

**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED APRIL 30, 2013  
PREPARED AS OF JUNE 28, 2013**

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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 ended April 30, 2013 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, 2012 which are prepared in accordance with International Financial Reporting Standards (IFRS). All financial analysis, data and information set out in this MD&A are unaudited. Additional information regarding the Company is available on the SEDAR website at [www.sedar.com](http://www.sedar.com).

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 variety of inherent risks, uncertainties and factors, many of which are beyond the Company's control, 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 numerous factors beyond the Company's control: the existence of present and possible future government regulation, the significant and increasing competition that exists in the Company's business sector, 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 additional 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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*(Unless other indicated dollar amounts reported are stated in U.S. dollars)*

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**1. CORPORATE HISTORY**

Micromem Technologies Inc. ("Micromem" or "the Company") is a development stage Company that has developed proprietary MRAM technology for both memory and sensor applications. The Company's shares are traded on the NASDAQ over the counter Bulletin Board (OTCBB) under the symbol MMTIF and on the Canadian National Stock Exchange ("CNSX") under the symbol MRM. In 2008, the Company incorporated Micromem Applied Sensor Technologies Inc. ("MAST") for the purpose of moving forward with the planned commercialization of its technology.

MAST was formed in response to a contract with BAE System in Nashua New Hampshire. BAE System's interest was in the potential to utilize Micromem's MRAM in a radiation-hardened environment for military applications, where the initial contract with BAE Systems was to use the patented Micromem MRAM to design and manufacture a memory cell from a GaAs foundry. During this work it was determined that the Hall sensor, which was integral to the MRAM design, had several performance characteristics that by itself, as a product, would potentially create value for MAST.

A decision was taken to internally develop, at our own cost, proof of concepts for products that we had identified through our marketing to have potential market value. These included a magnetic gold sensor for drilling plug analysis, an oil condition sensor for automotive use and an oil/gas aerial exploration platform. Provisional patents were created on this work.

A potential revenue-generating opportunity emerged in August 2010 when Lux Research contacted us on behalf of their client, a world leader in oil production. They were looking for companies that could create extremely small foot print magnetic sensor solutions for down hole use in production oil fields. MAST was subsequently engaged by this client to develop and deliver a sensor platform for detecting 4 nanometer magnetic particles in a flowing oil stream at a concentration less than 1 ppb. Subsequent press releases on this contract created positive interest in MAST and another second potential revenue generating opportunity came in 2011 from GSI Westwind, a supplier for high speed air bearing motors. MAST replaced the incumbent Hall sensor supplier and delivered a unique circuit board form factor that incorporated the smallest Hall sensor in the world.

In 2011 MAST became aware of the Ninesigma Open Innovation model. Ninesigma's core services connect innovation-seeking companies to the best solutions, capabilities and partners around the world. MAST's relationship with Ninesigma has provided us common ground access to the Global Fortune 1000 companies and has resulted in a robust sales proposal pipeline and the first time in the Company's history an ability to forecast revenue.

To date Micromem has funded all research and development. It is expected that future development will be client funded. The priority at MAST is to provide customers with unparalleled sensor based platform solutions that address their difficult business problems. A recent study by NineSigma states that less than 3% of the Fortune 1000 global companies admit that they have sufficient in house talent and knowledge to be able to take advantage of technologies that can help them improve their business. Our sensor platform solutions address three primary areas of creating value for our clients:

- Using a MEMS and/or Nano scale pallet, we are able to combine disparate sensor modalities into a common, integrated solution that brings the exact tools in play in solving the target issue. Competitive solutions tend to force fit less than optimum sensor combinations in an effort to sell standard offerings.
- Although our solutions are custom designed for each client, our processes leading to the solution are automated and the end result is a cost effective solution with a high return on investment for our clients.
- Our Open Innovation approach to solving client problems allows us to bring together already proven sensor technologies in different market spaces allowing us to apply them in new applications in new markets. This significantly reduces the time to revenue generation by both MAST and our client and it reduces risk of project failure.

MAST intends to pursue specific, definable, market segments with a multi-tiered, multi-channel approach. We expect to leverage our technologies with licensing agreements in certain key areas and a direct sales and distribution strategy in other areas using established distributors. Our sales and revenue plan includes looking to foreign markets through established distributors or strategic partners.

To finance its initiatives, the Company has relied on private placement financings, the exercise of stock options, common share purchase warrants and bridge loans. In total, the Company secured approximately \$11.5 million of financing for its operations between 2009 – 2012.

## **2. OVERVIEW OF QUARTER ENDING APRIL 2013.**

- (a) The Company raised total financing of \$985,029, through a number of Unit private placement financings, from the exercise of common share warrants and from the issuance of bridge loans.
- (b) The Company issued technical updates/releases on the status of its various projects that are under development and on certain product prototype testing that was completed successfully.
- (c) The Company continues to develop and build a substantial pipeline of development opportunities that it anticipates will translate into additional development contracts in future licensing and sales opportunities.
- (d) The Company continues the process of securing the sponsorship of an investment banking firm to apply for listing on the TSX Venture Exchange.
- (e) The Company's significant current project initiatives include the following:

**GSI Westwind:** Commercial production is expected to begin in 2013. First articles of production have been tested and approved by our client. We plan to aggressively market our speed control circuit board design to other high precision motor suppliers once this initial order has been secured.

