#### MICROMEM TECHNOLOGIES INC. MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE FISCAL YEAR ENDED OCTOBER 31, 2012 PREPARED AS OF FEBRUARY 21, 2013

#### INTRODUCTION

The following sets out the Management's Discussion and Analysis ("MD&A") of the financial position and result of operations for the fiscal year ending October 31, 2012 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 and 2011 which are prepared in accordance with International Financial Reporting Standards (IFRS). All financial analysis, data and information set out in this MD&A are audited. Additional information regarding the Company is available on the SEDAR website at 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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# MICROMEM TECHNOLOGIES INC. MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE FISCAL YEAR ENDED OCTOBER 31, 2012 PREPARED AS OF FEBRUARY 21, 2013

(Unless other indicated dollar amounts reported are stated in U.S. dollars)

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# MICROMEM TECHNOLOGIES INC. MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE FISCAL YEAR ENDING OCTOBER 31, 2012 PREPARED AS OF FEBRUARY 21, 2013

#### 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 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.

Between 2005 – 2008, we consolidated our research activities at the University of Toronto with Professor Harry Ruda. This was under the supervision of our then Chief Technology Officer, Dr. Cynthia Kuper, who worked with the Company under contract between 2005 and 2007. During this timeframe, advances were made in the development of our memory technology. Our IP portfolio was expanded, under the direction of Morgan Lewis LLP, a large U.S.-based legal firm; and the Company had initial dialogue with potential strategic partners including Omron Inc., Hewlett Packard and Lockheed Martin.

#### The Evolution of Micromem from Memory to Sensor Based Client Solutions

MAST was formed in 2008 and is registered in the State of Delaware. MAST is a 100% owned subsidiary of Micromem. MAST was formed in response to a contract with BAE System in Nashua New Hampshire. This is a Department of Defense trusted facility, which can only do business with US entities (ITAR regulations). BAE System's interest was in the potential to utilize Micromem's MRAM in a radiation-hardened environment for military applications. At the time of contract, Micromem had not taken the MRAM from the university research environment into a foundry, so the initial contract with BAE Systems was to use the patented Micromem MRAM design and manufacture and deliver 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.

Frost & Sullivan was contracted by MAST in 2009 to assess the market opportunities for a late entry into the Hall sensor market. The Hall sensor market in 2009 was robust at \$1.9B USD. The market barriers were: mature market, declining margins and heavy competition. A decision was taken to not enter the Hall sensor component market for the above reasons. A decision was taken to explore the market opportunities associated with creating unique sensor based solutions that revolved around our patented Hall sensor technology. The MRAM go forward strategy remained with Micromem.

An outside marketing firm was hired to promote the Company. It was quickly learned that the uniqueness of our offering made a traditional marketing firm relationship ineffective and, accordingly, that relationship was terminated. Promotion of the Company reverted back to the development of a MAST website, different from that of Micromem,

and word of mouth marketing at regional technical conferences. Through these endeavors, 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.

In the early stages of the Company's development, it was necessary to solicit client interest in our offerings through the generation of exploratory business proposals. This proved to be a time consuming and difficult effort. Our efforts to transition from being a memory development company to a sensor solution company was met by the market with some skepticism.

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.

It became clear at this point in the genesis of the Company that MAST had to find an effective means to disseminate its message to a larger market audience. It was now evident that a significant market space existed for companies that could leverage MEMS/Nano fabrication methodologies to create unique combinations of sensors to provide new solutions to business problems. 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.

In 2011 a decision was taken to stop research and development effort in the MRAM market space. This decision was taken in part due to the high capital requirements to stay current in the rapidly changing technology and of equal importance, the fact that the MRAM market has not grown as rapidly as expected. Micromem has amassed multiple memory patents and in 2013 has begun efforts to value the patent portfolio and arrange for a sale of these assets. Integral to the MRAM design is our patented Hall sensor. MAST is carrying this valuable device forward in to many of its unique sensor platforms for its clients.

