
**MICROMEM TECHNOLOGIES INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
FOR THE THREE MONTHS ENDED APRIL 30, 2019
PREPARED AS OF JUNE 26, 2019**

NOTICE TO READER

The Management's Discussion and Analysis ("MD&A") report for Micromem Technologies Inc. for the three months ending April 30, 2019, as attached, is dated as of June 26, 2019, consistent with the date of the Independent Registered Public Accounting Firm report and with the 52-109F1R CEO and CFO certification filings related thereto.

/s/ Dan Amadori
Dan Amadori, CFO
June 26, 2019

/s/ Joseph Fuda
Joseph Fuda, CEO
June 26, 2019

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INTRODUCTION

The following sets out the Management's Discussion and Analysis ("MD&A") of the financial position and result of operations for the three months ending April 30, 2019 of Micromem Technologies Inc. (the "Company", "Micromem" or "we"). The MD&A should be read in conjunction with the Company's audited consolidated financial statements and accompanying notes for the fiscal years ending October 31, 2018 which are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. Additional information regarding the Company is available on the SEDAR website at www.sedar.com.

The Company's shares are traded on the OTCQB under the symbol MMTIF and on the Canadian Securities Exchange ("CSE") under the symbol MRM. The Company incorporated Micromem Applied Sensor Technologies Inc. ("MAST") as a wholly – owned subsidiary for the purpose of moving forward with the planned commercialization of its technology.

Certain information provided by the Company in this MD&A and in other documents publicly filed throughout the year that are not recitation of historical facts may constitute forward-looking statements. The words "may", "would", "could", "will", "likely", "estimate", "believe", "expect", "forecast" and similar expressions are intended to identify forward-looking statements.

Readers are cautioned that such statements are only predictions and the actual events or results may differ materially. In evaluating such forward-looking statements, readers should specifically consider the various factors that could cause actual events or results to differ materially from those indicated by such forward-looking statements.

FORWARD LOOKING STATEMENTS

This MD&A contains forward-looking statements and forward looking information within the meaning of applicable Canadian securities legislation ("forward looking statements"). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, potentials, future events or performance (often, but not always, using words or phrases such as "believes", "expects" or "does not expect", "is expected", "anticipates" or "does not anticipate", or "intends" or stating that certain actions, events or results "may", "could", "would", "might" or "will" be taken or achieved) are not statements of historical fact, but are "forward-looking statements". Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, or developments in the Company's business or in its industry, to differ materially from the anticipated results, performance, achievements or developments expressed or implied by such forward-looking statements. Forward-looking statements include disclosure regarding possible events, conditions or results of operations that are based on assumptions about future conditions, courses of action and consequences. Forward-looking statements may also include, without limitation, any statement relating to future events, conditions

or circumstances. The Company cautions you not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. Forward-looking statements relate to, among other things, the successful commercialization of our technology, comments about potential future revenues, joint development agreements and expectations of signed contracts with customers, etc. A number of inherent risks, uncertainties and factors affect the operations, performance and results of the Company and its business, and could cause actual results to differ materially from current expectations of estimated or anticipated events or results. Some of these risks and uncertainties include the risk of not securing required capital in future, the risks of not successfully concluding agreements with potential partners on a timely basis, the risks associated with commercializing and bringing to market our technology. These risks are affected by certain factors that are beyond the Company's control: the existence of present and possible future government regulation, competition that exists in the Company's business, uncertainty of revenues, markets and profitability, as well as those other factors discussed in this MD&A report. This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements and reference should also be made to the Company's Annual Information Form (prepared and filed in the form of a Form 20-F Annual Report pursuant to The Securities Exchange Act of 1934) for a description of risk factors.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. The Company does not undertake to update any forward-looking statements that are incorporated by reference herein, except in accordance with applicable securities law.

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**MICROMEM TECHNOLOGIES INC.
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1. OVERVIEW

Micromem is a company that develops customized, proprietary sensor-based solutions for large multinational corporations. It operates through its wholly owned subsidiary, Micromem Applied Sensor Technologies ("MAST"). MAST is responsible for the development of market opportunities, maintaining customer relationships and the project management of the independent engineering subcontractors that it engages once a client project has been initiated. Micromem and MAST are referred to interchangeably as "the Company" throughout this report.