**Oil Sensor:** Client testing of our proof of concept at their facility has been completed. A multi-year exclusive product delivery proposal has been submitted for client approval. These discussions continue and our expectation is that we will secure client orders in the 2<sup>nd</sup> half of 2013.

**International Energy Company:** The Company has worked with this customer since 2011 and has developed sophisticated sensor measuring technology for use in oil and gas wells. The beta version of this product is ready for shipping to the client's facility. The plan is to complete the field trials at the client's facilities in the second half of 2013 and then begin deployment of our product onto field well sites.

**Offshore Exploration/Gas and Oil Well Monitoring:** The Company has engaged two large international energy companies in 2012 in discussions and negotiations for use of its sensor technology for diagnostic/control and monitoring systems prototype units. The Company expects to advance these discussions towards development prototypes in 2013 with the expectation of commercial revenues in 2014.

**Early Breast Cancer Detection:** The Company successfully demonstrated our product line in Europe in 2012 and continues to pursue negotiations of a franchising model for which we anticipate will bring cost effective services to women of all ages for early indication of breast cancer. If these negotiations are completed successfully, we anticipate commercial revenues be realized by late 2013 or early 2014.

**Medical Nano-Weighing Application:** The Company is currently negotiating with a medical production facility to design and build a weighing platform capable of measuring less than 500 nanograms of product within 1 second. This is adjunct technology that the Company developed on our oil sensor platform project. This is a potential revenue opportunity in the 2<sup>nd</sup> half of 2013.

**Early Detection of Incipient Failure in High Voltage Transmission Lines:** The Company has developed a low cost platform that can be pervasively deployed over a company's high voltage transmission network and will utilize cutting edge technology to alert potential failure of sagging voltage lines before the failure occurs. This is a potential revenue opportunity in the 2<sup>nd</sup> half of 2013.

**Robust Business Development Proposal Pipeline:** The Company currently has an active business development proposal backlog of \$71M USD. Many of the proposals have made the clients' short list and one on one discussion under Non-Disclosure Agreements are underway.

### **3. RESULTS OF OPERATIONS AND FINANCIAL POSITION (ALTERNATIVE PRESENTATION)**

Presented below is certain highlighted financial information from the financial statements including net loss adjusted for non cash expenses reported in the statement of operations, working capital adjusted for the non cash derivative warrant liability reported in the statement of financial position and a summary of cash raised in the period.

This information as presented should not be construed as a substitute for the financial statements which are presented in accordance with IFRS.

	Adjusted net loss <sup>(1)</sup>			
	Three months ended		Six months ended	
	April 30		April 30	
	2013	2012	2013	2012
Net loss as reported	(17,012)	(2,849,835)	(433,090)	(2,874,162)
Adjusted for:				
(gain)/ loss on revaluations	(574,360)	1,837,757	(886,846)	1,425,681
Foreign exchange	1,548	5,331	418	(4,775)
Amortization	6,138	5,941	11,749	11,882
Accretion expense	6,307	1,810	19,381	2,490
Stock based compensation	-	430,856	168,386	430,856
Adjusted net loss	(577,379)	(568,140)	(1,120,002)	(1,008,028)

	Adjusted working capital <sup>(2)</sup>		
	April 30 2013	January 31 2013	October 31 2012
Cash	220,532	242,404	245,029
Deposits and other receivables	126,950	131,279	46,062
	<u>347,482</u>	<u>373,683</u>	<u>291,091</u>
Bridge loans	285,000	410,000	410,000
Adjusted accounts payable and accruals	290,625	462,615	399,830
	<u>575,625</u>	<u>872,615</u>	<u>809,830</u>
Adjusted working capital	<u>(228,143)</u>	<u>(498,932)</u>	<u>(518,739)</u>
Working capital as reported in financial statements	<u>(977,307)</u>	<u>(1,665,021)</u>	<u>(1,793,217)</u>

	Cash raised during the period ending <sup>(3)</sup>		
	April 30 2013 (3 mos)	January 31 2013 (3 mos)	October 31 2012 (12 mos)
	\$ 985,029	\$ 745,023	\$ 2,767,512

Commentary:

- (1) **Adjusted net loss:** Under IFRS, the outstanding Canadian denominated warrants are reported as a derivative warrant liability in the statement of financial position. At the end of each reporting period this liability is revalued based on an application of the Black Scholes pricing model. This quarter end revaluation gives rise to a revaluation gain or loss which is reported in the statement of operations. In this presentation these revaluations are eliminated. Additionally the cost related to the issuance of stock options (during each quarter where stock options have been awarded) is calculated in accordance with the Black Scholes option pricing model and this is not a cash cost of compensation expense. Finally, in this presentation, other non cash expenses reported in the statement of operation are eliminated. The adjusted net loss as reported presents the net cash loss on operations in the period reported. This illustrates that the net cash loss per month at the current level of operating activity has averaged approximately \$180,000 per month over the past two fiscal years, or an actual average cash utilized of approximately \$2 million per annum.
- (2) **Adjusted working capital:** has been calculated by eliminating the derivative warrant liability on outstanding Canadian denominated warrants as reported at the end of each reporting period; these are not liabilities that require repayment in cash.