To date Micromem has funded all research and development. It is expected that all future development will be client funded. At MAST, our main priority 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 their 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 differentially higher 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 purse specific, definable, market segments with a multi-tiered, multi-channel approach. We expect to leverage our technologies with a licensing agreement 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.

Competition-based strategy assumes that an industry's structural conditions are given and that firms like MAST are forced to compete with them, an assumption based on what the academics call the structuralist view. In contrast, the value innovation that MAST is providing is based on the view that market boundaries and industry structure are not given and can be reconstructed. Here, the strategic choices for firms are to pursue either differentiation or low cost. Our strategic aim is to create new best practice rules by breaking the existing value-cost trade-off.

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.

From a reporting standpoint the Company qualified as an accelerated filer for U.S. reporting purposes between 2008 – 2010 fiscal years. Accordingly, it completed the required audit procedures under SOX 404 legislation in each of those years. The Company devoted significant resources to the continued development of its internal control reporting structure and by the 2010 fiscal year, its SOX audited opinion was unqualified.

#### 2. OVERVIEW OF 2012 FISCAL YEAR END STATUS AT YEAR-END.

- (a) The Company raised total financing of \$3,238,514, 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 has successfully completed its transition to International Financials Reporting Standards (IFRS) reporting and is filing the current year consolidated financial statements under these new reporting standards. It has restated its previously reported financial information for the relevant reporting periods in this report to conform with the IFRS presentation.
- (e) The Company began the process of securing the sponsorship of an investment banking firm to apply for listing on the TSX Venture Exchange.
- (f) The Company relocated its head office in June 2012 to 121 Richmond Street West, Suite 304 located in downtown Toronto. It signed a 5 year lease for these premises.

#### **Review of 2012 Business Development Highlights:**

The Company's significant current project initiatives include the following:

<u>GSI Westwind:</u> Commercial production is expected to begin in 2013. First articles of production have been tested and approved by our client. We are shipping in the first quarter of 2013 the first tranche of volume production. We also plan to aggressively market our speed control circuit board design to other high precision motor suppliers.

<u>Oil Sensor:</u> Our oil pan plug sensor suite is currently being tested in a dynamometer environment. The Company expects to enter into a production environment for this product in 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 delay in this milestone event has been the lack of availability of suitable nanoparticles for full system testing of our device. The plan is to complete the field trials at the client's facilities in the first 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 2 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 is currently negotiating the franchising model for deployment of a business model, which we anticipate will bring cost effective services to women of all ages for early indication of breast cancer. We anticipate commercial revenues to be realized in 2013.

<u>Medical Nano-Weighing Application:</u> 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. We anticipate commercial revenues in 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. The Company expects revenue from this opportunity in 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. 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 year ended October 31, 2012, the Company reported a loss from operations of \$1,775,065 (2011- loss from operations of \$3,182,387). As of that date, the Company has an accumulated deficit of \$82,268,003 (2011: \$79,170,059), a working capital deficiency (for this purpose defined as current assets less current liabilities excluding the reported derivative warrant liability) of \$731,673 (2011: \$1,060,487).

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 October 31, 2012.

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 fiscal 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.

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

#### (a) Financial Position as at October 31, 2012:

The following table sets out select audited financial information as at October 31, 2012 and 2011 prepared under IFRS reporting standards.

	Year ended October 31, 2012	Year ended October 31, 2011
Interest and other income	-	963
Total expenses	2,542,571	1,655,521
Stock compensation expense	430,856	928,497
Loss from operations	2,973,427	2,583,055
Adjustment for modification of conversion feature of bridge loans	_	185,564
(Gain) loss on revaluation of embedded derivatives	(176,899)	1,979
Warrants issued on debt settlement	306,061	
(Gain) loss on revaluation of derivative warrant liability	(1,327,524)	410,584
Income taxes	1 _ 04	1,205
Net comprehensive loss	1,775,065	3,182,387
Loss per share and diluted loss per share	0.01	0.03
Weighted average number of shares outstanding	123,375,510	102,301,168
Total assets	1,180,278	906,346
Cash	245,029	44,062
Working capital (excludes derivative warrant liability)	(731,673)	(1,060,487)
Shareholders equity (deficiency)	(904,030)	(1,409,228)

At October 31, 2012 the Company has:

- a) 9,915,000 stock options outstanding which expire, if unexercised, between 2012-2017. The average exercise price of these options is \$0.24 per option.
- b) 19,692,968 common share purchase warrants which expire between 2012 -2013 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 October 31, 2012. 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 October 31, 2012.

