized area on Arianne's claims**

Arianne's claims also include five deposits with resources identified. Manouane zone has an amount of 164 million tonnes of measured and indicated resources<sup>(1)</sup> at 5.88% P<sub>2</sub>O<sub>5</sub> with a 2.43% cut-off grade. Zone 2 has an amount of 64 million tonnes of inferred resources<sup>(1)</sup> at 4.55% P<sub>2</sub>O<sub>5</sub> with a 2.43% cut-off grade. Nicole zone has an amount of 78 million tonnes of inferred resources<sup>(1)</sup> at 5.34% P<sub>2</sub>O<sub>5</sub> with a 3.5% cut-off grade. Traverse zone has an amount of 17 million tonnes of inferred resources<sup>(1)</sup> at 5.98% P<sub>2</sub>O<sub>5</sub> with a 3.5% cut-off grade. And South TraMan zone has an amount of 146 million tonnes of inferred resources<sup>(1)</sup> at 5.30% P<sub>2</sub>O<sub>5</sub> with a 3.5% cut-off grade.

Moreover, many other apatite mineralized zones are reported within the Arianne's Lac à Paul project (MiniPaul, Lucie, Lise, Naja, North TraMan and Turc). Some of these zones (i.e., Lucie, Lise, and Naja) have been drilled and show a good potential.

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<sup>1</sup> Cautionary Statements: Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Additional studies are required to convert these mineral resources to mineral reserves.

## **Infrastructure**

The project is located 240 km north of the Saguenay-Lac-St-Jean region in Québec, Canada. This region is economically well-diversified with existing infrastructure, a strong industrial base and a high-quality labour pool. The region is also known for numerous hydropower generating dams. It has a well-developed road network and access to deep-sea ports.

The Lac à Paul project will get its 129 MW of electricity from Hydro-Québec through Rio Tinto Alcan's Chute-des-Passes power dam, which is located 40 km from the project. A 345-kV/161-kV substation at Chute-des-Passes and a 161-kV power line will be built to supply the electricity to the Lac à Paul mine site.

Of interest to Arianne, in the Québec Economic Plan 2016-2017, the government announced the introduction of a measure to foster investment in businesses billed at the large-power industrial rate (Rate L). This measure provides financial assistance in the form of a reduction of electricity costs and will enable the reimbursement of up to 50% of the cost of a business's eligible investments, i.e.:

- 40% of eligible investments made; and
- an additional 10% for a 20% reduction of greenhouse gas (GHG) intensity.

This assistance will correspond to a maximum reduction of 20% of a business's electricity bill for a maximum of four years per project.

Arianne is in discussion with the provincial government to obtain a reduction on the power cost for the first 4 years of operation.

## **Phosphate concentrate transport**

The phosphate concentrate will be transported by truck from the mine on an existing logging road to a deep-water port located on the north shore of the Saguenay River. Studies completed in June 2014 led to the selection and presentation of a scenario using forest roads R-253 and R-200 on the "Monts-Valin" and the maritime terminal on the north shore of the Saguenay River at Sainte-Rose-du-Nord.

In accordance with the Decree from the government of Quebec received December 22, 2015, Arianne is working on finalizing the road layout with different stakeholders to optimize and reduce the social impact.

Arianne signed in 2017 a MoU agreement with Groupe Alfred Boivin (GAB) regarding the trucking of the Company's high purity phosphate and research and development for the selection of the truck and the creation of the trailer.

Arianne Phosphate is currently working with Alcoa Innovation and the National Research Council of Canada (NRC) to integrate aluminum in the design of the trailer that will transport the phosphate concentrate from the Lac à Paul mine to the deep-water port that will be located in Sainte-Rose-du-Nord. The purpose of this research is to reduce the weight of the transport trucks and allow for a greater payload per run. The research project is divided into two objectives:

1. For the design of the trailer, gain a better understanding of the properties of phosphate concentrate that will be transported.
  - a. Heat density;

- b. Thermal conductivity;
  - c. The rate of moisture absorption of the concentrate during transport;
  - d. Quantify the wear of the bed's coating by friction (abrasiveness).
2. Obtain three truck bed concepts to calculate the feasibility and potential gains of using aluminum in trailers.
- a. Substitution of steel by aluminum on a trailer initially made of steel;
  - b. Design of an aluminum dump box with a rounded section;
  - c. Design of an aluminum dump box with a section with straight lines.