These outstanding warrants will either be exercised or not prior to their expiration date. In Table 4 to this MD&A it is illustrated that if the total number of warrants outstanding at April 30, 2013 are in fact exercised, the Company would issue an additional 22,786,543 common shares and relay proceeds of approximately \$6.2 million.

in this presentation, the outstanding bridge loans are reported at the cash cost of redeeming these loans; the embedded derivative calculation and the accrued accretion expense both of which are non cash entries, have been eliminated.

Finally, in this presentation, certain accruals of approximately \$125,000 relating to expenses which the Company has provided for but does not expect that these will create any current liability at each quarter end have been eliminated in this presentation. These would more likely be longer term liabilities.

The adjusted net working capital positions as presented illustrates that the Company's net working capital deficiency has been reduced over time as the Company has successfully raised additional cash and it has paid down its outstanding obligations. The conventional working capital calculations drawn from the financial statements as presented include a significant amount of non cash liabilities (the derivative warrant liabilities) which do not require cash repayment.

- (3) **Cash raised**: The cash raised by the Company in each reporting period includes proceeds from private placements, the exercise of common share purchase warrants and from bridge loans secured. This information is highlighted in Table 3 to this MD&A presentation.

This illustrates that the Company has been successful in raising financing for its continued operations and its commitments to project development activities over past reporting periods.

#### **4. 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 adverse 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 quarter ended April 30, 2013, the Company reported a loss from operations of \$591,372 (2012- loss from operations of \$1,012,078). As of that date, the Company has an accumulated deficit of \$83,008,128 (2012: \$82,538,596), a working capital deficiency (for this purpose defined as current assets less current liabilities excluding the reported derivative warrant liability) of \$363,157 (2012: \$1,086,547).

The Company will focus its development effort on existing projects in order to develop commercial applications for these projects and will continue to raise financing for operations as outlined in the notes to the consolidated financial statements as at April 30, 2013.

It will be necessary for the Company to raise additional funds for the continued development, testing and commercial exploitation of its technologies. To date, the Company has raised financing through successive unit private placements, through the exercise of common share stock options and through the exercise of common share purchase warrants. It has also secured periodic bridge loans.

In the ensuing calendar year, the Company anticipates that (i) it will realize initial revenues from commercialization efforts with current strategic development partners, (ii) it will monitor the timing of incurring additional expenses in keeping with its ongoing working capital position, and (iii) it will continue to secure financing in the same manner in which it has raised financing to date.

The consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and classifications of the assets and liabilities that might be necessary should the Company be unable to continue in business. 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. Such adjustments may be material.

## **5. SELECT FINANCIAL INFORMATION AND DISCLOSURES**

### ***(a) Financial Position as at April 30, 2013:***

The following table sets out select unaudited financial information as at April 30, 2013 and 2012 prepared under IFRS reporting standards.

	Quarter ended April 30, 2013 (unaudited)	Quarter ended April 30, 2012 (unaudited)
Interest and other income	-	-
Total expenses	591,372	581,222
Stock compensation expense	-	430,856
Loss from operations	591,372	1,012,078
(Gain) loss on revaluation of embedded derivatives	(41,265)	-
(Gain) loss on revaluation of derivative warrant liability	(533,095)	1,837,757
Income taxes	-	-
Net comprehensive loss	17,012	2,849,835
Loss per share and diluted loss per share	-	(0.02)
Weighted average number of shares outstanding	144,916,423	142,013,536
Total assets	1,464,445	828,130
Cash	220,532	28,188
Working capital (excludes derivative warrant liability)	363,157	1,086,547
Shareholders equity (deficiency)	139,656	(3,126,710)

At April 30, 2013 the Company has:

- a) 10,395,000 stock options outstanding which expire, if unexercised, between 2012-2018. The average exercise price of these options is \$0.24 per option.
- b) 22,786,543 common share purchase warrants which expire between 2013 -2014 if unexercised. The average exercise price of these warrants is \$0.27.

Refer also to **Tables 1 and 2** which are appended to this MD&A. Table 1 sets forth selected information from the consolidated statements of operations and deficit for the fiscal years ending October 31, 2010-2012 and for the related quarterly information through April 30, 2013. Table 2 sets forth selected information from the consolidated balance sheets for the fiscal years ending October 31, 2010-2012 and the related quarterly information through April 30, 2013.

