PyroGenesis Canada Inc.
Financial Statements
December 31, 2018 and 2017

PyroGenesis Canada Inc.

December 31, 2018 and 2017

Contents

To the Shareholders of PyroGenesis Canada Inc.,

Management is responsible for the preparation and presentation of the accompanying financial statements, including responsibility for significant accounting judgments and estimates in accordance with International Financial Reporting Standards. This responsibility includes selecting appropriate accounting principles and methods, and making decisions affecting the measurement of transactions in which objective judgment is required.

The Board of Directors and Audit Committee are composed primarily of Directors who are neither management nor employees of the Company. The Board of Directors is responsible for overseeing management in the performance of its financial reporting responsibilities, and for approving the financial information included in the annual report. The Board fulfils these responsibilities by reviewing the financial information prepared by management and discussing relevant matters with management and the external auditor. The Audit Committee has the responsibility of meeting with management and the external auditors to discuss the internal controls over the financial reporting process, auditing matters and financial reporting issues. The Audit Committee is also responsible for recommending the appointment of the Company's external auditor.

KPMG LLP, an independent firm of Chartered Professional Accountants, is appointed by the shareholders to audit the financial statements and report directly to them; their report follows. The external auditor has full and free access to, and meets periodically and separately with, both the Audit Committee and management to discuss their audit findings.

April 30, 2019

[Signed by P. Peter Pascali]	*[Signed by Alan Curleigh]*
P. Peter Pascali, Chief Executive Officer	Alan Curleigh, Interim Chief Financial Officer

KPMG LLP
600 de Maisonneuve Blvd. West
Suite 1500, Tour KPMG
Montréal (Québec) H3A 0A3
Canada

Telephone (514) 840-2100
Fax (514) 840-2187
Internet www.kpmg.ca

INDEPENDENT AUDITORS' REPORT

To the Shareholders of PyroGenesis Canada Inc.

Opinion

We have audited the financial statements of PyroGenesis Canada Inc. (the "Entity"), which comprise:

- the statements of financial position as at December 31, 2018 and December 31, 2017
- the statements of comprehensive loss for the years then ended
- the statements of changes in shareholders' (deficiency) equity for the years then ended
- the statements of cash flows for the years then ended
- and notes to the financial statements, including a summary of significant accounting policies

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Entity as at December 31, 2018 and December 31, 2017, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the **"*Auditors' Responsibilities for the Audit of the Financial Statements*"** section of our auditors' report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Material Uncertainty Related to Going Concern

We draw attention to Note 1(b) in the financial statements, which indicates that the Entity has incurred operating losses and negative cash flows from operations, has an accumulated deficit, and that its operations are dependent on obtaining additional financing.

As stated in Note 1(b) in the financial statements, these events or conditions, along with other matters as set forth in Note 1(b) in the financial statements, indicate that a material uncertainty exists that may cast significant doubt on the Entity's ability to continue as a going concern.

Our opinion is not modified in respect of this matter.

Other Information

Management is responsible for the other information. Other information consists of the information included in Management's Discussion and Analysis filed with the relevant Canadian Securities Commissions.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit and remain alert for indications that the other information appears to be materially misstated.

We obtained the information included in Management's Discussion and Analysis filed with the relevant Canadian Securities Commissions as at the date of this auditors' report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in the auditors' report.

We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Entity's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Entity's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

  The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Entity to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

- Provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

KPMG LLP*

The engagement partner on the audit resulting in this auditors' report is Nathalie Labelle.

Montréal, Canada April

30, 2019

*CPA auditor, CA, public accountancy permit No. A119245

PyroGenesis Canada Inc.

Statements of Financial Position

	December 31, 2018	December 31, 2017
	$	$
Assets		
Current assets		
Cash	**644,981**	622,846
Accounts receivable *[note 8]*	**631,152**	437,869
Costs and profits in excess of billings on uncompleted contracts *[note 9]*	**307,832**	115,226
Investment tax credits receivable *[note 16]*	**633,348**	797,832
Deposits	**584,646**	283,830
Prepaid expenses	**66,321**	117,575
Total current assets	**2,868,280**	2,375,178
Non-current assets		
Inventories *[note 10]*	**382,832**	123,735
Deposits and investments [*note 11]*	**1,745,607**	618,530
Property and equipment *[note 12]*	**3,202,882**	2,247,494
Intangible assets *[note 13]*	**559,874**	404,013
Total assets	**8,759,475**	5,768,950
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities *[note 14]*	**2,357,607**	5,481,245
Billings in excess of costs and profits on uncompleted contracts *[note 15]*	**4,352,410**	1,846,715
Term loans *[note 16]*	**247,200**	537,400
Current portion of long-term debt *[note 17]*	**12,491**	120,374
Convertible debentures [*note 18*]	**-**	3,916,549
Total current liabilities	**6,969,708**	11,902,283
Non-current liabilities		
Long-term debt *[note 17]*	**268,576**	10,290
Convertible debentures *[note 18]*	**2,527,241**	-
Total liabilities	**9,765,525**	11,912,573
Shareholders' deficiency *[note 19]*		
Common shares and warrants	**42,863,456**	30,336,865
Contributed surplus	**6,795,274**	6,147,638
Equity portion of convertible debentures *[note 18]*	**401,760**	572,582
Deficit	**(51,066,540)**	(43,200,708)
Total shareholders' deficiency	**(1,006,050)**	(6,143,623)
Total liabilities and shareholders' deficiency	**8,759,475**	5,768,950

Going concern disclosure, related party transactions, commitments, contingent liabilities, subsequent events *[notes 1(b), 23, 25, 29, 30]*

Approved on behalf of the Board:

[Signed by P. Peter Pascali] *P. Peter Pascali* *[Signed by Alan Curleigh]* *Alan Curleigh*

PyroGenesis Canada Inc.