### **Metallurgy**

The tests conducted in 2013 for the feasibility study demonstrated the possibility of producing an apatite concentrate containing 38.6% P<sub>2</sub>O<sub>5</sub> 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% P<sub>2</sub>O<sub>5</sub> content, which will be identified as "Arianne 40@".

In 2018, additional testing, conducted at COREM (Research Consortium for the Treatment and Processing of Mineral Substances) on 145 tonnes of ore, produced 23 tonnes of concentrate with an average of 38.8% P<sub>2</sub>O<sub>5</sub> confirming the ability to produce high purity concentrate on a larger scale.

### **MoU Agreements to Benefit the Lac à Paul Project**

The Arianne team has been working hard on securing various aspects for the project. In doing so, a total of seven MoU agreements were signed since 2017 between Arianne and key suppliers for developing the Lac à Paul project.

1. The first MoU agreement provides for discussions focused on Arianne's use of ships currently serving Rio Tinto to also deliver phosphate concentrate to international markets. This partnership will enhance the project's economics and reduce Arianne's environmental impact;
2. The second MoU agreement with Construction Proco Inc. is for the structural and architectural engineering, the steel fabrication and construction of the mill and utilities buildings, and the on-site stock pile storage, making the project shovel-ready with cost scheduling certainty;
3. The third MoU agreement is for the engineering, procurement and support services for integrated electrification and automated mining solutions. With ABB Inc. (ABB), Arianne has found a partner with the technical capabilities and financial network to assist in the project's development. As part of this agreement, ABB has also committed to assisting Arianne in sourcing potential financing for this work and to that end, introductions have been made into Swiss ECA SERV.
4. The fourth MoU agreement was signed with a joint venture between SNC-Lavalin (SNC) and Cegertec to act as project manager consultants and provide project management support, coordination and consulting;
5. The fifth MoU agreement was signed with FLSmidth to provide all production equipment and engineering for the future plant, in collaboration with the various key suppliers involved in the Lac à Paul project development. As part of this agreement, FLSmidth has also committed to

assisting Arianne in sourcing potential financing for this work and to that end, introductions have been made into Danish ECA EKF.

6. The sixth MoU agreement was signed with GAB for the trucking of the Company's high purity phosphate concentrate between the Lac à Paul mine site and the marine terminal on the north shore of the Saguenay River.
7. The last MoU agreement was signed with a major global producer of sulfuric acid, to explore the possibility of setting up a downstream operation that would produce phosphoric acid. This agreement will allow the Company to work with a strong industry player that can provide the venture ongoing guidance on sulfuric acid pricing, logistics and industry supply/demand trends; all necessary aspects in determining the project's viability.

These partnerships tie in with Arianne's strategy to have full control over the course and cost of development.

### **First Nations**

Thanks to negotiations with the three Innu First Nations groups: Pessamit, Mastheuiatsh and Essipit, a Cooperation Agreement for the exploration and pre-construction phase, was signed in 2015 for the Lac à Paul project. The agreement has been used as a framework to govern the relationship between Arianne and the three communities, reflecting mutual intentions to further build a relationship characterized by cooperation and mutual respect in connection with the development of the Lac à Paul project. The shared agreement lays out the areas in which Arianne and the three communities have agreed to work together and maintain communication in order to support their mutual goals to conclude an IBA. Negotiation of the Impacts and Benefits Agreement (IBA) is ongoing. Several meetings were held since this summer.

### **Saguenay–Lac-St-Jean Community relations**

As the project develops, the Company maintains an open dialogue with the stakeholders in the region, as well as with groups and individuals impacted by the project. Community relations have always been a priority for Arianne. The Company is committed to maintaining full and open communication with all communities affected by the Lac à Paul project. During 2015, Arianne created an independent Monitoring Committee in compliance with the Quebec Government's Mining Law.

Since the beginning of 2018, numerous meetings have been held with key political, economic and community stakeholders involved in the project.

### **Economic impact of the project**

In the most recent study conducted in February 2014, the firm Raymond Chabot Grant Thornton (RCGT) submitted the results of its study on the economic impact of the development of the Lac à Paul project. The RCGT analysis confirms that the significant economic benefits of the mine will increase collective wealth in the region by increasing the average income of workers and fostering the emergence of a new cluster of mining contractors, in addition to diversifying the region's traditional economy based on the forest and aluminium industries.