***(b) Discussion of Operating Results:***

The following table summarizes the Company's operating results for the three months ended April 30, 2013 and 2012:

	Quarter ended April 30,	
	2013 (\$000)	2012 (\$000)
Administration	104	128
Professional fees and salaries	394	388
Stock-based compensation	-	431
Research and development	34	11
Travel and entertainment	52	43
Foreign exchange loss (gain)	2	5
Amortization of property and equipment	1	1
Amortization of intangible assets and patents	5	5
Total expenses	591	1,012
(Gain) loss on revaluation of embedded derivatives	(41)	-
(Gain) loss on revaluation of derivative warrant liability	(533)	1,838
Income taxes	-	-
Net comprehensive loss	17	2,850
Loss per share	-	(0.02)

*Promissory note:* The promissory note from Unotron has been fully reserved. In the six month ended April 30, 2013, the Company booked and reserved \$9,531 of interest charged on the outstanding balance due. At April 30, 2013, the outstanding balance which is fully reserved and which remains due from Unotron is \$111,384.

*Warrant liability:* The Company, under IFRS, has calculated and reports a warrant liability gain of \$533,095 relating to the revaluation of the common share purchase

warrants issued in Canadian dollars outstanding at quarter-end, (2012: loss of \$1,837.757) . This is further discussed in Section 7 below.

*Deferred development costs:* The Company capitalized \$44,839 of deferred development costs in the quarter ended April 30, 2013 relating to various different projects (2012- \$9,988).

*Patents:* The Company capitalized \$22,490 of costs associated with patents in the quarter ended April 30, 2013 (2012 - nil).

Management has satisfied itself that the projects to which deferred development costs are reported meet the criteria for deferral and management expects that it will realize future revenues against each of these projects sufficient to recover the carrying values reported.

A summary of the continuity of the projects under development and the costs incurred by project for the six months ended April 30, 2012 and 2013 are as presented below.

Projects	Net Additions/		
	10/31/2011	Recoveries	4/30/2012
Project A	\$ 1	-	\$ 1
Project B	1	-	1
Project C	15,001	(7,067)	7,934
Project D	1	-	1
Project E	473,238	20,452	493,690
Project F	1	-	1
Project G	141,201	(141,200)	1
Project H	1	-	1
Project J	1	-	1
Project K	17,160	8,438	25,598
Project L	-	7,729	7,729
	\$ 646,606	\$ (111,648)	\$ 534,958
Projects	Net Additions/		
	10/31/2012	Recoveries	4/30/2013
Project A	\$ 1	\$ -	\$ 1
Project B	1	-	1
Project C	69,903	(52,742)	17,161
Project D	1	-	1
Project E	546,697	32,145	578,842
Project F	1	-	1
Project G	1	-	1
Project H	1	-	1
Project J	1	-	1
Project K	55,215	20,981	76,196
Project L	23,410	154,792	178,202
Project M	22,930	54,867	77,797
Project N		1,538	1,538
	\$ 718,162	\$ 211,581	\$ 929,743

**General and administrative expense compare as:**

	2013	2012
General and administrative/other	18	18
Rent and occupancy cost	23	35
Interest expense	20	34
Accretion expense	6	2
Office insurance	15	16
Telephone	6	5
Investor relations, listing and filing fees	15	18
	103	128

**Professional, other fees and salaries related expenses compare as:**

	2013	2012
Professional fees	84	52
Consulting fees	231	242
Salaries and benefits	79	94
	394	388

Professional and other fees and salaries totaled \$394,081 in 2013 (2012: \$388,240). The Company reports the following costs in this cost category: audit related fees of \$61,659 (2012: \$38,824), legal expenses of \$22,756 (2012: \$13,117), management fees of \$112,933 paid to the Chairman, the CEO and the CFO (2012: \$115,970), staff salaries and benefits of \$79,008 (2012: \$93,614), and consulting fees of \$117,724 (2012: \$126,713). The increase in consulting fees has several components: the Company paid fees of \$52,048 to 3<sup>rd</sup> party advisors who assisted the Company in investor relations in 2013 (2012: 20,169); it paid the President of MAST a total of \$57,820 in 2013 (in 2012, \$100,494); assistance in conversion to IFRS reporting of \$7,856 in 2013 (2012: 6,051);

**Travel related expenses compare as follows (\$000)**

	2013	2012
Travel:		
Airfare	17	16
Hotel	9	6
Meals	20	16
Transportation	6	5
	52	43

Travel and entertainment costs increased to \$52,111 in 2013 from \$42,516 in 2012. The Company incurred higher travel related costs associated with increased activity in its various projects.

### C) Unaudited Quarterly Financial Information - Summary

Three months ended (unaudited)	Interest and other income \$	Expenses \$	Loss in period \$	Loss per share \$
July 31, 2011	585	241,554	(237,795)	-
October 31, 2011	-	1,274,785	(1,854,751)	(0.02)
January 31, 2012	-	436,403	(24,327)	-
April 30, 2012	-	1,012,078	(2,849,835)	(0.02)
July 31, 2012	-	586,312	(507,079)	-
October 31, 2012	-	928,292	1,606,176	0.01
January 31, 2013	-	728,564	(416,078)	0.01
April 30, 2013	-	591,372	(17,012)	-

Refer also to Tables 1 and 2 for summarized quarterly information.