Business Development:

(a) Chevron:

Our Joint Product Development Agreement with Chevron, as previously disclosed, progressed in 2018 and in the quarter ended January 31, 2019. We received \$713,983 of additional development funding from Chevron in 2018. In Q1, the dates were set for the onsite field trials to be conducted at one of Chevron's US based operating wells. These trials commenced in March 2019. We are now developing a commercialization strategy based on the anticipated outcome of these trials.

(b) Repsol S.A.:

We have previously reported on our preliminary dealings with Repsol. In 2017 we executed a preliminary development contract with Repsol for the utilization of the RT Lube technology to be customized to their specific requirements. Repsol provided \$75,000 of initial funding. The initial project with Repsol contemplated 2 phases of activity.

Since the departure of Mr. Van Fleet in August 2018, we have worked directly with the Repsol team. We have, since then, recast the original development project and the timetable for completion. In Q1 2019 we submitted a proposed letter of intent in this regard. Future developments are pending.

(c) RT Lube Analyzer:

We continue to pursue potential opportunities and believe that there are significant potential market opportunities for this technology.

(d) **Other:**

Since September 2018 we have engaged in dialogue with several potential opportunities with similar technology focus and are anticipating positive developments in 2019.

Financing:

In summary, the Company secured the following financing during these reporting periods:

In Q2 2019 the Company secured \$52,968 of financing from private placements (2018: \$61,334), and \$70,521 (2018: \$376,521) from the issuance of convertible debentures.

The Company's convertible debt structure is complex with 3 broad categories of such debt: (i) \$CDN denominated debt with fixed conversion prices; (ii) \$US denominated debt with fixed conversion prices and (iii) \$US denominated debt with variable conversion prices. The term of the debt in each instance is typically between 4 months and 12 months. The Company has repaid certain convertible loans at maturity when due as requested by the debenture holder, or converted the debenture into common shares at the request of the debenture holder, or extended the term of the debenture through negotiations with the debenture holder – in this latter case, certain terms of the loan – interest rate and/or conversion price – may be adjusted as part of the extension.

Under IFRS reporting, such loans require quarterly remeasurements. The application of the remeasurement methodology is very specific. This is more fully discussed in Section 3; in summary there are several non-cash related income and expense charges that arise from such remeasurements. We recorded the following non-cash charges in the six month period ending April 30, 2019 and 2018:

| | 2019 | 2018 |
|---|-------------|-------------|
| | | |
| Accretion expense | \$805,083 | \$894,614 |
| Loss on Conversion of debentures | 19,798 | - |
| (Gain) loss on revaluation of derivatives | (318,003) | 43,270 |
| (Gain) loss on extinguishment of debentures | (707) | (39,141) |
| Net expense | 506,171 | 898,743 |

There is no impact on the Company's cash flow for these non-cash charges.

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2. PROJECT UPDATES:

The current status of our development projects is as reported below:

Chevron: In 2019 we have continued to engage with Chevron personnel and with our engineering subcontractor, Entanglement Technologies (“Entanglement”).

Chevron has provided \$713,983 of funding towards our joint product development agreement in 2018. The project which relates to the use of alcohol based tracers to measure various characteristics and attributes of operating oil wells, is now scheduled to proceed. The results of our bench/laboratory testing of this technology previously completed have been successful against predetermined performance standards required. We believe that these results will be replicated in the pilot project which commenced in March 2019. We anticipate that once the results from the pilot are finalized we will then move forward with commercialization of the technology.

In 2015, we initiated a development protocol with Chevron with respect to a second development project – the proposed development, over a period of 2 years, of a sensor platform to be used for testing of cement integrity in offshore oil wells. That project did not move forward at that time.

In November 2018 we reengaged with the Chevron team who have responsibilities for this development initiative within Chevron. There remains significant joint interest in the project and we anticipate follow up on this potential project opportunity in 2019.

Castrol: We have previously reported on our interactions and our Joint Product Development Agreement with Castrol, which began in 2014.

The Company retains a substantial file of proprietary technical information, drawings and design work related to this development effort.

