



Management's Discussion and Analysis

For the three and nine months ended September 30, 2019

## **PRESIDENT'S UPDATE**

The Company is pleased to provide an update to its shareholders on its financial results and recent activities related to its operations.

The Company has three systems that can be used independently or in combination in horizontal wellbores:

- 1) the High Angle Reciprocating Pump ("HARP™");
- 2) the Raise Efficient Artificial Lift ("REAL™"); and
- 3) the Horizontal Artificial Recovery Technology ("HART™").

### **HARP™ (High Angle Reciprocating Pump)**

#### **Canada**

HARP™ installs and sales continue to increase each quarter with 5 installs in the first quarter, 4 in the second quarter, 14 in the third quarter and 19 in the fourth quarter thus far with November 2019 being a record month for the Company. The increase in sales and the number of customers are the result of continued positive results being obtained over time with the installed HARP's™ to date. The Company continues to see excellent results from its Generation 2 HARP™.

As previously disclosed, the Company was chosen as the supplier of preference for a Northern Alberta operator in its new and existing well bores and it continues to leverage on this success with surrounding operators in the same area. Two additional operators are now installing the HARP™ technology in their Charlie Lake wells. The Company continues to focus and install HARP's™ in Cardium and Glauconite formations. Recently installed "Hybrid HARP's™" have opened an opportunity for the Company into the conventional pump market where vertical pumping solutions are experiencing trouble.

In addition, the Company recently negotiated a distribution agreement with a private independent pump supply/service company based in SE Saskatchewan and Manitoba to provide timely and local service for its customers in that area. The Company will also be looking to set up a local storage and delivery facility to better serve its Northern Alberta customer base. The Company has also been continuing its focused sales approach with lunch and learns, shop tours and field seminars.

#### **United States**

The Company is in the process of re-negotiating a multi-year distribution agreement with Endurance Lift Solutions ("ELS"). The revised agreement will provide both parties with the ability to accelerate development of the large U.S market. ELS continues to install pumps and order HARP™ inventory parts while this negotiation is in progress.

### **REAL™ (Raise Efficient Artificial Lift)**

The Company's first REAL™ system was installed during the third quarter of 2019 in a Cardium horizontal well without issue. Performance has been evaluated and the Company is currently working on some minor upgrades to better handle foamy oil/water emulsions. These revisions are expected to be completed by year-end. Numerous Raise customers have expressed interest in deploying the revised product during the first quarter of 2020.

### **HART™ (Horizontal Artificial Recovery Technology)**

As stated in the last quarterly press release, the Company continues to have discussions with potential partners to further develop and promote the HART™ technology and will update shareholders when new developments occur.

Eric Laing, President & CEO, stated “Raise is excited about the increase in installations and expanding customer base. Customers benefit from lowering their artificial lift pumps, even with increased costs of working over the well bore. Raise is also eagerly anticipating the REAL™ separation system’s debut into the market.”

Please use the link below to view the article on the Company’s LinkedIn page:

<https://www.linkedin.com/company/raise-production-inc/?viewAsMember=true>

The Company would like to thank all its shareholders for their continued support and encouragement.

A handwritten signature in black ink, appearing to read "Eric Laing", written over a horizontal line.

Eric Laing  
President and Chief Executive Officer

## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

This Management's Discussion and Analysis ("MD&A") should be read in conjunction with the unaudited condensed interim consolidated financial statements of Raise Production Inc. ("Raise Production" or the "Company") as at and for the three and nine months ended September 30, 2019 as well as the audited financial statements and MD&A for the year ended December 31, 2018.

Information in this MD&A and the consolidated financial statements has been presented in Canadian dollars. The unaudited condensed interim consolidated financial statements for the three and nine months ended September 30, 2019 have been prepared in accordance with IAS 34 – Interim Financial Reporting.

This MD&A contains forward-looking information. Readers are referred to the advisories concerning such matters under the heading "Forward-Looking Information Disclaimer" below.

This MD&A is dated November 21, 2019. Additional information concerning Raise Production can be found on the SEDAR website at [www.sedar.com](http://www.sedar.com).

## **ABOUT RAISE PRODUCTION**

Raise Production is an independent Canadian public company, the principal business of which is utilizing its proprietary products to enhance and increase ultimate production in both conventional and unconventional horizontal oil and gas wells.