The project will also attract new residents with expertise in the mining sector, in addition to generating opportunities for educational institutions in the region. Arianne is working with all stakeholders, including the First Nations, to enable the region to grow and become more competitive due to the project.

In October 2018, the Company announced its association with the Saguenay Lac St-Jean Regional Economic Benefits Maximization Committee (CMAX) (referring to 02 Economic Development (02 ED)). CMAX is a tool that was put in place to maximize the benefits of large projects. Arianne will benefit from the regional expertise of this group and have access to the expertise of some 2000 Saguenay Lac St-Jean companies.

### **Port of Saguenay**

The Port of Saguenay and Arianne will cooperate in building a maritime terminal on the north shore of the Saguenay River on the limits of Sainte-Rose-du-Nord.

In 2016, Port of Saguenay submitted the Environmental Impact Statement (“EIS”) to the Agency which was reviewed by the Panel. Later in 2017 and beginning of 2018, Arianne answered three series of questions from the CEEA.

This project was initiated as a complement to Arianne’s phosphate concentrate mining project. The aim of the Port of Saguenay’s project is to facilitate shipment of Arianne’s phosphate concentrate to world markets.

From February to March 2018, a geotechnical drilling campaign was carried out by the company Englobe. This exploratory work was essential for the design and engineering of the future wharf on the north shore of the Saguenay. The presence of deep water, accessible twelve months a year, makes it the site of choice. All the necessary data was collected for the next step which will consist in the design and engineering of the future wharf.

In July 2018, CEAA (Canadian Environmental Assessment Agency) submitted an in-depth study report on the Saguenay North Shore Maritime Terminal Project for public and Aboriginal community consultation.

In October 2018, the Company announced that the Port of Saguenay had received a favorable decision with regard to the construction of a maritime terminal facility on the north shore of the Saguenay River. Granted by the Minister for the Environment and Climate Change, the Honorable Catherine McKenna, this decision now paves the way forward for the construction of a terminal that will allow for the shipping of Arianne’s phosphate concentrate to customers around the world.

### **Social acceptance**

In 2015, the Company signed an agreement with the residents of the Zec Martin-Valin and Lake Neil, to offset the impact of the concentrate’s transportation.

## **PHOSPHATE INDUSTRY TRENDS**

Phosphate rock mining is declining in North America. The last phosphate mine in Canada closed in 2013. 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.

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 pending European legislation and recent 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.

## SUSTAINABLE DEVELOPMENT

### Measuring and offsetting greenhouse gas emissions

As part of its Sustainable Development Policy, Arianne offsets its greenhouse gas (“GHG”) emissions by investing in sustainable development and innovation projects.

Arianne Phosphate was responsible for the emission of 29.4 tonnes of CO<sub>2</sub> equivalent for the year 2018 (Table 1). *Table 1: Greenhouse gas emissions associated with each of the Company's activities during the year 2018 (in tonnes)*

	<b>Total</b>	<b>Administration and field transportation</b>
<i>Work and representation</i>	29.4	29.4
<b>Percentage (%)</b>	<b>100%</b>	<b>100%</b>

*Table 2: Summary of offset measures implemented by Arianne as of December 31, 2018*

<b>Emissions</b>	<b>Tonnes</b>
1999-2010	867
2011	222
2012	963
2013	100
2014	2,070
2015	37
2016 <sup>(1)</sup>	207
2017 <sup>(1)</sup>	45
2018 <sup>(1)</sup>	29
<b>Financial equivalents</b>	<b>4,259</b>
Price/tonne CO <sub>2</sub> (\$/tonne)	20.27
Amount to offset (\$)	86,330
<b>Amounts already invested</b>	<b>\$</b>
Global TraPs 2011	5,181
UQAC Eco-Advising Chair	4,240
Global TraPs 2012	3,490
Research grant 2012-2014	27,000
Carbone Boréal 2012	37
Biopterre	1,000
<b>Total invested</b>	<b>40,948</b>
<b>Additional investment</b>	<b>45,382</b>

- (1) Arianne Phosphate was committed to having a carbon-neutral exploration phase. This exploration phase was completed after obtaining the ministerial decree issued by the Government of Quebec in December 2015. The Company will continue to quantify and publish its greenhouse gas emissions without committing itself to offset future emissions.