RT Lube Analyzer: In 2017-2018 the Company developed the prototype unit of this technology based on the development work completed by SBM. It began to assess potential market opportunities to commercialize this technology in a number of market verticals, in particular – shipping, large industrial applications and wind energy. We continue to pursue this opportunity and we believe that there is significant market potential in this technology.

Repsol S.A.: We have previously reported on our initial activity with this Spanish energy conglomerate.

We have continued our discussions with Repsol since then and have recast the development project and timetables for completion. We have also added additional technical and manufacturing expertise through outside consultants to help facilitate the go forward activity with the intention of continuing the role of SBM.

At this point, we are attempting to finalize a new letter of intent with Repsol to continue this project in 2019.

ATRA 171 Technology: We continue to pursue new potential market opportunities for the ATRA 171 technology.

Other Opportunities: Since September 2018 we have engaged in dialogue with a private company that has been in operation for several decades. This company has a team with engineering and manufacturing capabilities and an established presence and revenue base in North America. One of the business lines that this company has developed is a sensor based system that detects gas leakage in industrial plants. We continue to negotiate a potential business arrangement with this entity with the expectation of developing a more formal working relationship during 2019.

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3. DISCUSSION OF OPERATING RESULTS:

(a) Financial Position as at April 30, 2019:

| | <u>April 30, 2019</u> <u>('\$000)</u> | <u>October 31, 2018</u> <u>('\$000)</u> |
|--|--|--|
| Cash | 3 | 207 |
| Deposits and other receivables | 42 | 99 |
| | <u>45</u> | <u>306</u> |
| Property and equipment, net | 8 | 9 |
| Patents, net | 326 | 396 |
| | <u>379</u> | <u>711</u> |
| Bridge loans | 2,502 | 2,477 |
| Accounts payable and accrued liabilities | 962 | 1,007 |
| Derivative liability | 740 | 650 |
| | <u>4,204</u> | <u>4,134</u> |
| Shareholders' Equity | | |
| Share capital: | 82,984 | 82,283 |
| Equity component of bridge loans | 70 | 70 |
| Contributed surplus | 27,687 | 27,631 |
| Deficit | (114,566) | (113,407) |
| | <u>(3,824)</u> | <u>(3,423)</u> |
| | <u>379</u> | <u>711</u> |

Commentary:

1. The Company's working capital deficiency is (\$4,158,247) at April 30, 2019 (at October 31, 2018: deficiency of \$3,828,503)
2. The Company capitalized \$7,215 of costs associated with patents in April 30, 2019 (in October 31, 2018 - \$121,603). These applications and filings relate to the ongoing product development work that the Company has undertaken. It has a portfolio of awarded patents in the United States and has filed for provisional patents in certain foreign countries.
3. The Company continued to secure additional financing in 2019 through convertible bridge loans. Given the terms of the bridge loans, the Company has measured, as appropriate, the prescribed accounting treatment for these bridge loans and the related derivatives. These loans were typically of a short-term nature and, in many cases,

renewed on multiple occasions; the related financial reporting has become progressively more complex.

The balance reported as bridge loans at April 30, 2019 is \$2,502,124 (at October 31, 2018: \$2,476,571) and the related derivative liability balance is \$739,761 (at October 31, 2018: \$650,116). Related thereto, for the 6 months ended April 30, the Company reports accretion expense on these debentures of \$805,083 (2018: \$894,614), a loss on the conversion of bridge loans to share capital of \$19,798 (2018: \$nil), a gain on the revaluation of the underlying derivative liabilities of \$318,003 (2018: loss \$43,270) and a gain on extinguishment of convertible debentures of \$707 (2018: gain of 39,141). Management primarily employs a Black Scholes valuation model; for certain of the loan transactions contracted for, it uses a binomial measurement model for those specific loans. Management acknowledges that:

- a. The cost of financing to the Company is significant; interest on the bridge loans is substantial. For the 6 months ended April 30 we report \$253,690 of interest expense (2018: \$222,978).
- b. The accounting for these transactions creates complexities in the financial reporting process.
- c. The judgements utilized are based on specific assumptions which, if changed, would generate different results. The significant point to note is that these charges as, noted above, are non-cash charges with no impact on the Company's cash flow.