The Company is considered to be a development stage enterprise, as it has recently begun the commercialization process of its Raise Efficient Artificial Lift ("REAL™") system, previously referred to as the High Angle Lift Solution ("HALS"), and has not yet generated revenue from its initially planned principal business, the sale and distribution of its proprietary Horizontal Artificial Recovery Technology ("HART™" or the "System"), which was previously referred to as the Horizontal Wellbore Production System by the Company. Similar to other development stage enterprises, the recoverability of amounts shown for product development and commercialization are dependent on many factors, including the ability of the Company to obtain necessary financing for its planned activities. Failure to obtain the necessary financing would impact the Company's ability to realize its assets and discharge its liabilities in the normal course of business. See "Operational and Business Risks" below.

## **FORWARD-LOOKING INFORMATION DISCLAIMER**

Certain information included in this MD&A constitutes forward-looking statements under applicable securities legislation. Forward-looking statements or information typically contain or can be identified by statements that include words such as "anticipate", "assume", "based", "believe", "can", "continue", "depend", "estimate", "expect", "forecast", "if", "intend", "may", "plan", "project", "propose", "result", "upon", "will", "within" or similar words suggesting future outcomes or statements regarding an outlook. Forward-looking statements or information in this document include but are not limited to: estimates and source of funds of future product development and capital and operating expenditures, capital raising, the availability of credit, the Company's credit risk, business strategy and short and long term strategic objectives, continued usage of service providers and contractors, estimates regarding current cash resources and cash flow, anticipated sales, commercialization plans and the timing thereof, the results and timing of product testing, operating and other costs, the effect of oil and natural gas market conditions on the Company, financial results and the impacts of International Financial Reporting Standards on these statements.

Such forward-looking statements or information are based on a number of assumptions that may prove to be incorrect. Assumptions have been made regarding, among other things: commercialization of products and operations, the ability of Raise Production to obtain required capital to finance its product development, the successful completion of product testing and timing thereof, the ability to adequately protect proprietary information and technology from its competitors, the ability to obtain partnering opportunities, the ability to attract and retain key personnel and key collaborators, the availability of skilled labour, services and equipment, general economic and financial market conditions, the legislative and regulatory environment of the jurisdictions where the Company carries on business, and the ability to successfully compete in the targeted markets.

The forward-looking statements contained in this MD&A are made as of the date hereof and Raise Production does not undertake any obligation to publicly update or revise any of the included forward-looking statements, except as required by applicable Canadian securities law. Forward-looking statements are based upon the opinions and expectations of management of Raise Production as at the effective date of such statements and, in some cases, information supplied by third parties. Although Raise Production believes that the expectations reflected in such forward-looking statements are based upon reasonable assumptions and that information received from third parties is reliable, it can give no assurance that those expectations will prove to have been correct. Forward-looking statements are subject to certain risks and uncertainties that could cause actual events or outcomes to differ materially from those anticipated or implied by such forward-looking statements, including but not limited to those described under the headings "*Operational and Business Risks*" and "*Financial Instruments*". Accordingly, readers should not place undue reliance upon the forward-looking statements contained in this MD&A and such forward-looking statements should not be interpreted or regarded as guarantees of future outcomes.

**RESULTS OF OPERATIONS**  
**Consolidated Statement of Operations**

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
<b>Revenue</b>	\$ 310,034	\$ 80,840	\$ 753,613	\$ 289,418
<b>Cost of sales</b>	193,959	54,887	494,734	214,065
<b>Gross margin</b>	116,075	25,953	258,879	75,353
<b>Other income</b>	–	10,947	8,936	16,688
<b>Expenses:</b>				
General and administration	1,629,010	549,976	2,574,621	1,358,831
Depreciation and amortization	59,839	20,062	176,792	60,185
Stock-based compensation	64,603	88,220	143,884	277,138
Research expenses	49,746	41,494	129,401	119,730
Inventory impairment	44,576	–	44,576	–
Finance costs	8,637	823	29,066	2,235
	1,856,411	700,575	3,098,340	1,818,119
<b>Net loss and comprehensive loss</b>	<b>\$(1,740,336)</b>	<b>\$ (663,675)</b>	<b>\$(2,830,525)</b>	<b>\$(1,726,078)</b>
<b>Net loss per share – basic and diluted</b>	<b>\$ (0.02)</b>	<b>\$ (0.01)</b>	<b>\$ (0.02)</b>	<b>\$ (0.01)</b>

**Segmented Information**

The Company's segmented information disclosure is based on reportable operating segments according to the products and services each segment provides.