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

The following table summarizes the Company's operating results for the years ended October 31, 2012 and 2011:

	Years ended	October 31,
	2012	2011
	(\$000)	(\$000)
Interest and other income	-	(1)
Administration	695	463
Professional fees and salaries	1,508	1,065
Stock-based compensation	431	928
Research and development	230	(76)
Forgiveness of debt	(42)	
Travel and entertainment	151	92
Foreign exchange loss (gain)	7	43
Amortization of property and equipment	4	7
Amortization of intangible assets and patents	19	43
Write-down of Patents	-	129
Recovery of promissory note receivable	(30)	(110)
Total expenses	2,973	2,583
Adjustment for modification of conversion feature of bridge loans	-	186
(Gain) loss on revaluation of embedded derivatives	(176)	2
Warrants issued on debt settlement	306	<u>-</u>
(Gain) loss on revaluation of derivative warrant liability	(1,328)	410
Income taxes		1
Net comprehensive loss	1,775	3,182
Loss per share	(0.01)	(0.03)

Interest and other income: The Company remains as a pre-revenue Company at October 31, 2012. It reported nil interest revenue in 2012 and a modest amount in 2011 relating to interest earned on outstanding cash balances.

Promissory note: The promissory note from Unotron has been fully reserved. In the year ended October 31, 2012, the Company booked and reserved approximately \$20,300 of interest charged on the outstanding balance due (in 2011 it recovered \$110,000 on the promissory note which amount had fully reserved at the prior year end). At October 31, 2012, the outstanding balance which is fully reserved and which remains due from Unotron is \$101,853. The Company issued a demand notice to collect the outstanding balance and has received judgment in its favor as of October 31, 2012. It continues to pursue collection of the fully reserved balance. In 2012, it received \$30,000 of payments on account from Unotron.

Warrant liability: The Company, under IFRS, has calculated and reports a warrant liability gain of \$1,327,524 relating to the revaluation of the common share purchase warrants issued in Canadian dollars outstanding at year-end, (2011: expense of \$410,584). This is further discussed in Section 7 below.

Deferred development costs: The Company capitalized \$263,133 of deferred development costs in the year ended October 31, 2012 relating to various different projects. During the year the Company also capitalized \$15,204 of patent amortization to deferred development costs (2011: \$nil). In the quarter ended April 30, 2012, it expensed \$206,780 of costs previously capitalized. These represented third party invoices originally recorded to deferred development costs which were reversed in Q2. Accordingly, the Company reports a net investment of \$71,557 of capitalized costs for the twelve month period through October 31, 2012 (2011: investment of \$425,085).

Patents: The Company capitalized \$26,650 of costs associated with patents in 2012 (2011 = \$8,017).

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 years ended October 31, 2011 and 2012 are as presented below.

		Net Additions/				
Projects	10	10/31/2010		Recoveries	10/31/2011	
Project A	\$	1	\$	2	\$	1
Project B		1				1
Project C		1		15,000		15,001
Project D		1				1
Project E		221,513		251,725		473,238
Project F		1				1
Project G		1		141,200		141,201
Project H		1				1
Project I		1		•		1
Project J				17,160		17,160
	\$	221,521	\$	425,085	\$	646,606