4. During the 2019 and 2018 fiscal years, the Company secured financing from various sources , the significant components include:

| | (12 months) October 31, 2018 | (6 months) April 30, 2019 | (3 months) April 30, 2019 |
|---|------------------------------------|---------------------------------|---------------------------------|
| i) Private placements of shares for cash consideration | \$ 866,200 | \$ 102,968 | \$ 52,968 |
| ii) Shares issued to settle financing fees | - | 21,000 | - |
| iii) Settlement of trade accounts payable for share consideration | 13,379 | | - |
| iv) Bridge loan financing secured | 1,457,983 | | - |
| v) Bridge loan settlements for share consideration | 1,205,130 | 353,948 | 131,701 |
| vi) Project financing provided by development partners | 738,983 | | - |
| | <u>\$ 4,281,675</u> | <u>\$ 477,916</u> | <u>\$ 184,669</u> |

Subsequent to October 31, 2018 the Company raised an additional \$64,000 USD and \$50,000 CDN in convertible bridge loans and \$10,000 in private placements (refer to Subsequent Events).

(b) Operating Results:

The following table summarizes the Company's operating results for the three months ended April 30, 2019 and 2018:

Discussion of Operating Results

| | Quarter ending April 30, | |
|---|--------------------------|-----------------|
| | 2019 (\$000) | 2018 (\$000) |
| Administration | 58 | 164 |
| Interest expense | 120 | 114 |
| Accretion expense | 411 | 549 |
| Financing cost | 1 | - |
| Professional fees and salaries | 69 | 187 |
| Development costs, net | (34) | 67 |
| Travel and entertainment | 11 | 26 |
| Foreign exchange loss (gain) | (41) | (4) |
| Amortization of property and equipment | 1 | 1 |
| Amortization of patents | 39 | 38 |
| Loss on conversion of debentures | 3 | - |
| (gain) loss on revaluation of derivatives | (586) | (1,376) |
| Loss/(gain) on extinguishment of debt | (3) | 26 |
| Total expenses | 49 | (208) |
| Net comprehensive income (loss) | (49) | 208 |
| Income (loss per share) | - | - |

Commentary:

In addition to the commentary above regarding the impact of the bridge loans on the Company's operating results, we note the following.

In 2019, the Company instituted a series of cost cutting measures on operating expenses given its working capital constraints:

- a. We reduced professional and other fees and salaries in 2019. There has been no remuneration paid to the CEO or the CFO in 2019; the costs associated with Mr. Van Fleet were eliminated after his resignation in August 2018; and the Company also rolled back certain staff salaries. We have utilized less outside consulting and legal services in 2019.

Travel expenses have been generally reduced in 2019; in 2018 Mr. Van Fleet incurred such expenses which were eliminated after his departure.

Insurance expense has been reduced in 2019 as we have eliminated certain coverage which was in place previously and which is currently not required.

General and administrative costs were significantly reduced on an overall basis across all cost categories.

- b. The quarterly foreign exchange gain at April 30, 2019 of \$40,749 (2018: exchange gain of \$3,831) consists of the exchange adjustment on \$CDN denominated transactions during the period, the exchange translation arising on consolidation of the Company's financial statements and an exchange adjustment relating to the measurement of \$CDN denominated convertible debt transactions during the quarter.

1) **Administrative related expenses compare as follows (\$000):**

| | 2019 | 2018 |
|---|------|------|
| General and administrative | 9 | 98 |
| Rent and occupancy cost | 16 | 18 |
| Office insurance | 13 | 25 |
| Telephone | 1 | 3 |
| Investor relations, listing and filing fees | 19 | 20 |
| | 58 | 164 |

2) **Professional and other fees and salaries compare as follows (\$000):**

| | 2019 | 2018 |
|-----------------------|------|------|
| Professional fees | 15 | 44 |
| Consulting fees | - | 80 |
| Salaries and benefits | 54 | 63 |
| | 69 | 187 |

3) **Travel expenses compare as follows (\$000):**

| | 2019 | 2018 |
|---------|------|------|
| Airfare | 4 | 16 |
| Hotel | - | - |
| Other | 7 | 10 |
| | 11 | 26 |