The patent pending Raise Efficient Artificial Lift ("REAL™") system segment provides an artificial lift solution for the build and vertical section of a horizontal wellbore. REAL™ addresses the production challenges and downtime associated with currently available artificial lift technology, particularly in high gas to oil ratio wells. REAL™ includes the High Angle Reciprocating Pump ("HARP™") with the addition of certain downhole tools, such as horizontal separation, sand control, velocity flow tubes and pack off assemblies for flow control. The initial sales to date for this segment have included the HARP™ only.

The patented Horizontal Artificial Recovery Technology ("HART™") segment provides an artificial lift solution for the lateral section of a horizontal wellbore which consists of multiple pumps running in parallel along the horizontal wellbore to access trapped or stranded reserves and draw fluid from the toe area of the wellbore. This product is in the development stage and has not yet generated revenue from commercial sales to external customers. All costs incurred for this segment have been capitalized as HART™ development costs beginning April 1, 2013.

The Engineering Project Consulting segment provides engineering services to external customers for the design and development of new artificial lift products. No revenue was earned or expenses were incurred for Engineering Project Consulting during the nine months ended September 30, 2019 and 2018.

The Corporate segment includes interest earned on cash balances and costs related to administrative activities that support all segments.

## Acquisition of 195554 Alberta Ltd.

On September 30, 2019, the Company acquired the shares of 195554 Alberta Ltd., an arm's length private company ("PrivateCo"), for total consideration of \$1,400,000 in secured convertible debentures. The assets of the PrivateCo consisted of \$300,000 in cash. The balance of \$1,100,000 represents the value of a consulting engagement with the previous shareholders of PrivateCo and has been recognized as a one-time cost and included in the general and administration expenses.

Consulting services expected to be provided will include, without limitation, sourcing, evaluating and negotiating strategic alternatives, including investments, partnerships, joint ventures, acquisitions, divestitures and other forms of business combinations. In addition, the previous shareholders have joined the board of directors of the Company.

## Revenue

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
REAL™ segment revenue	\$ 305,378	\$ 80,840	\$ 748,889	\$ 288,368
Other revenue	4,656	–	4,724	1,050
Total	\$ 310,034	\$ 80,840	\$ 753,613	\$ 289,418

The increase in REAL™ revenue of \$224,538 or 278% for the three months ended September 30, 2019 compared to the same period in the prior year is due to increased sales of the Company's HARP™ in the Canadian and United States markets in 2019 compared to 2018 as the Company continues to generate increasing interest and demand for the HARP™.

The increase in REAL™ revenue of \$460,521 or 160% for the nine months ended September 30, 2019 compared to the same period in the prior year is due to increased sales of the Company's HARP™ in the Canadian and United States markets. Canadian sales increased by \$208,197 or 101% year over year due to successful installations which have resulted in repeat orders from existing customers as well as interest from new customers and the Company being able to increase its HARP™ sales prices as it moves from the prototype phase. USA sales increased by \$252,354 or 307% year over year due to successful installations of the Company's re-designed HARP™ Generation 2 occurring in the USA market resulting in ELS ordering 20 complete HARP's™ (including ten HARP's™ with upgraded materials for deeper and more corrosive wellbores) and 20 additional HARP™ assemblies in 2019 in order to meet its increasing demand.

## Cost of Sales

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
REAL™ segment cost of inventory	\$ 193,959	\$ 54,887	\$ 494,734	\$ 213,238
Other cost of inventory	–	–	–	827
Total	\$ 193,959	\$ 54,887	\$ 494,734	\$ 214,065

The increase in REAL™ cost of inventory of \$139,072 or 254% for the three months ended September 30, 2019 and \$281,496 or 132% for the nine months ended September 30, 2019 compared to the same periods in the prior year is due to increased sales of the Company's HARP™ in the Canadian and USA

markets and the increased cost of the HARP™ for the deeper and more corrosive wellbores in the USA market as noted above.

In addition, the Company has recognized a provision of \$15,000 for the three months ended September 30, 2019 compared to \$7,500 for the same period in the prior year and \$30,750 for the nine months ended September 30, 2019 compared to \$22,500 for the same period in the prior year for potential maintenance warranty claims related to the commercialization of its HARP™.