### 6. LIQUIDITY AND CAPITAL RESOURCES

#### *Liquidity:*

**Table 3** provides a summary of the financing that was raised during the 2010, 2011 and 2012 fiscal years and for the current year through April 30, 2013.

We currently have no cash flow from operations and will have none until we are in a position to either license or directly produce and sell products utilizing our technologies. As at April 30, 2013, our working capital deficiency (excluding derivative warrant liability) was \$363,157 (2012: \$1,086,547).

We currently have no lines of credit in place. We must obtain financing from new investors or from investors who currently hold outstanding options and warrants in order to meet our cash flow needs until we generate revenues.

We have granted to our directors, officers and other employee's options to purchase shares at prices that are at or above market price on the date of grant. A summary of the outstanding options and warrants is provided in **Table 4**.

#### *Capital Resources:*

We have no commitments for capital expenditures as of April 30, 2013.

### 7. RISKS AND UNCERTAINTIES OVERVIEW

There are a number of material risks which may individually or in the aggregate effect the long-term commercial success of the Company, both known and unknown. An investment in the Company should be considered highly 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 significant strides in developing its prototype products over the past several years in its attempt to commercialize its products with its various strategic development partners. Nonetheless, the Company at this stage has not completed such efforts to the point that it has product available for sale and there remains uncertainties as to the Company's ultimate ability to complete the development of a product that is saleable.

### *Customers' Willingness to Purchase:*

We have entered into multiple joint development agreements whereby our prototype products are being subjected to rigorous testing by our partners. We have not as yet received unequivocal and firm purchase orders for our product. Some of the joint development partners that we are dealing with are private companies and there is a potential risk of those companies having to secure all of their requisite financing to support their orders and their working capital requirement.

### *Patent Portfolio:*

The Company has spent a considerable amount of time, effort and incurred significant costs with respect to the maintenance and development of our intellectual property portfolio. However, given the nature of IP development, the Company is subject to continuing risks that our patents could be successfully challenged or 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 financing environment for early stage technology companies remains challenging and there is no certainty that the Company will be able to continue to raise financing as it has in the past to continue to support its business initiatives.

### *Competitors:*

The Company is subject to competition from other larger entities who 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 difficult transition processes.

### *Foreign Currency Exposure:*

The Company expects to sell its products and license technologies in the United States, in Canada and abroad. The Company has not hedged its foreign currency exposure, which has not been significant to date. In future, foreign currency fluctuations could present a risk to the business.

## **8. CRITICAL ACCOUNTING POLICIES**

Our significant accounting policies are set forth in Note 4 to our consolidated financial statements as of October 31, 2012 and should be read in conjunction with management's discussion of the Company's critical accounting policies and estimates as set forth below.

### *IFRS:*

IFRS reporting has been adopted effective November 1, 2010.

The accounting policies have been applied in preparing the consolidated financial statements for the quarter ended April 30, 2013 and the comparative information presented as at and for the quarter ended April 30, 2012.

### *Compound Financial Instruments:*

Compound financial instruments issued by the Company comprise convertible notes that can be converted to share capital at the option of the holder and the number of shares to be issued does not vary with changes in their fair value.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have an equity conversion option.

The equity component, if the conversion feature of the convertible note is in US dollars, is recognized initially as the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

Subsequent to initial recognition, the liability component of a compound financial instrument is measured at amortized cost using the effective interest rate method. The equity component of a compound financial instrument is not premeasured subsequent to initial recognition.

Interest, dividends, losses and gains relating to the financial liability are recognized in profit or loss except for borrowing costs on qualifying assets which are added to asset cost. Distributions to the equity holders are recognized in equity, net of any tax effect.

### *Hybrid Financial Instruments:*

Financial instruments with embedded derivative liabilities are accounted for as hybrid financial instruments. The Company has hybrid financial instruments when the



embedded derivative conversion option right of the convertible notes gives the right to the holder to convert into a common share in Canadian dollars (“CDN”).

An embedded derivative is a feature within a contract, such that the cash flows associated with that feature behave in a similar fashion to a stand-alone derivative. An embedded derivative is separated from its host contract and accounted for as a derivative only when three criteria are satisfied:

- When the economic risks and characteristics of the embedded derivatives are not closely related to those of the host contract;
- A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and
- The entire instrument is not measured at fair value with changes in fair value recognized in the income statement.

Subsequent to initial recognition, the embedded derivative component is re-measured each reporting period using the Black Scholes option-pricing model with the change in fair value recognized in statement of loss and comprehensive loss.

#### *Derivative Liability:*

The Company’s derivative financial instruments consist of derivative liabilities in relation to its share purchase warrants and the conversion feature on its bridge loans.

##### i) Derivative Warrant Liability:

The Company issues share purchase warrants in conjunction with private placements for the purchase of common shares of the Company. A number of these share purchase warrants were issued with an exercise price in CDN, rather than USD (the reporting and functional currency of the Company). Such share purchase warrants are considered to be derivative instruments and the Company is required to re-measure the fair value of these at each reporting date. The fair value of these CDN share purchase warrants are re-measured at each financial position date using the Black Scholes option-pricing model using the exchange rates at the financial position date and measured over their remaining life. Adjustments to the fair value of the derivative warrant liability as at the financial position date are recorded in the statement of loss and comprehensive loss as (gain) loss on revaluation of derivative warrant liability. Share purchase warrants that have expired or have been forfeited are adjusted to the statement of loss and comprehensive loss as (gain) loss on revaluation of derivative warrant liability.