			Ne	et Additions/	
Projects	1(	0/31/2010	- 1	Recoveries	10/31/2011
Project A	\$	1	\$		1
Project B		1		-	1
Project C		15,001		54,902	69,903
Project D		1			1
Project E		473,238		73,461	546,699
Project F		1		_	1
Project G		141,201		(141,200)	1
Project H		1			1
Project I		1			1
Project J		17,160		38,054	55,214
Project K				23,410	23,410
Project L		-		22,930	22,930
	\$	646,606	\$	71,557 \$	718,163

### Administrative related expenses compare as follows (\$000)

2011	2012	
26	67	General and administrative
60	108	Rent and occupancy cost
67	22	Bad debt expenses
(20)	(20)	Interest income
140	106	Interest expense
12	188	Accretion expense
78	65	Office insurance
20	17	Telephone
80	142	Investor relations, listing and filling fees
463	605	
	17	Telephone

In the year ended October 31, 2012, the Company initiated the process of applying for a TSX Venture Exchange Listing. It incurred approximately \$73,000 in sponsorship related costs in 2012. Additionally it reported accretion expense of approximately \$188,000 in 2012 relating to the convertible debentures (2011: \$12,000).

### Professional, other fees and salaries related expenses compare as follows(\$000)

	2012	2011
Professional fees	183	174
Consulting fees	917	467
Salaries and benefits	407	424
	1,507	1,065

Professional and other fees and salaries totaled \$1,507,891 in 2012 (2011: \$1,064,655). The Company reports the following costs in this cost category: audit related fees of \$118,475 (2011: \$89,508), legal expenses of \$48,951 (2011: \$64,596), Management fees of \$514,262 paid to the Chairman, the CEO and the CFO (2011: \$467,132), staff salaries and benefits of \$407,450 (2011: \$424,306), other expenses of \$15,594 (2011: \$19,114) and consulting fees of \$403,158 (2011: \$571). The increase in consulting fees has several components: the Company paid fees of \$104,003 to 3<sup>rd</sup> party advisors who assisted the Company in investor relations in 2012 (2011: nil); it paid the President of MAST a total of \$261,134 in 2012 (in 2011, \$180,000 which was capitalized in intangible assets and deferred development costs, thus a nil expense reported in 2011); assistance in conversion to IFRS reporting of \$35,565 in 2012 (nil in 2011); and other of \$2,456 (2011: \$571).

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

	2012	2011
Travel:		
Airfare	62	55
Hotel	28	13
Meals	41	10
Transportation	20	14
	151	92

Travel and entertainment costs increased to \$150,924 in 2012 from \$91,885 in 2011. The Company incurred higher costs associated with its dealings with an increasing number of shareholders in 2012.

#### C) Unaudited Quarterly Financial Information - Summary

Three months ended (unaudited)	Interest and other income \$	Expenses \$	Loss in period \$	Loss per share \$
January 31, 2011	339	567,219	(582,616)	(0.01)
April 30, 2011	39	499,497	(507,225)	(0.01)
July 31, 2011	_585	241,554	(237,795)	-
October 31, 2011	-	1,274,785	(1,854,751)	(0.02)
January 31, 2012	-	444,303	(24,327)	-
April 30, 2012	-	1,014,520	(2,849,835)	(0.02)
July 31, 2012	-	586,312	(507,079)	-
October 31, 2012	_	928,292	1,606,176	0.01

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

#### **5. LIQUIDITY AND CAPITAL RESOURCES**

#### Liquidity:

**Table 3** provides a summary of the financing that was raised during the 2009-2012 fiscal years.

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 October 31, 2012, our working capital deficiency (excluding derivative warrant liability) was \$731,673 (2011: \$1,060,487).

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 October 31, 2012.

#### 6. 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 their 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, 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. In October 2010, the Company's working relationship with its patent attorneys, Morgan Lewis, was discontinued. The Company has secured an alternative service provider. In the fourth quarter of 2011, the Company wrote-down the value of patent asset by \$129,033 which relates to older technology which the Company has no immediate plans to further develop.