## SELECTED ANNUAL INFORMATION

### Highlights of the last three fiscal years

	<b>DECEMBER 31, 2018</b>	<b>DECEMBER 31, 2017</b>	<b>DECEMBER 31, 2016</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>
Total assets	59,787,147	55,326,657	51,422,831
Non-current financial liabilities	25,279,815	23,370,860	3,551,692
Net loss	1,930,086	3,418,575	3,175,168
Net loss per share	0.02	0.03	0.03

The financial statements were prepared in accordance with IFRS, as issued by the International Accounting Standards Board (“IASB”). The accounting policies applied in the financial statements are based on IFRS effective for the year ended December 31, 2018, as issued and outstanding as of March 20, 2019, the date when the Board of Directors approved the financial statements

### **Operational Results for the year ended December 31, 2018**

The net loss for the year ended December 31, 2018 was \$1,930,086 compared to a net loss of \$3,418,575 for the year ended December 31, 2017 and \$3,175,168 for the year ended December 31, 2016.

The decrease in net loss over the last 2 years is explained by a lower level of activity at the mine site with most studies and some early engineering having been completed. The decrease is mainly explained by reduction in the following costs: salaries and benefits (decrease of \$ 211,491), share-based compensation (decrease of \$177,688) and communications (decrease of \$80,447). In FY2018, a government grant from the Ministry of Energy and Natural Resources of Quebec has also helped reducing the net loss (\$0.4 M accounted for in the statement of loss in the current year).

Furthermore, a deferred income tax recovery of \$87,636 in 2018 (\$667,461 in 2017) has positively impacted the net result. The recovery is related to adjustment from Revenu Quebec on tax credit related to resources and the mining right (from the year 2012).

The professional and consultant fees decreased by \$29,633 between 2018 and 2017 (decrease of \$124,019 between 2017 and 2016) due to the lower level of activities.

Most other operating expenses in 2018 decreased because of the decreased level of activity on technical aspects of the project and the ability to have more work done internally.

The management fees increased by \$70,251 between 2018 and 2017 due to the fact that some directors were more involved in the project development (increase of \$67,249 between 2017 and 2016). The promotion, representation and travel expenses decrease by \$63,964 between 2018 and 2017 (remained stable between 2017 and 2016). Communications costs decreased by \$80,447 between 2018 and 2017 (increase of \$47,700 between 2017 and 2016) due to more work done internally regarding investors' relations.

## **FINANCIAL POSITION ANALYSIS**

As at December 31, 2018, total assets have increased when compared to December 31, 2017. This has resulted partially from an increase in professional fees, costs related to technical reports as well as capitalised interest.

In the last quarter of 2018, the Company reclassified the exploration and evaluation assets as mineral property under development in the property, plant and equipment.

This decision was based primarily due to Port of Saguenay receiving all permits for the construction of the North Shore maritime terminal where phosphate rock from Arianne will be shipped once in production. During the year, additional costs have been capitalised to the development asset now

presented as PPE for a total of \$56,887,529 in 2018 (\$49,773,697 in 2017 as E&E and \$44,741,815 in 2016 as E&E).

Accounts payable and accrued liabilities as at December 31, 2018 have increased from \$1,924,840 in 2017 to \$2,461,280 in 2018 due to the timing of payments.

Non-current liabilities as at December 31, 2018 and 2017 remained stable (\$25,279,815 and \$26,306,427, respectively) which is largely a result of the continued classification of the credit line as a non-current liability in relation to the extension of the credit line maturity until June 2020 (see section financing). The loans and working capital facility are classified in the current liabilities since they mature as at December 31, 2019.

## CASHFLOWS, LIQUIDITY AND CAPITAL MANAGEMENT

Liquidity risk is the risk that the Company will not have sufficient cash resources to meet its financial obligations as they come due. The Company's cash balance as at December 31, 2018 was \$2,076,731, and it had a current tax credit related to resources and mining tax credit receivables of \$272,318.

Based on current spending estimates for the project's development for 2019, the Company will require additional financing. Any funding shortfall can be addressed through a number of options including, but not limited to, the issuance of new equity, debt financing or the securing of 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.