### Gross Margin

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Gross margin	\$ 116,075	\$ 25,953	\$ 258,879	\$ 75,353

The Company's gross margin as a percentage of total revenue during the three and nine months ended September 30, 2019 was 37% and 34% compared to 32% and 26% for the same periods in the prior year, respectively. Excluding the ELS inventory sales, which earn minimal margin until the Company receives its 50% portion of completed ELS sales, and the warranty provision of \$15,000 for the first nine months of 2019, the Company's gross margin as a percentage of total revenue was 34% compared to 26% for the same period in the prior year. The increase in Canadian gross margin is due to increased HARP™ sales prices in addition to reduced manufacturing costs. The Company anticipates the gross margin on HARP™ sales to continue to increase as vendor order quantities increase resulting in lower costs per manufactured part.

### Other Income

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Interest Income	\$ –	\$ 10,947	\$ 8,936	\$ 16,688

The decrease in interest income for the three and nine months ended September 30, 2019, compared to the same periods in 2018, is the result of the Company's lower cash balance during 2019 compared to the prior year. The Company does not earn any interest in its investment account for balances less than \$1 million.

### General and Administration

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Sub-contracted and consulting fees	\$1,119,610	\$ 20,858	\$ 1,153,199	\$ 57,389
Salaries and benefits <sup>(1)</sup>	212,293	160,540	588,706	397,279
Salaries and benefits <sup>(2)</sup>	159,838	151,263	490,642	415,188
Legal	50,789	54,376	98,204	86,388
Facilities	16,783	51,593	63,852	150,913
Audit and accounting	19,425	17,112	48,562	66,551
Other	50,272	94,234	131,456	185,123
Total	\$1,629,010	\$ 549,976	\$ 2,574,621	\$ 1,358,831

(1) HARP commercialization

(2) Administration

Overall general and administration expenses increased \$1,079,034 or 196% for the three-month period ended September 30, 2019 compared to same period in 2018. Significant changes within the general and administration expenses consisted of:

- a \$1,098,752 increase in sub-contracted and consulting fees due to the acquisition of 1955554 Alberta Ltd., an arms-length private consulting company, on September 30, 2019 for total consideration of \$1,400,000 which was satisfied through the issuance of secured convertible debentures and resulted in a one-time \$1.1 million consulting fee being recognized;
- a \$51,753 increase in salaries and benefits for HARP™ commercialization mainly due to the addition of two new employees in the areas of Commercial Sales and Internal Manufacturing during the third and fourth quarters of 2018 to assist in the commercialization of the HARP™; offset by
- a \$34,810 decrease in facilities expense due to the adoption of IFRS 16 – *Leases* on January 1, 2019 requiring the Company's office lease payments to be capitalized and reported on the Statement of Financial Position with only the monthly operating expense payments reported in General & Administration expense. Monthly amortization of the capitalized office lease is reported in Depreciation and Amortization and monthly interest expense is reported in Finance Costs, both reported separately on the Statement of Operations.

Overall general and administration expenses increased \$1,215,790 or 89% for the nine-month period ended September 30, 2019 compared to same period in 2018. Significant changes within the general and administration expenses consisted of:

- a \$1,095,810 increase in sub-contracted and consulting fees due to the acquisition of 1955554 Alberta Ltd., an arms-length private consulting company, on September 30, 2019 for total consideration of \$1,400,000 which was satisfied through the issuance of secured convertible debentures and resulted in a one-time \$1.1 million consulting fee being recognized;
- a \$191,427 increase in salaries and benefits for HARP™ commercialization mainly due to the addition of three new employees in the areas of Commercial Sales, Field Operations and Internal Manufacturing during the second to fourth quarters of 2018 to assist in the commercialization of the HARP™; offset by
- a \$87,061 decrease in facilities expense due to the adoption of IFRS 16 – *Leases* on January 1, 2019 requiring the Company's office lease payments to be capitalized and reported on the Statement of Financial Position with only the monthly operating expense payments reported in General & Administration expense as discussed above.

## Depreciation and Amortization

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Depreciation of right-of-use assets	\$ 41,362	\$ –	\$ 122,592	\$ –
Depreciation of fixed assets	18,477	20,062	54,200	60,185
<b>Total</b>	<b>\$ 59,839</b>	<b>\$ 20,062</b>	<b>\$ 176,792</b>	<b>\$ 60,185</b>

The 198% and 194% increase in depreciation and amortization for the three and nine months ended September 30, 2019 compared to the same periods in the prior year is mainly due to the adoption of IFRS 16 – *Leases* on January 1, 2019 requiring the Company to capitalize its lease contracts as Right-

of-Use (“ROU”) assets and report the amortization of these assets as depreciation and amortization expense rather than as lease payments included in the general and administration expense.