#### 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.

#### 7. CRITICAL ACCOUNTING POLICIES

Our significant accounting policies are set forth in Note 4 to our consolidated financial statements 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 disclosed in Note 4 have been applied in preparing the consolidated for the year ended October 31, 2012, the comparative information presented as at and for the year ended October 31, 2011 and in the preparation of the opening IFRS statement of presentation as at November 1, 2010. The impact of the transition to IFRS for the comparative information is presented in notes 6 and 7 of the consolidated financial statements.

In preparing the opening IFRS statement of financial position, the Company has adjusted amounts reported previously in consolidated financial statements prepared in accordance with previous Canadian GAAP. These adjustments relate to:

- (a) The accounting and measurement of the derivative warrant liability with respect to common share purchase warrants issued in conjunction with unit private placement financings which the Company has secured and which are not exercisable in the relevant entity's functional currency.
- (b) The accounting and measurement of the conversion feature of the bridge loans which the Company has secured, which are not convertible in the relevant entity's functional currency.

The illustration of how the transition from previous Canadian GAAP to IFRS has affected the Company's financial position, financial performance and cash flows is set out in Note 7 to the consolidated financial statements as of October 31, 2012. Significant changes in accounting policies due to the conversion to IFRS include:

#### 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.

#### **8. 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 consisting of cash, deposits and other receivables, promissory note receivable, accounts payable and accrued liabilities and bridge loans approximate their carrying values due to their short-term maturity. The Company's financial instruments measured at fair value on the statement of financial position date consist of cash, derivative warrant liability and the conversion feature of bridge loans.

Credit risk: Financial instruments, which subject the Company to potential credit risk, consist of deposits and other receivables. The Company does not require collateral or other security for deposits and other receivables. 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.

Interest rate risk: Cash flow interest rate risk is the risk that the future cash flow of a financial instrument will fluctuate because of changes in market interest rates.

Financial assets and financial liabilities with variable interest rates expose the Company to cash flow interest rate risk. The Company's cash and promissory note receivable earn interest at market rates. The Company manages its interest rate risk by maximizing the interest income earned on excess funds while maintaining the liquidity necessary to conduct operations on a day-to-day basis. Fluctuations in market rates of interest may have an impact on the Company's results of operations.

The Company is exposed to interest price risk on its interest bearing bridge loans as the interest rate is fixed.

Liquidity risk: Liquidity risk is the risk that the Company will not be able to meet its obligations as they fall due.

The Company manages its liquidity risk by forecasting cash flows from operations and anticipated investing and financing activities. Senior management is actively involved in the review and approval of planned expenditures.

All financial liabilities are due within 1 year from the balance sheet at October 31, 2012.

#### 9. 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 CDN.

#### Legal Matters:

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.

#### Contingencies:

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.

#### 10. DISCLOSURE CONTROLS / INTERNAL CONTROLS

The Company is not classified as accelerated filer in 2011 or in 2012 and did not complete an external audit on its internal controls in 2011. 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.

#### 11. 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.

#### 12. TRANSACTIONS WITH RELATED PARTIES

The Company reports the following related party transactions:

#### (a) Chairman:

On May 29, 2005, the Company entered into a new employment agreement with the Chairman for a period from January 1, 2005 through September 30, 2009. In 2009, the Company extended the agreement to December 31, 2010. In January 2011, the Board of Directors extended the Chairman's contract on a month to month basis reflecting annual compensation amount of \$150,000 CDN.

In 2012 the Chairman was awarded a total of 100,000 options at a strike price of \$.35 per share (2011: 1 million options at strike price of \$.20 per share).

The total compensation paid to the Chairman during the year ended October 31 is summarized as follows:

	Cash Compensation \$	Stock Based Compensation Expense \$
2012	149,565	23,697
2011	152,326	118,038

In March 2011 the Chairman provided a bridge loan to the Company of \$100,000, and the loan plus interest was repaid in July 2011.

In August 2011 the Chairman, converted \$112,500 of compensation received under contract to a unit private placement consisting of one common share and one common share purchase warrant. A total of 703,125 units were issued under the private placement.