Cash flows provided by (used in)	December 31, 2018 \$	December 31, 2017 \$
Operating activities before the net change in non-cash working capital items	(1,719,274)	(2,371,477)
Net change in non-cash working capital items	(673,525)	(1,283,215)
Operating activities	1,045,749	(3,654,692)
Investment activities	(1,065,011)	(1,399,449)
Financing activities	2,812,610	4,199,978
Increase (decrease) in cash and cash equivalents	701,850	(854,163)

### Operating activities

For the year ended December 31, 2018, cash outflows from operating activities totalled \$1.05 million (M), while there was \$3.65M of cash outflows for the same period in 2017. The Company spent less in 2018 than in 2017 to support its activities. The change in non-cash working capital is higher in 2018 than in 2017, this is mostly due to the higher amount of accounts payable and accrued liabilities as at December 31, 2018.

### Investment activities

For the year ended December 31, 2018, cash used in investing activities was \$1.07M, which reflects outflows for PPE and E&E of \$2.32M off set by the proceeds from tax credit of \$0.13M and a grant of

\$1.1M. During 2017, exploration and evaluation expenses increased to \$2.3M off set by the proceeds from tax credit of \$0.9M.

### **Financing activities**

For the year ended December 31, 2018, \$1.41M was provided by the issuance of shares from a private placement and \$1.5M from proceeds from a loan. In 2017, \$3.22M was provided by the issuance of shares from a private placement and \$1.3M from proceeds from credit lines.

## **FINANCING**

### **Working capital**

The negative working capital was \$5,248,360 as at December 31, 2018 compared to a working capital of \$290,625 as at December 31, 2017.

Management is of the opinion that that the cash available at the end of December 31, 2018 will not be sufficient to meet the Company's obligations and budgeted expenditures through December 31, 2019. These circumstances lend some doubt as to the ability of the Company to meet its obligations as they come due and, accordingly, the appropriateness of the use of accounting principles are an ongoing concern basis. If management is unable to obtain new funding, the Company may be unable to continue its operations, and the amounts realized for assets might be less than the amounts reflected in the financial statements.

### **Financing**

On March 15, 2018 Arianne closed on a \$1,407,000 financing. Under the terms of the offering, the Government of Quebec is subscribing for 2,233,333 Units of the Company (the "Units") at a price of \$0.63 per Unit. The units consist of one common share (the "Common Share") and one half common share purchase warrant (each whole warrant being a "Warrant"). Each full Warrant entitles its holder to purchase one common share at a price equal to \$0.85 for a period of thirty-six (36) months following the closing date, expiring on March 14, 2021. If at any time after four (4) months and one (1) day following the closing date, the trading price of the Common Shares on the TSX Venture Exchange is equal to or exceeds \$1.25 for ten (10) consecutive trading days, as evidenced by the price at the close of market, the Company shall be entitled to notify the holders of Warrants of its intention to force the exercise of the Warrants. Upon receipt of such notice, the holders of the Warrants shall have 30 days to exercise the Warrants, failing which the Warrants will automatically expire.

On April 3, 2018, Arianne Phosphate announced that it has received a grant of \$1.5 million from the Ministry of Energy and Natural Resources of Quebec. This funding has been provided as part of the Government's plan to help advance the Quebec phosphate (apatite) sector. Arianne will be using this funding in support of its previously announced program to produce additional high-purity phosphate concentrate to fulfil demand from potential customers and, to conduct further pilot-scale tests.

In December 2018, the Company extended its secured credit facility which now matures June 30, 2020. These credit facilities will continue to bear interest at an annual rate of 15%, with all interest capitalized through maturity. The Company has also issued Mercury 22,417,458 non-transferable warrants with an exercise price of \$0.425 per share. The warrants are exercisable through June 30, 2020. As required under the policies of the TSX Venture Exchange, 17,338,739 non-transferable warrants originally issued to Mercury have been cancelled as a result of the new extension.

In December 2018, Arianne has also closed on an unsecured loan in the aggregate amount of \$1.5 million with third party lenders. This loan will bear interest at a rate of 12% per annum and mature on December 19, 2019. In conjunction with the loan, Arianne issued the lenders 2,117,646 non-transferable warrants at an exercise price of \$0.425 per share, exercisable until December 19, 2019.