The Company has not yet recorded any amortization of the HART™ as it is not yet ready for use in the manner intended by management as of the date of this report and all other intangible assets were fully amortized on June 30, 2017.

### Research Expenses

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Research expenses	\$ 49,746	\$ 41,494	\$ 129,401	\$ 119,730

Research expenses for the three months and nine months ended September 30, 2019 consisted of expenditures incurred for the design and development of the Company’s patent pending downhole tools that form part of the REAL™ system. The expenditures mainly consisted of an internal engineer’s salary and benefits as well as testing of the REAL™ system and are consistent between the two periods.

### Stock-based Compensation

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Stock-based compensation	\$ 64,603	\$ 88,220	\$ 143,884	\$ 277,138

Stock-based compensation expense relates to options granted to the Company’s management, employees, consultants and directors that are not directly related to the HART™ development and is recognized over the time the options vest. Stock options granted to individuals directly related to the HART™ development are capitalized and included in the carrying value of the HART™. The Company uses the Black-Scholes model to calculate the fair value of the options at the time of grant.

The 27% decrease in the stock-based compensation expense for the three months ended September 30, 2019 and the 48% decrease in the stock-based compensation expense for the nine months ended September 30, 2019 compared to the same periods in the prior year is mainly due to the timing of the stock option grants and the vesting period associated with each option grant.

The Company granted 3,000,000 stock options during the nine months ended September 30, 2019 and 700,000 stock options during the nine months ended September 30, 2018.

The Company has 5,211,667 options exercisable at September 30, 2019 compared to 4,155,417 at September 30, 2018.

## Finance Costs

	Three months ended Sept 30		Nine months ended Sept 30	
	2019	2018	2019	2018
Right-of-use assets interest expense	\$ 6,128	\$ –	\$ 19,880	\$ –
Finance lease interest	2,100	–	6,643	175
Bank and other interest charges	409	823	2,543	2,060
<b>Total</b>	<b>\$ 8,637</b>	<b>\$ 823</b>	<b>\$ 29,066</b>	<b>\$ 2,235</b>

The 949% increase in finance costs for the three months ended September 30, 2019 and the 1,200% increase in finance costs for the nine months ended September 30, 2019 compared to the same periods in the prior year is mainly due to the adoption of IFRS 16 – *Leases* on January 1, 2019 requiring the Company to capitalize its lease contracts and report interest expense on the lease liability included as finance costs rather than as lease payments included in the general and administration expense.

In addition, the Company entered into a ninety-month finance lease for a new CNC Lathe machine in October 2018 resulting in finance lease interest incurred during the three and nine months ended September 30, 2019.

## Deferred Income Taxes

The Company has not recognized any deferred income tax asset given the uncertainty of profitability with its future operations. At September 30, 2019, the Company has a non-capital loss carry forward balance and deductible scientific research and development expenditures totaling approximately \$21 million.

## Net Loss and Net Loss per Share

The net loss for the three and nine months ended September 30, 2019 was \$1,740,336 and \$2,830,525 respectively, compared to a net loss of \$663,675 and \$1,726,078 during the same periods in 2018.

The \$1,076,661 and \$1,104,447 increase in the net losses for the three and nine months ended September 30, 2019 compared to the same periods in the prior year is mainly the result of the acquisition of 1955554 Alberta Ltd., an arms-length private consulting company, on September 30, 2019 for total consideration of \$1,400,000 which was satisfied through the issuance of secured convertible debentures and resulted in a one-time \$1.1 million consulting fee being recognized.

The net loss per share of \$0.02 for the three and nine months ended September 30, 2019 is consistent with the net loss per share of \$0.01 and \$0.02 for the three and nine months ended September 30, 2018.

## Cash Used in Operating Activities

Cash flows used in operating activities for the nine months ended September 30, 2019 of \$1,434,021 are 8% lower than the cash flows used in operating activities for the nine months ended September 30, 2018 of \$1,552,339.

The decrease is mainly due to a \$109,260 change in non-cash working capital between the periods due to the timing of receipts in trade receivables and timing of payments in trade payables and accrued liabilities.