#### (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 fiscal years ending October 31, 2012 and 2011 is as follows.

	Cash Compensation	Stock Based Compensation Expense \$
2012	625,831	352,225
2011	647,132	590,191

In 2011 the Company assigned the promissory note receivable (Note 10) to an officer of the Company in conjunction with outstanding and unpaid fees due to that officer. During the year a total of \$30,000 (2011- \$80,000) received from the borrower was paid directly to that officer under the assignment agreement. The balance owing to the officer of the Company at October 31, 2012 was \$56,500 (2011-\$102,512).

In February 2012 the officer subscribed for \$50,000 as a Unit private placement consisting of one common share (at a price of \$.35 per share) and one common share purchase warrant (at a price of \$.44 per share). A total of 143,000 Units were subscribed for.

#### 13. SHARE CAPITAL

At October 31, 2012 the Company reports 136,430,555 common shares outstanding (2011: 116,149,718). Additionally, the Company has 9,915,000 stock options outstanding with a weighted average exercise price of \$.24 per share (2011: 11,175,000 options outstanding with a weighted average exercise price of \$0.47 per share) and a total of 19,692,968 outstanding warrants to acquire common shares with a weighted average exercise price of \$.27 per share (2011: 26,672,637 outstanding warrants with a weighted average exercise price of \$.23 per share).

#### **14. 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 2012 remuneration is presented as below:

		2012 remuneration			
		Cash	Option	Total	
Individual	Position				
Salvatore Fuda (1)	Chairman, Director	149,565	23,697	173,262	
Joseph Fuda (2)	President, Director	189,861	6,463	196,324	
Steven Van Fleet (3)	President, MAST Inc., Director	261,134	107,714	368,848	
Andrew Brandt	Director	-	26,929	26,929	
David Sharpless	Director	-	40,931	40,931	
Larry Blue	Director	_	40,931	40,931	
Oliver Nepomuceno	Director	-	40,931	40,931	
Dan Amadori (2)	CFO	174,836	40,931	215,767	

- (1) Contract was extended after December, 2010 on a month to month basis.
- (2) Contract was extended on a month to month basis in May 2010.
- (3) Contract was extended on a month-to-month basis in May 2011.

#### **15. SUBSEQUENT EVENTS**

The Company reports the following as subsequent events:

- (a) The Company issued 3,079,521 common shares via unit private placements and received proceeds of \$496,182. 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.
- (b) The Company received proceeds of \$558,931 from the exercise of 4,137,246 common share purchase warrants.
- (c) The Company issued 1,090,000 stock options to directors, officers and employees. The strike price is \$0.30 per option with a 5 year term to expiry. All options vested upon issuance.
- (d) The Company extended the expiry dates of a total of 3,871,369 common share purchase warrants. These warrants were extended for a period of 12 months in each case. The strike price remained unchanged in each case ranging from \$0.20 to \$0.56 per warrant. These warrants would have otherwise expired between January and March 2013.

Table 1

#### Micromem Technologies Inc Management Discussion and Analysis OIctober 31, 2012

Fiscal year ending October 31	Interest and other income	Net Loss	Loss per share (basic and fully diluted)
2012	-	(1,775,065)	(0.01)
2011	963	(3,182,387)	(0.03)
2010	22,886	(4,577,400)	(0.05)
Quarter ending			
Quarter chaing			
October 31, 2012	₩	1,606,176	0.01
July 31, 2012	-	(507,079)	_
April 30, 2012	<b>2</b> 0	(2,849,835)	(0.02)
January 31, 2012	=	(24,327)	-
October 31, 2011	-	(1,854,751)	(0.02)
July 31, 2011	585	(237,795)	<u> </u>
April 30, 2011	39	(507,225)	(0.01)
January 31, 2011	339	(582,616)	(0.01)

Micromem Technologies Inc Management Discussion and Analysis October 31, 2012 Selected Balance Sheet Information (all amounts in United States dollars)