Consideration received upon the exercise of warrants is credited to share capital and the related amount is transferred from contributed surplus (USD warrants) or derivative warrant liability to share capital (CDN warrants).

##### ii) Conversion Feature of Bridge Loans

The conversion feature on the bridge loans allows the holder of the option to convert the outstanding principal and interest from time to time to common

equity. The Company, using the Black Scholes option-pricing model, accounts for bridge loans as follows:

- (i) At date of origination the bifurcation of the total balance of the loan as debt and equity is calculated. If the conversion feature of the bridge loan is in CDN there is no equity component, resulting in an embedded derivative. Accretion expense is recorded over the term of the loan.
- (ii) The total loan proceeds are allocated between the bridge loans and the related embedded derivative based on their relative fair value. The embedded derivative conversion feature is included under the bridge loans in the statement of financial position.
- (iii) The conversion feature is revalued at the end of the reporting period and any adjustment is reflected in the statement of loss and comprehensive loss if the conversion feature is in CDN.

*Foreign Currency Translation:*

IFRS requires that the functional currency of each entity in the consolidated entity be determined separately in accordance with specific indicators and should be measured using the currency of the primary economic environment in which the entity operates (the “functional currency”). As a result of an assessment of the primary indicators, management assessed the functional currency of the Company and its subsidiaries to be U.S. dollar (“USD”). The consolidated financial statements of the Company are prepared and presented using the USD.

Foreign currency transactions denominated in other than U.S. dollars are translated into the functional currency on the following basis:

- i) Monetary assets and liabilities are translated at the rates of exchange prevailing at the statement of financial position date.
- ii) Non-monetary assets and liabilities that are measured at historical cost are translated using the exchange rate at the date of the transaction.
- iii) Income and expenses for each income statement line item presented are translated at average exchange rates during the quarter in which they are recognized.

Exchange differences resulting from the settlement of foreign currency transactions are recognized directly in the consolidated statement of loss and comprehensive loss in the period in which incurred.

*Stock-Based Compensation:*

The Company applies the fair value based method of accounting for all stock based payments to employees and non-employees and all direct awards of stock. For non-employees, stock based payments are measured at the fair value of the services received or the fair value of the equity instruments issued or liabilities incurred, whichever is more

reliably measurable. Stock based compensation is charged to operations over the vesting period and the offset is credited to contribute surplus.

Consideration received upon the exercise of stock options is credited to share capital and the related amount is transferred from contributed surplus.

The fair value of stock options and warrants is determined by the Black Scholes option-pricing model with assumptions for risk free interest rates, dividend yields, volatility factors of the expected market price of the Company's common shares and an expected life of the option or warrant issued. A forfeiture rate is estimated on the grant date and is adjusted to reflect the actual number as options that vest. In the event that vested stock options expire, previously recognized stock based compensation is not reversed. In the event that stock options are forfeited, previously recognized stock based compensation associated with the unvested portion of the stock options forfeited is reversed. The fair value of direct awards of stock is determined by the quoted market price of the Company's stock.

## **9. FINANCIAL INSTRUMENTS**

It is management's opinion that the Company is not exposed to significant interest rate and credit risks arising from financial instruments and that the fair value of financial instruments approximates the carrying value.

*Fair values:* The Company's financial instruments include: cash and cash equivalents, other receivables and accounts payable and accrued liabilities, the fair values of which approximate their carrying values due to their short-term maturity.

*Credit risk:* Financial instruments, which subject the Company to potential credit risk, consist of other receivables. The Company does not require collateral or other security for accounts receivable. The Company estimates its provision for uncollectible amounts based on an analysis of the specific amount and the debtor's payment history and prospects.

*Foreign exchange:* The Company completes transactions denominated in Canadian and in United States dollars and, as such, is exposed to fluctuations in foreign exchange rates. The Company does not use derivative instruments to reduce its exposure to foreign currency risk.

## **10. COMMITMENTS AND CONTINGENCIES**

### *Operating Leases:*

The Company entered into a new five year lease in June, 2012 at a base monthly cost of approximately \$3,800.

### *Legal Matters and Contingencies:*

There are currently no outstanding legal matters to which the Company is a party. We have agreed to indemnify our directors and officers and certain of our employees in

accordance with our by-laws. We maintain insurance policies that may provide coverage against certain claims.

*Royalties:*

The Company has obligations under the terms of the License Agreement signed with University of Toronto in June 2005. The total obligation could be \$1 million tied to future product revenues.

## **11. DISCLOSURE CONTROLS / INTERNAL CONTROLS**

The Company was not classified as accelerated filer in 2011 or in 2012 and did not complete an external audit on its internal controls in those years. It filed its last audit report on internal controls in 2010.