**SUMMARY OF QUARTERLY RESULTS**  
(selected financial information)

	Q3 2019	Q2 2019	Q1 2019	Q4 2018
Revenue	\$ 310,034	\$ 231,964	\$ 220,550	\$ 55,634
Net loss	(1,740,336)	(557,072)	(533,116)	(821,688)
Per share	(0.02)	(0.00)	(0.01)	(0.01)

  

	Q3 2018	Q2 2018	Q1 2018	Q4 2017
Revenue	\$ 91,787	\$ 68,080	\$ 146,239	\$ 217,218
Net loss	(663,675)	(553,831)	(508,572)	(705,439)
Per share	(0.01)	(0.01)	(0.01)	(0.01)

The net loss increase of \$1,183,264 or 212% in the third quarter of 2019 compared to the second quarter of 2018 is mainly the result of the acquisition of 1955554 Alberta Ltd., an arms-length private consulting company, on September 30, 2019 for total consideration of \$1,400,000 which was satisfied through the issuance of secured convertible debentures and resulted in a one-time \$1.1 million consulting fee being recognized.

The net loss increase of \$23,956 or 4% in the second quarter of 2019 compared to the first quarter of 2019 is mainly the result of a \$22,006 increase in general and administration expense primarily in the HARP™ commercialization expenses.

The net loss decrease of \$288,572 or 35% in the first quarter of 2019 compared to the fourth quarter of 2018 is mainly the result of a \$139,550 decrease in general and administration expense due to the adoption of IFRS 16 resulting in previously reported general and administration lease payments now being included in depreciation & amortization and finance costs as well as expense reductions in meals and travel expenses, bad debt expenses, audit expenses, legal expenses and public company costs; a \$80,192 increase in gross margin due to increased sales and a \$74,574 decrease in inventory impairment.

The net loss increase of \$158,013 or 24% in the fourth quarter of 2018 compared to the third quarter of 2018 is mainly the result of a \$74,574 inventory impairment recognized in the fourth quarter of 2018 related to first generation HARP™ inventory that is no longer usable and a \$36,151 decrease in gross margin during the fourth quarter of 2018 compared to the third quarter of 2018 due to the timing in reporting of inventory shrinkage costs for the year (\$8,883 was expensed during the fourth quarter of 2018 compared to a recovery of \$16,255 recognized in the third quarter of 2018).

The net loss increase of \$109,844 or 20% in the third quarter of 2018 compared to the second quarter of 2018 is mainly the result of a \$132,325 increase in general and administration expenses due to the increase in employees and other expenses related to commercialization of the HARP™ and an increase in legal fees related to patents as discussed above, offset by a \$12,327 decrease in stock option expense.

The net loss increase of \$45,259 or 9% in the second quarter of 2018 compared to the first quarter of 2018 is mainly the result of a \$32,403 increase in general and administration expenses, a \$12,178

increase in stock option expense and a \$13,862 decrease in gross margin, offset by a \$6,905 decrease in facilities expense and a \$5,741 increase in interest income.

The net loss decrease of \$196,867 or 28% in the first quarter of 2018 compared to the fourth quarter of 2017 is mainly the result of a \$181,125 decrease in stock-based compensation due to the issuance of 700,000 stock options in February 2018 compared to 2,223,750 stock options being issued in November 2017 and the expiry date extension of 2,251,250 stock options from August 23, 2017 to January 23, 2022 recorded in the fourth quarter of 2017.

## CONTRACTUAL OBLIGATIONS

The Company has the following contractual obligations, including the two-year office lease extension using the current monthly lease rate, as of the date of this report:

	2019	2020	2021	2022	2023
Office lease	\$ 11,400	\$ 136,800	\$ 136,800	\$ 91,200	\$ –
Machines & equipment leases	3,354	40,245	40,245	38,912	31,316
Vehicle leases	2,620	19,738	–	–	–
<b>Total</b>	<b>\$ 17,374</b>	<b>\$ 196,783</b>	<b>\$ 177,045</b>	<b>\$ 130,112</b>	<b>\$ 31,316</b>

### *Office Lease:*

The office lease commitment is for the Calgary prototype manufacturing facility and office space located at 2620, 58<sup>th</sup> Avenue S.E. Monthly rent excluding operating costs and GST is \$11,400 per month until August 31, 2020 and includes an option to extend for an additional two years after this date.

### *Machine and Equipment Leases:*

The Company committed to a ninety-month finance lease for a CNC Lathe machine which expires October 20, 2023 and a ninety-month lease of a photocopier which expires June 30, 2022.

### *Vehicle Leases:*

The Company has committed to two vehicle leases each with twenty-four month terms which expire on June 30, 2020 and October 15, 2020.

## LIQUIDITY AND CAPITAL RESOURCES

As at September 30, 2019, the Company had positive working capital of \$1.3 million. The Company's policy is to invest its cash only in an interest bearing commercial investment account with a major international bank.