C. Unaudited Quarterly Financial Information – Summary

| Three months ended (unaudited) | Revenues | Expenses | Income (loss) in period | Loss per share |
|-----------------------------------|----------|-----------|-------------------------------|-------------------|
| | \$ | \$ | \$ | \$ |
| July 31, 2017 | - | 400,281 | (400,281) | - |
| October 31, 2017 | | 1,638,499 | (1,638,499) | (0.01) |
| January 31, 2018 (1) | - | 2,291,691 | (2,291,691) | (0.01) |
| April 30, 2018 | - | (207,605) | 207,605 | - |
| July 31, 2018 | - | (22,711) | 22,711 | - |
| October 31, 2018 | - | 300,864 | (300,864) | - |
| January 31, 2019 (1) | - | 1,110,303 | (1,110,303) | - |
| April 30, 2019 | - | 48,088 | (48,088) | - |

| Three months ended (unaudited) | (1) Working capital (deficiency) | Capital assets at NBV | Other Assets | Total Assets | Shareholders equity (deficit) |
|-----------------------------------|---|--------------------------|--------------|--------------|----------------------------------|
| | \$ | \$ | \$ | \$ | \$ |
| April 30, 2017 | (5,355,571) | 12,672 | 410,178 | 501,472 | (5,457,278) |
| July 31, 2017 | (5,743,486) | 10,769 | 414,525 | 515,663 | (5,357,580) |
| October 31, 2017 | (3,375,656) | 9,822 | 431,462 | 916,643 | (3,424,106) |
| January 31, 2018 | (3,619,741) | 8,968 | 451,454 | 566,763 | (5,382,493) |
| April 30, 2018 | (3,551,233) | 8,117 | 438,725 | 597,983 | (4,805,909) |
| July 31, 2018 | (3,639,419) | 7,275 | 427,179 | 605,309 | (4,088,047) |
| October 31, 2018 | (3,828,503) | 9,228 | 396,105 | 710,737 | (3,423,170) |
| January 31, 2019 | (4,488,643) | 8,434 | 364,296 | 473,177 | (4,115,813) |
| April 30, 2019 | (4,158,247) | 7,639 | 326,358 | 379,334 | (3,824,250) |

(1) The net loss reported for the quarter ended April 30, 2019 (2018: the net income) includes non-cash related expenses with respect to accretion expense of \$805,083 (2018: \$894,614) and with respect to gain on revaluation of derivative liabilities of \$318,003 (2018: loss \$43,270).

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4. RISKS AND UNCERTAINTIES

There are a number of risks which may individually or in the aggregate affect the long-term commercial success of the Company, both known and unknown. An investment in the Company should be considered speculative due to the nature of the Company's activities and its current stage of development.

Stage of Development of Technology:

The Company has made strides in advancing its technology and in developing a product portfolio and in engaging customers in joint development projects. There remains the risk that the Company must successfully complete development work on these products to have available commercially viable products which can be licensed or sold.

Customers' Willingness to Purchase:

We have entered into joint development agreements whereby our prototype products are being subjected to rigorous testing by our partners. We expect to be successful in completing remaining development work on our product portfolio. If we are successful in doing so, our partners will then have to decide the extent to which they will adopt our technology for future use for their applications. The future revenue streams for the Company are dependent upon the rate of adoption by our customers and their willingness to do so.

Patent Portfolio:

The Company has spent time and effort and incurred significant costs with respect to the maintenance and development of our intellectual property portfolio. In 2018 it decided to abandon certain provisional patent filings in international jurisdictions which it believes does not impact on the core patent technology that the Company maintains. Given the nature of IP development, the Company is subject to continuing risks that our patents could be successfully challenged and that our patent pending files may not ultimately be granted full patent status. While we continue to make specific efforts to broaden our IP claims, this is an ongoing process and requires continued effort and vigilance. The Company does not have extensive in-house resources so as to manage its IP portfolio in this environment and has traditionally relied heavily on its patent attorneys for these services.

Financing:

The Company has successfully raised funding over the past several years to continue to support its development initiatives and fund the Company's corporate structure and overheads. The Company must continue to source financing in order to continue to support its business initiatives.

Competitors:

The Company is subject to competition from other entities that may have greater financial resources and more in-house technical expertise.