As well, the Board of Directors of the Company adopted a resolution and obtained the approval from the TSX Venture Exchange to extend the expiry date for the following:

- In January 2018, the Company amended the terms and conditions of the 1,217,500 warrants granted on July 29, 2013. Initially, each warrant entitled its holder to acquire one common share at a price of \$1.45 per share until January 27, 2018. These warrants were amended in January 2018 to extend their expiration date to July 2018. All other terms and conditions remained similar. The Company calculated the fair value of the warrants prior and after the amendment. The fair value of the extended warrants was estimated at \$5 considering the fair value of the original warrants existing on the date of the amendment, according to the Black-Scholes model, and it was recorded as an increase in deficit for the three-month period ended March 31, 2018. These warrants expired in July 2018.
- In July 2018, the Company extended the term of 2,815,500 common share purchase warrants issued as part of a private placement which closed on July 31, 2014 for gross proceeds of \$5,631,000. Each of the Warrants, which were part of the units being issued, entitles its holder to purchase one common share of Arianne at an exercise price of \$1.25 per Common Share until July 31, 2018. Arianne has elected to extend the expiry date of the Warrants to July 31, 2019. No other Warrant terms was amended.
- On October 4, 2018, the Company extended the term of 1,184,500 common share purchase warrants issued as part of a private placement which closed on October 16, 2014 for gross proceeds of \$2,369,000. Each of the Warrants, which were part of the units being issued, entitles its holder to purchase one common share of Arianne at an exercise price of \$1.25 per Common Share until October 15, 2018. Arianne has elected to extend the expiry date of the Warrants to October 15, 2019. No other warrant terms were amended.

### SUMMARY OF QUARTERLY RESULTS

	March 31, 2017 \$	June 30, 2017 \$	September 30, 2017 \$	December 31, 2017 \$	March 31, 2018 \$	June 30, 2018 \$	September 30, 2018 \$	December 31, 2018 \$
Net loss	(799,705)	(780,394)	(800,930)	(1,037,546)	(696,480)	(206,900)	(531,642)	(495,064)
Basic and diluted loss per share	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)

For each quarter in fiscal year 2017 and fiscal year 2018, 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.

The year-over-year decline in net loss was due to a series of measures that the Company undertook in order to reduce its expenses, as well as to primarily focus on permitting activities and financing alternatives, which required less working capital.

### SUMMARY OF FINANCIAL ACTIVITIES FOR THE THREE-MONTH PERIOD ENDED DECEMBER 31, 2018

The net loss in Q4 2018 decreased to \$495,064 versus \$1,037,546 in Q4 2017. The net loss for Q4 2017 is higher because of the deferred income taxes increase due to the adjustment from Revenu Quebec for the tax credit related to resources and the mining right related to the year 2012 received during the year 2017.

### RELATED PARTY TRANSACTIONS

The following operations occurred during the year ended December 31, 2018 and 2017:

	<b>2018</b> \$	<b>2017</b> \$
<b>Key management compensation (1)</b>		
Share-based compensation	42,585	101,870
Management fees	<u>190,000</u>	<u>119,749</u>
	232,585	221,619
Salaries and benefits (2)	<u>376,102</u>	<u>388,665</u>
	<u>608,687</u>	<u>610,284</u>
Balance included in accounts payable and accrued liabilities	8,333	9,580

(1) The key management is composed of the Chief executive officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO), Executive Chairman and the vice-president exploration and First Nations Relations.

(2) Salaries and benefits capitalized to exploration and evaluation and PPE amount to \$227,196 (\$247,302 in 2017).

The Company has entered into employment and management contracts with its key executives whose estimated annual remuneration amounts to \$600,000. These contracts are renewable annually. The agreements with the Company's key executives contain provisions that apply in case of termination without cause or a change of control. If all executive team members had been dismissed without cause on December 31, 2018, the Company would have had to pay a total amount of \$600,000 as severance. If a change of control had occurred on December 31, 2018, the total amounts payable to the executive team in respect of severance would have totaled \$1,050,000 (assuming they left after a change of control and each named executive opted to receive such compensation). If the assets of the company had been sold to an "arm's length entity" on December 31, 2018, the total amounts payable to the executive team in respect of severance would have totaled \$1,300,000 (assuming they left after a change of control and each named executive opted to receive such compensation).