On September 30, 2019, the Company completed a \$900,000 private placement of secured convertible debentures concurrently with the closing of the acquisition of 1955554 Alberta Ltd., an arms-length private consulting company, which held \$300,000 in cash, for consideration of \$1,400,000 in convertible debentures.

This cash injection and projected revenues will fund the Company's capital and operating expenditures through 2020 based on current forecasts. The Company's ability to accomplish its future plans is dependent upon the creation of positive cash flow through the successful commercialization of its products and obtaining additional financing, if necessary, to complete the commercialization process; however, there is no assurance that the Company will achieve these objectives. Refer to the going

concern discussion in note 2 of the Company's condensed interim consolidated financial statements for the three and nine months ended September 30, 2019.

The Company's credit facility with a Canadian bank was cancelled on September 30, 2019 in conjunction with the acquisition of 195554 Alberta Ltd. It consisted of a maximum \$500,000 demand revolving loan bearing interest at the lender's prime rate plus 2% per annum available by account overdraft when the Company's EBITDA to total debt service exceeded 1.25:1.00. The Company was not able to draw on the facility during its existence due to its negative EBITDA. EBITDA is defined as the previous nine months earnings before interest, taxes and depreciation/amortization, adjusted for any non-cash charges, provisions or extraordinary items. Total debt service is defined as the sum of all interest and principal paid by the borrower on any third party indebtedness, if not postponed to the bank after the previous nine months, and interest payments on the demand revolving loan assuming full advance over the previous nine months.

## OUTSTANDING SHARE DATA

The Company's outstanding shares, options and warrants of the date of this report consist of:

	Number
Common shares:	
Balance, December 31, 2018	113,582,673
<b>Common shares, as of November 21, 2019</b>	<b>113,582,673</b>
Stock options:	
Balance, December 31, 2018	6,990,000
Options granted	3,000,000
Options forfeited	(700,000)
<b>Stock options outstanding, as of November 21, 2019</b>	<b>9,290,000</b>
<b>Stock options exercisable, as of November 21, 2019</b>	<b>5,011,667</b>
Share purchase warrants:	
Balance, December 31, 2018	4,466,072
Share purchase warrants expired	(4,466,072)
<b>Share purchase warrants outstanding, as of November 21, 2019</b>	<b>—</b>

## RECENT PRONOUNCEMENTS ISSUED

### IFRS 16 - LEASES

IFRS 16, *Leases* ("IFRS 16") replaces IAS 17 *Leases* and related interpretations and is effective January 1, 2019. IFRS 16 establishes a single, on-balance sheet accounting model for lessees which results in the recognition of a lease liability for the obligation to make lease payments and a right-of-use ("ROU") asset for the right to use the underlying asset for the lease term for most leases.

Effective January 1, 2019, the Company adopted IFRS 16 using the modified retrospective approach which does not require restatement of previous financial statements. The nature and effect of these changes are disclosed below.

On initial adoption, the Company applied the following practical expedients permitted under the standard. Some expedients are available on a lease-by-lease basis, while others are applicable by class of underlying asset.

- Certain leases of low value (<\$5,000) that have been identified at January 1, 2019 are not recognized on the Statement of Financial Position;

- Initial direct costs were excluded from the measurement of ROU assets for the purpose of initial measurement on transition; and
- In their initial measurement upon transition, some leases having similar characteristics are measured as a portfolio by applying a single discount rate.

The Company identified all contracts that contain leases as defined by IFRS 16 as at the transition date of January 1, 2019 and quantified the impact of IFRS 16 adoption on the 2019 opening Statement of Financial Position. IFRS 16 increased the Company's total assets and liabilities by approximately \$508,239 at January 1, 2019 based on an estimated weighted average incremental borrowing rate for lease liabilities initially recognized as of January 1, 2019 of 5.7%.