Management Structure:

The Company is highly dependent on the services of a small number of senior management team members. If one of these individuals were unavailable, the Company could encounter a difficult transition process.

Outstanding Lawsuit:

The Company is engaged in a lawsuit with Mr. Steven Van Fleet who, until his resignation on August 17, 2018, served as a director of the Company and as the President of the Company's wholly-owned subsidiary, MAST, Inc. This matter is discussed further in Section 6 (c) - Contingencies – in this report. The outcome of this lawsuit has not been determined at this stage.

Foreign Currency Exposure:

The Company expects to sell its products and license technologies in the United States, in Canada and abroad. It has raised financing in both \$CDN and \$USD. The Company has not hedged its foreign currency exposure. Foreign currency fluctuations present an ongoing risk to the business.

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5. GOING CONCERN

The consolidated financial statements have been prepared on the “going concern” basis, which presumes that the Company will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

There are material uncertainties related to conditions and events that cast significant doubt about the Company’s ability to continue as a going concern for a reasonable period of time in future. During the six months ended April 30, 2019 the Company reported a net loss and comprehensive loss of \$1,158,391 (2018 - \$2,084,086) and negative cash flow from operations of \$505,511 (2018 - \$671,999). The Company’s working capital deficiency as at April 30, 2019 is \$4,158,247 (October 31,2018 – \$3,828,503).

The Company’s future success depends on the profitable commercialization of its proprietary magnetic sensor technology. There is no assurance that the Company will be successful in the profitable commercialization of its technology. Based upon its current operating and financial plans, management of the Company believes that it will have sufficient access to financial resources to fund the Company’s planned operations through fiscal 2019 and beyond; however, the ability of the Company to continue as a going concern is dependent on its ability to secure additional financing and/or to profitably commercialize its technology. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the possible inability of the Company to continue as a going concern.

If the “going concern” assumption were not appropriate for these consolidated financial statements then adjustments would be necessary to the carrying value of assets and liabilities, the reported expenses and the balance sheet classifications used; in such cases, these adjustments would be material.

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6. OTHER MATTERS

(a) Critical Accounting Policies:

The accounting policies the Company believes are critical to the financial reporting process include foreign currency translation, financial instruments, compound and hybrid financial instruments, derivative liabilities, conversion features of bridge loans, patents, impairment of long-term assets, deferred development costs, stock-based compensation and income taxes. These critical accounting policies are set forth in Note 4 to our audited consolidated financial statements as of October 31, 2018 and as updated in Note 4 to our consolidated financial statements as of April 30, 2019.

(b) Commitments:

The Company has extended its lease for premises through July 2022. The lease term is for 5 years and stipulates base monthly rental expenses of \$4,005 CDN. Lease commitments are as follows – commitments less than one year of \$48,060 CDN, years 2-5: \$108,135 CDN,

(c) Contingencies:

Legal Matters:

The Company has agreed to indemnify its directors and officers and certain of its employees in accordance with the Company's by-laws. The Company maintains insurance policies that may provide coverage against certain claims.

On October 7, 2018, the former President of MAST, Inc. (the Company's wholly-owned subsidiary), Mr. Steven Van Fleet, filed a lawsuit against Micromem and MAST in New York State Supreme Court, Dutchess County. In the action, Mr. Van Fleet is seeking payment of \$214,574 plus interest relating to alleged remuneration and expense reimbursements due to him prior to his resignation as an officer and director of Micromem and MAST on August 17, 2018. The Company answered the complaint December 7, 2018 by denying the material allegations in Mr. Van Fleet's claims. In addition, the Company interposed 7 counterclaims against Mr. Van Fleet seeking, among other things: (i) damages of not less than \$2.75 million, (ii) specific performance to compel Mr. Van Fleet to comply with his contractual obligations which were required for the period of time that he served as an officer and director through to his resignation date; (iii) repayment of certain salary and expenses paid to Mr. Van Fleet; (iv) a direction for Mr. Van Fleet to turn over all Company property in his possession or control; (v) an accounting to determine all money and property belonging to the Company and/or MAST. On January 24, 2019, the Company amended its original answer and counterclaims to include, among other things, a demand for additional damages based on new information that has come to light. On February 8, 2019 Mr. Van Fleet, through his counsel, replied to and denied the material allegations in Micromem's counterclaims. The Company reports an accrual of \$205,788 at April 30, 2019 with

respect to alleged remuneration and expense reimbursements claimed by Mr. Van Fleet but, nonetheless, has denied the allegations in Mr. Van Fleet's claims. This matter remains as a contingency at June 26, 2019.