Fiscal year ending October 31	Working capital (deficiency)	Capital asssets at NBV	Other Assets	Total Assets	Shareholders equity (deficit)
					(
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)
Quarter ending					
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)
April 30, 2011	(1,986,534)	13,451	584,470	723,762	(1,388,613)
January 31, 2011	(1,429,020)	15,102	415,945	592,430	(997,973)

Table 2

#### Micromem Technologies Inc Management Discussion and Analysis October 31, 2012

#### Summary of financing raised by Company

Date of financing	2009			2010		
	Shares	Price / share	\$	Shares	Price / share	\$
<b>Exercise of options</b>	-				•	
January 2009	32,801	0.74	24,417			
April 2009	631,000	0.64	403,500			
July 2009	889,000	0.57	504,500			
August 2009	100,000	0.60	60,000			
Exercise of warrant	s					
July 2009	200,000	1.17	234,000			
Private placements						
January 2009	336,053	0.58	194,465			
April 2009	2,777,878	0.58	1,620,397			
July 2009	779,604	0.98	763,980			
October 2009	500,000	0.76	380,000			
January 2010	200,000	0., 0	505,000	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
	6,246,336		4,185,259	5,941,508		2,071,050
		2011			2012	
	Shares	Price / share	\$	Shares	Price / share	\$
Private placements						
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			
Private placements						
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
Exercise of warrants	<b>;</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
Conversion of bridge	loan					
July 31, 2012				1,120,000	0.098	109,825
October 31, 2012				740,080	0.158	117,075
-	20,825,207		2,478,681	20,280,837		2,767,512

#### Table 4

#### Micromem Technologies Inc Management Discussion and Analysis October 31, 2012

Outstanding	Strike price	Expiry date			
315,000	0.55	December 20, 2012			
125,000	0.35	April 5, 2016			
2,000,000	0.35	April 10, 2017			
7,475,000	0.20	October 31, 2016			
9,915,000	0.24				
Total proceeds if al	l options exercised:	\$ 2,412,000			
Outstanding					
1,135,022	0.15	November 4, 2012			
100,000	0.12	December 23, 2012			
250,000	0.20	January 4, 2013			
750,000	0.22	January 11, 2013			
312,500	0.40	January 12, 2013			
312,500	0.45	January 12, 2013			
25,000	0.55	January 15, 2013			
770,000	0.12	January 23, 2013			
300,000	0.55	January 26, 2013			
325,000	0.22	January 31, 2013			
111,111	0.56	February 1, 2013			
76,667	0.15	February 3, 2013			
88,236	0.20	February 8, 2013			
142,858	0.44	February 10, 2013			
133,333	0.56	February 12, 2013			
666,667	0.18	February 15, 2013			
208,333	0.30	February 27, 2013			
562,499	0.30	February 27, 2013			
208,333	0.30	May 11, 2013			
58,333	0.30	March 23, 2013			
291,666	0.30	March 13, 2013			
83,333	0.30	April 18, 2013			
95,000	0.15	April 27, 2013			
500,000	0.25	July 13, 2013			
1,120,000	0.12	July 12, 2013			
186,667	0.15	August 6, 2013			
553,413	0.20	August 8, 2013			
200,000	0.30	August 30, 2013			
728,572	0.17	September 12, 2013			
1,666,667	0.19	September 16, 2013			
1,325,000	0.24	October 15, 2013			
1,388,890	0.11	October 21, 2013			
282,047	0.18	October 25, 2013			
442,333	0.18	October 29, 2013			
500,000	0.22	November 5, 2013			
123,276	0.75	November 11, 2013			
429,686	0.80	November 14, 2013			
765,188	0.41	November 25, 2013			
400,000	0.22	November 30, 2013			
600,000	0.80	December 14, 2013			
339,838	0.45	December 15, 2013			
815,000	0.59	December 16, 2013			
20,000	0.20	December 17, 2013			
300,000	0.22	December 20, 2013			
19,692,968	0.27				

Total proceeds if all warrants exercised: \$

5,237,215