The Company's leases recognized in the Statement of Financial Position as at January 1, 2019 include leases of real estate, equipment and vehicles. The Company has quantified the impact of IFRS 16 on its opening Statements of Financial Condition as at January 1, 2019 as follows:

<b>Assets</b>	
Property & equipment finance lease, December 31, 2018	\$ 190,607
Increase to assets	508,239
<b>Right-of-use assets, January 1, 2019</b>	<b>\$ 698,846</b>
<b>Liabilities</b>	
Lease obligation, December 31, 2018	\$ 156,290
Increase to liabilities	508,239
<b>Lease liabilities, January 1, 2019</b>	<b>\$ 664,529</b>

The following table presents a reconciliation of commitments as at December 31, 2018 to lease liabilities as at January 1, 2019:

Commitments, December 31, 2018	\$ 414,766
Effect of 2-year renewal option on office lease	273,600
Lease of low-value (computer equipment and services)	(125,686)
Operating lease obligations, January 1, 2019 (undiscounted)	562,680
Effect of discounting cash flows	(54,441)
<b>Total increase to lease liabilities, January 1, 2019</b>	<b>\$ 508,239</b>

The quantified impacts of IFRS 16 disclosed herein are subject to change in future periods pending updates to individual contract terms, assumptions, and other facts and circumstances arising subsequent to the date of these consolidated financial statements.

See note 4 of the Company's unaudited condensed interim consolidated financial statements for the three and nine months ended September 30, 2019 for the Company's accounting policy on the recognition, measurement and disclosure of lease commitments.

## FINANCIAL INSTRUMENTS

The Company's financial instruments are represented by cash, trade receivables, deposits, trade payables, long-term debt and finance lease obligations.

The Company is exposed to financial risks arising from normal course business operations and its financial assets and liabilities. The financial risks include liquidity risk, interest rate risk, credit risk and foreign currency exchange risk.

### *Liquidity risk*

Liquidity risk is the risk that the Company will encounter difficulties in meeting its financial liability obligations. The Company manages its liquidity risk by investing excess cash in a fully liquid investment bank account. This allows the Company to have access to additional funds in a very short time frame. All financial liabilities are due within one year.

As disclosed in note 10 of the Company's condensed interim consolidated financial statements for the three and nine months ended September 30, 2019, the Company closed a Debenture private placement for gross proceeds of \$900,000 as well as acquired the assets of 195554 Alberta Ltd which included \$300,000 in cash for consideration of \$1.4 million of Debentures, both of which closed on September 30, 2019. The Company believes this cash injection and projected revenues will be sufficient to complete its strategic objectives through 2020 based on current forecasts. However, the Company's ability to accomplish its plans beyond this is dependent upon the addition of positive cash flow through the successful commercialization of its products and obtaining additional financing, if necessary, to complete the commercialization process; however, there is no assurance that the Company will achieve these objectives. Refer to the going concern discussion in note 2 of the Company's condensed interim consolidated financial statements for the three and nine months ended September 30, 2019.

### *Interest rate risk*

Interest rate risk is the risk that the value of a financial instrument will fluctuate as a result of changes in market interest rates. The Company is exposed to interest rate risk if the cash flows generated from its cash fluctuate in response to changes in market interest rates.

At September 30, 2019, cash was comprised of \$1,473,672, of which \$519,968 was held on deposit in a HSBC commercial investment account which earns a fixed interest of 1.75% per annum for balances held over \$1,000,000, thus the Company has no exposure to fluctuating market interest rates.

### *Credit risk*

The Company is exposed to credit risk where a financial loss would be experienced if a counterparty to a financial asset failed to meet its obligations. The Company's maximum credit risk exposure is limited to the carrying values of its cash, trade receivables and deposits as disclosed in the consolidated financial statements as at September 30, 2019.

The Company mitigates its exposure to credit risk with respect to cash by maintaining its bank accounts and cash investments with a major international bank, thus the Company's management believes the credit risk associated with cash is low.

The Company manages its credit risk with respect to trade receivables and deposits by performing credit evaluations of its customers and only grants credit based on a review of historical collection experience, current aging status, financial condition of the customer and anticipated industry conditions. The trade receivables balance at September 30, 2019 consists of amounts owing from ten customers and the federal government for GST refunds. The majority of the balance owing has been or is expected

to be collected subsequent to the quarter-end. The Company has fully provided for one customer invoice in the amount of \$22,357 in its Allowance for Doubtful Accounts provision. The Company's historical expected credit loss is insignificant.

*Foreign Currency Exchange Risk*

Events in the global financial markets have been coupled with increased volatility in the currency markets. A substantial portion of the Company's incoming revenue may be earned in U.S. dollars, but a substantial portion of its operating expenses may be incurred in Canadian dollars. Fluctuations in the exchange rate between the U.S. dollar and other currencies, such as the Canadian dollar, may have a material adverse effect on the Company's business, financial condition and operating results.

**OPERATIONAL AND BUSINESS RISKS**

Information with respect to the operational and business risks faced by the Company is included in the Company's MD&A for the year ended December 31, 2018.