Management and the Board of Directors, primarily through the Audit Committee, have instituted review procedures on all of our periodic filings. We have established a disclosure committee consisting of independent directors. A charter for the disclosure committee and a policy has been developed and has been ratified by our Board of Directors. We engage legal counsel, as required, to provide guidance and commentary on our press releases.

Management has concluded that our disclosure controls and procedures meet required standards. These disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed in its various reports are recorded, processed, summarized and reported accurately. In spite of its evaluation, management does recognize that any controls and procedures, no matter how well designed and operated, can only provide reasonable assurance and not absolute assurance of achieving the desired control objectives.

## **12. OFF-BALANCE SHEET ARRANGEMENTS**

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.

### **13. TRANSACTIONS WITH RELATED PARTIES**

The Company reports the following related party transactions:

*(a) Chairman:*

The total compensation paid to the Chairman during the quarter ended April 30 is summarized as follows:

	Cash Compensation	Stock Based Compensation Expense
	\$	\$
2013	36,826	-
2012	37,816	23,694

*(b) Management and consulting fees:*

Included in professional fees as reported are management and consulting fees paid or payable to individuals (or companies controlled by such individuals) who served as officers and directors of the Company. The total compensation paid to such parties during the quarter ending April 30, 2013 and 2012 is as follows.

	Cash Compensation	Stock Based Compensation Expense
	\$	\$
2013	133,927	-
2012	178,648	159,396

### **14. SHARE CAPITAL**

At April 30, 2013 the Company reports 147,903,622 common shares outstanding (2012: 121,603,332). Additionally, the Company has 10,395,000 stock options outstanding with a weighted average exercise price of \$.24 per share (2012: 10,105,000 options outstanding with a weighted average exercise price of \$0.25 per share) and a total of 22,786,543 outstanding warrants to acquire common shares with a weighted average exercise price of \$.27 per share (2012: 29,586,251 outstanding warrants with a weighted average exercise price of \$.22 per share).

### **15. MANAGEMENT AND BOARD OF DIRECTORS**

At our Annual Meeting of Shareholders held on Friday, November 16<sup>th</sup>, 2012, Salvatore Fuda, Andrew Brandt, Joseph Fuda, David Sharpless, Steven Van Fleet, Oliver Nepomuceno, Larry Blue and Alex Dey were reelected to serve on our Board of Directors. Messrs. Salvatore Fuda, Joseph Fuda, Dan Amadori and Steven Van Fleet continue to serve as officers of the Company.

Our management team and directors, along with their 2013 remuneration in the six months ended is presented as below:

		2013 remuneration		
		Cash	Options	Total
<b>Individual</b>	<b>Position</b>			
Salvatore Fuda	Chairman, Director	74,504	11,586	86,089
Joseph Fuda	President, Director	86,170		86,170
Steven Van Fleet	President, MAST Inc., Director	115,640	11,586	127,226
David Sharpless	Director	-	11,586	11,586
Andrew Brandt	Director	-	11,586	11,586
Oliver Nepomuceno	Director	-	11,586	11,586
Larry Blue	Director	-	11,586	11,586
Alex dey	Director	-	11,586	11,586
Dan Amadori	CFO	74,504	11,586	86,090

## **16. SUBSEQUENT EVENTS**

The Company reports the following as subsequent events:

The Company issued 2,126,603 common shares via unit private placements and received proceeds of \$172,000US (\$169,570.98CDN). Each unit consisted of one common share at an average price of \$0.16 per share and one common share purchase warrant at an average strike price of \$0.21 per warrant. The common share purchase warrants issued expire in 12 months from the date of issuance.

**Table 1**

<p>Micromem Technologies Inc  Management Discussion and Analysis  Annual and Quarterly financial information  April 30, 2013  (\$US)</p>
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<u>ending October</u>	<u>other income</u>	<u>Net Loss</u>	<u>(basic and fully</u>
2012	-	(1,775,065)	- 0.01
2011	963	(2,599,771)	(0.03)
2010	22,886	(4,577,400)	(0.05)
Quarter ending			
April 30, 2013	-	(17,012)	(0.00)
January 31, 2013	-	(416,078)	(0.00)
October 31, 2012	-	1,606,176	0.01
July 31, 2012	-	(507,079)	(0.00)
April 30, 2012	-	(2,849,835)	(0.02)
January 31, 2012	-	(24,327)	(0.00)
October 31, 2011	-	(1,854,751)	(0.02)
July 31, 2011	585	(237,795)	-