Subsequent to the nomination of Brian Ostroff as a director of the Company on June 4, 2014, Windermere is considered as a related party because it has significant influence over the Company through its representation on the Board of Directors. All agreements and transactions with Windermere are already disclosed in these financial statements and are therefore not described in this note.

Ocean Partners is also considered as a related party because a director of the Company is one of its managing directors. All agreements and transactions with Ocean Partners are already disclosed in the financial statements and are therefore not described in this section.

### 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.

### OBLIGATIONS AND COMMITMENTS

- a) In August 2012, the Company granted the Lender of the credit line a royalty of \$1 per ton of phosphate concentrate sales from the Lac à Paul project. This royalty may be redeemed at any time through a lump-sum payment of \$6 million. In July 2013, the Company also granted the Lender of the credit line a royalty of \$0.25 per ton of phosphate concentrate sales from the Lac à Paul project. This royalty may be redeemed at any time through a lump-sum payment of \$1.5 million. These royalties will have to be redeemed by the Company for the same amount in the event of a change of control where at least 90% of the issued and outstanding shares of the Company are acquired, purchased or held by a third party, either through a tender offer or other transaction with the same result. The Company also has granted to other parties a 2.25% royalty on the net smelter return. The royalty may be redeemed at any time through a lump-sum payment of \$2.5 million.
- b) The Company granted contracts in relation to the development of the Lac à Paul project for a total of \$39,126. These contracts do not have termination dates and disbursements will be made in accordance with the project's milestones.
- c) The Company's future minimum operating lease payments for the rent of the Chicoutimi office, and Lac à Paul camp are as follows:

	Within 1 year	1 to 5 years	After 5 years	Total
December 31, 2018	142,164	-	-	142,164

The following are the contractual maturities of financial liabilities, including interest where applicable as at December 31, 2018:

	Carrying amount	Contractual cash flows	0 to 12 months	12 to 24 Months	More than 24 months
	\$	\$	\$	\$	\$
Accounts payable and accrued liabilities	2,461,280	2,461,280	2,461,280	-	-
Loans	5,324,950	6,122,903	6,122,903	-	-
Credit line	22,271,587	28,942,258	-	28,942,258	-

## **SIGNIFICANT ACCOUNTING POLICIES, APPLICATION OF NEW ACCOUNTING STANDARDS 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. There is a summary of significant accounting policies in note 2, a summary of new accounting standards in note 3 and a summary of the critical accounting estimates and judgements in the note 4 of the financial statements for the year ended December 31, 2018.

## **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, 2018.

## **EVENTS AFTER THE REPORTING PERIOD**

In January 2019, the Company appointed Andrew Malashewsky as its Chief Financial Officer and he was granted 100,000 stock options. Each Option entitles the holder to purchase one common share of the Company until January 23, 2029 at a price of \$0.4325 per share.

In February 2019, the Company appointed Jean Fontaine as a Director and he was granted 200,000 stock options. Each Option entitles the holder to purchase one common share of the Company until February 18, 2029 at a price of \$0.40 per share.

## **INFORMATION ON SHARES OUTSTANDING**

As at March 20, 2019, 105,803,943 common shares are issued and outstanding. There are 6,574,500 share stock options, 35,736,036 warrants and 428,600 options granted to brokers outstanding.

(s) Jean-Sébastien David  
Jean-Sébastien David  
Chief Operating Officer

(s) Andrew Malashewsky  
Andrew Malashewsky  
Chief Financial Officer

### **Board of Directors and Officers**

**Dominique Bouchard**, Executive Chairman of the Board of Directors

**Brian Ostroff**, Director and Chief Executive Officer

**Jim Cowley**, Director

**Steven L. Pinney**, Director

**Dave DeBiasio**, Director

**Siva J. Pillay**, Director

**Marco Gagnon**, Director

**Claude Lafleur**, Director

**Jean Fontaine**, Director

**Jean-Sébastien David**, Chief Operating Officer

**Andrew Malashewsky**, Chief Financial Officer

**Daniel Boulianne**, Vice-president exploration and First Nations Relations

### **Ticker symbols**

DAN: TSX-V (Canada)

JE9N: FSE (Germany)

DRRSF: OTC (USA)

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