In addition to the above, the Company may be subject to litigation, claims and governmental and regulatory proceedings arising in the ordinary course of business. In such cases, the Company accrues a loss contingency for these matters when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated.

(d) Off-Balance Sheet Arrangements:

At April 30, 2019, the Company has no off-balance sheet financial commitments and does not anticipate entering into any contracts of such nature other than the addition of new operating leases for equipment and premises as may be required in the normal course of business.

(e) Share Capital

At April 30, 2019 the Company reports 281,074,704 common shares outstanding (2018: 236,009,172). Additionally, the Company has 5,730,000 stock options outstanding with a weighted average exercise price of \$0.25 per share (2018: 5,780,000 options outstanding with a weighted average exercise price of \$0.37 per share).

(f) Management and Board of Directors

There were no changes to the Board of Directors nor to the senior management team in the quarter ended April 30, 2019.

There was no remuneration paid in cash or as share consideration or options to any of the directors or officers of the Company in the 6 months ended April 30, 2019.

(g) Transactions with Related Parties

The Company reports the following related party transactions:

(a) Key management compensation

Key management personnel are persons responsible for planning, directing and controlling activities of the Company, including officers and directors. Compensation paid or payable to these individuals (or companies controlled by such individuals) for the 3 months ended January 31, are summarized as:

| | 2019 | 2018 |
|---------------------------------------|------|------------|
| Professional, other fees and salaries | \$ - | \$ 151,742 |

(b) Trade payables and other liabilities

At April 30, 2019 the Company reports in trade payables and other liabilities, a balance owing to the former President of MAST of \$193,174 which amount represents alleged outstanding wages payable and which is the subject of current litigation per section 6(c) above.

As at April 30, 2019 and October 31, 2018 the Company includes \$167,000 in trade payables and other liabilities owing to a company whose major shareholder is a director of the Company and who has also served as its Chief Technology Officer. This individual was elected as a director on February 19, 2014. The balance reported relates to services provided in 2015; there have been no invoices submitted by this related party after October 31, 2015.

(c) Convertible debenture

In January 2018, the CEO of the Company provided a convertible debenture of \$150,000 CDN (\$112,723 USD). At April 30, 2019 \$54,362 CDN (\$40,499 USD) (October 31, 2018 - \$100,862 CDN, 75,796 USD) in loan principal remains outstanding.

(g) Liquidity and Capital Resources:

Liquidity:

We currently report negative cash flow from operations. This result will only change once we are generating sufficient revenue from either license fees, royalties or the sale of products utilizing our technology. In 2018 and subsequent to the end of the fiscal year, the Company continued to raise additional financing.

We currently have no lines of credit in place. We must continue to obtain financing from investors or from clients in support of our development projects.

We have granted to our directors, officers and employees options to purchase shares at prices that are at or above market price on the date of grant. At April 30, 2019 there are 5,730,000 options outstanding at an average exercise price of \$0.25 per share.

Capital Resources: We have no commitments for capital expenditures as of April 30, 2019.

**MICROMEM TECHNOLOGIES INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
FOR THE THREE MONTHS ENDED APRIL 30, 2019
PREPARED AS OF JUNE 26, 2019**

7. SUBSEQUENT EVENTS

Subsequent to April 30, 2019:

- (a) The Company secured two convertible debentures amounting to \$64,000 USD and \$50,000 CDN, respectively, Additionally, the Company secured a \$50,000CDN non-convertible debenture. All debentures have a one-year term.
- (b) The Company issued 5,520,854 common shares to extinguish \$102,214 convertible debentures.
- (c) The Company extended convertible debentures that were within 3 months of maturity from April 30, 2019, Extension terms ranged from 2 to 6 months.
- (d) The Company completed a private placement with an arms' length investor realizing gross proceeds of \$10,000 for which the Company issued 270,270 common shares.