**Table 2**

<p>Micromem Technologies Inc  Management Discussion and Analysis  Selected Balance Sheet Information  April 30, 2013  (\$US)</p>
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<b>Fiscal year ending</b>	<b>Working</b>	<b>Capital</b>	<b>Other</b>	<b>Total Assets</b>	<b>Shareholders</b>
October 31, 2012	(731,673)	5,787	883,400	1,180,278	(904,030)
2011	(1,060,487)	10,201	819,749	906,346	(1,409,228)
2010	(1,459,460)	16,686	423,548	568,336	(1,087,433)
<b>Quarter ending</b>					
April 30, 2013	(363,157)	14,248	1,102,715	1,464,445	136,656
January 31, 2013	(683,227)	5,014	1,040,224	1,418,921	(619,783)
October 31, 2012	(731,673)	5,787	883,400	1,180,278	(904,030)
July 31, 2012	(853,019)	6,892	705,677	850,064	(2,283,253)
April 30, 2012	(1,086,547)	7,995	692,155	828,130	(3,126,710)
January 31, 2012	(1,362,635)	9,098	916,429	1,016,467	(1,345,129)
October 31, 2011	(1,060,487)	10,201	819,749	906,346	(1,409,228)
July 31, 2011	(1,465,803)	11,800	622,640	717,188	(831,363)



Table 3

Micromem Technologies Inc  
Management Discussion and Analysis  
Summary of financing raised by Company  
April 30, 2013

Date of financing	2010			2011		
	Shares	Price / share	\$	Shares	Price / share	\$
<b>Private placements</b>						
January 2010	2,204,276	0.476	1,049,062			
April 2010	289,899	0.448	130,000			
July 2010	1,730,026	0.321	556,078			
October 2010	1,717,307	0.196	335,910			
January 31, 2011				2,525,000	0.199	503,140
April 30, 2011				250,000	0.120	30,000
July 31, 2011				8,355,045	0.112	932,554
October 31, 2011				9,695,162	0.104	1,012,987
	<u>5,941,508</u>		<u>2,071,050</u>	<u>20,825,207</u>		<u>2,478,681</u>
	2012			2013		
	Shares	Price / share	\$	Shares	Price / share	\$
<b>Private placements</b>						
January 31, 2012	2,005,022	0.107	214,478			
April 30, 2012	2,178,592	0.213	464,495			
July 31, 2012	708,333	0.210	148,510			
October 31, 2012	1,452,952	0.147	213,416			
<b>Exercise of warrants</b>						
January 31, 2012	-		-			
April 30, 2012	1,270,000	0.141	179,270			
July 31, 2012	4,513,045	0.127	573,927			
October 31, 2012	6,292,813	0.119	746,516			
<b>Conversion of bridge loan</b>						
July 31, 2012	1,120,000	0.098	109,825			
October 31, 2012	740,080	0.158	117,075			
<b>Private placements</b>						
January 31, 2013				1,967,117	0.161	316,373
April 30, 2013				5,358,704	0.159	852,809
<b>Exercise of warrants</b>						
January 31, 2013				3,393,912	0.126	428,650
April 30, 2013				753,334	0.176	132,220
	<u>20,280,837</u>		<u>2,767,512</u>	<u>11,473,067</u>		<u>1,597,832</u>

<p>Micromem Technologies Inc  Management Discussion and Analysis  April 30, 2013</p>
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Outstanding options	Strike price	Expiry date
1,090,000	0.30	January 22, 2018
125,000	0.35	April 5, 2016
7,275,000	0.20	October 31, 2016
1,905,000	0.35	April 10, 2017
<b>10,395,000</b>	<b>0.24</b>	

Total proceeds if all options exercised: **\$ 2,492,500**

Outstanding Warrants

83,333	0.3000	April 18, 2013
208,333	0.3000	May 11, 2013
1,120,000	0.1200	July 12, 2013
500,000	0.2500	July 13, 2013
186,667	0.1500	August 6, 2013
553,413	0.2000	August 9, 2013
200,000	0.2800	August 30, 2013
728,572	0.1700	September 12, 2013
1,666,667	0.1528	September 16, 2013
1,325,000	0.2400	October 15, 2013
724,380	0.1800	October 29, 2013
500,000	0.2000	November 5, 2013
123,276	0.7500	November 11, 2013
429,686	0.8000	November 14, 2013
765,188	0.4100	November 25, 2013
400,000	0.1900	November 30, 2013
600,000	0.7600	December 14, 2013
339,838	0.4500	December 15, 2013
815,000	0.5600	December 16, 2013
20,000	0.2000	December 17, 2013
300,000	0.2000	December 20, 2013
250,000	0.2000	January 4, 2014
750,000	0.2000	January 11, 2014
312,500	0.3900	January 12, 2014
25,000	0.5500	January 15, 2014
300,000	0.5500	January 16, 2014
312,500	0.4000	January 22, 2014
1,967,117	0.2150	January 24, 2014
325,000	0.2000	January 31, 2014
111,111	0.5600	February 1, 2014
88,236	0.2000	February 8, 2014
142,858	0.4400	February 10, 2014
133,333	0.5600	February 12, 2014
770,832	0.3000	February 27, 2014
291,666	0.3000	March 13, 2014
58,333	0.3000	March 23, 2014
799,904	0.2150	February 1, 2014
312,500	0.2000	February 15, 2014
722,500	0.2100	March 19, 2014
1,968,750	0.2000	March 19, 2014
617,550	0.2100	April 10, 2014
937,500	0.2100	April 30, 2014
<b>22,786,543</b>	<b>0.27</b>	

Total proceeds if all warrants exercised: **\$ 6,197,467**