Statements of Comprehensive Loss

Years ended December 31,

	2018	2017
	$	$
Revenues *[note 7]*	**5,030,116**	7,192,861
Cost of sales and services *[note 21]*	**3,920,819**	4,065,894
	1,109,297	3,126,967
Expenses		
Selling, general and administrative *[note 21]*	**6,537,777**	5,153,850
Research and development	**892,045**	289,851
Settlement of a claim related to the long-term debt *[notes 14 and 17]*	**-**	3,215,643
Net finance costs *[note 22]*	**1,525,275**	641,926
	8,955,097	9,301,270
Net loss and comprehensive loss	**(7,845,800)**	(6,174,303)
Basic and diluted loss per share	**(0.06)**	(0.06)
Weighted average number of common shares - basic and diluted	**122,986,656**	106,013,227

The accompanying notes form an integral part of the financial statements.

PyroGenesis Canada Inc.

Statements of Changes in Shareholders' (Deficiency) Equity

	Number of Class A common shares	Class A common shares and warrants	Contributed Surplus	Equity portion of convertible debentures	Deficit	Total
		$	$	$	$	$
Balance - December 31, 2017	**112,698,081**	**30,336,865**	**6,147,638**	**572,582**	**(43,200,708)**	**(6,143,623)**
Adoption of new accounting policy [note 3]					**(20,032)**	**(20,032)**
Adjusted balance, January 1, 2018	**112,698,081**	**30,336,865**	**6,147,638**	**572,582**	**(43,220,740)**	**(6,163,655)**
Private placements [note 18]	**10,805,423**	**6,654,917**	**-**	**-**	**-**	**6,654,917**
Share issue expenses [note 18]	**-**	**(290,804)**	**-**	**-**	**-**	**(290,804)**
Shares issued in settlement of long-term debt [note 14]	**5,285,714**	**3,327,571**	**-**	**-**	**-**	**3,327,571**
Shares issued in settlement of accounts payable [note 19]	**1,112,000**	**644,960**	**-**	**-**	**-**	**644,960**
Shares issued in settlement of convertible debentures [note 18]	**1,258,333**	**755,000**	**-**	**-**	**-**	**755,000**
Shares issued upon exercise of warrants [note 19]	**1,797,500**	**629,125**	**-**	**-**	**-**	**629,125**
Shares issued upon exercise of stock options [note 19]	**544,000**	**233,240**	**(93,920)**	**-**	**-**	**139,320**
Share-based payments	**-**	**-**	**673,249**	**-**	**-**	**673,249**
Equity of convertible debentures reimbursed [note 18]	**-**	**572,582**	**-**	**(572,582)**	**-**	**-**
Issuance of convertible debentures	**-**	**-**	**-**	**401,760**	**-**	**401,760**
Below market element of short term and promissory notes	**-**	**-**	**68,307**	**-**	**-**	**68,307**
Net loss and comprehensive loss	**-**	**-**	**-**	**-**	**(7,845,800)**	**(7,845,800)**
Balance – December 31, 2018	**133,501,051**	**42,863,456**	**6,795,274**	**401,760**	**(51,066,540)**	**(1,006,050)**
Balance - December 31, 2016	101,858,434	26,344,117	5,704,424	572,582	(37,026,405)	(4,405,282)
Shares issued upon exercise of warrants	7,954,647	3,101,169	-	-	-	3,101,169
Shares issued upon exercise of stock options	2,885,000	1,012,238	(436,458)	-	-	575,780
Share purchase warrants expired	-	(120,659)	120,659	-	-	-
Share-based payments	-	-	759,013	-	-	759,013
Net loss and comprehensive loss	-	-	-	-	(6,174,303)	(6,174,303)
Balance –December 31, 2017	112,698,081	30,336,865	6,147,638	572,582	(43,200,708)	(6,143,623)

The accompanying notes form an integral part of the financial statements.

PyroGenesis Canada Inc.

Statements of Cash Flows

For the years ended December 31, 2018 and 2017

Years ended December 31,

	2018 $	2017 $
Cash flows provided by (used in)		
Operating activities		
Net loss	**(7,845,800)**	(6,174,303)
Adjustments for:		
Share-based payments	**673,249**	759,013
Depreciation on property and equipment [note 12]	**212,621**	111,937
Amortization of intangibles assets [note 13]	**60,326**	-
Finance costs	**708,391**	503,726
Change in fair value of investments	**919,463**	138,200
Dividend in kind	**(102,579)**	
Settlement of a claim related to the long-term debt [note 14]	**-**	3,215,643
Other	**(20,032)**	14,968
	(5,394,361)	(1,430,816)
Net change in non-cash operating working capital items [note 20]	**2,439,731**	143,129
Interest paid	**(323,358)**	(301,832)
	(3,277,988)	(1,589,519)
Investing activities		
Additions to inventories	**(259,097)**	(123,735)
Purchase of property and equipment [note 12]	**(1,138,541)**	(1,456,378)
Additions to intangible assets [note 13]	**(316,345)**	(303,855)
Purchase of investments	**(1,950,000)**	-
	(3,663,983)	(1,883,968)
Financing activities		
Repayment of term loans [note 16]	**(2,450,000)**	(200,000)
Repayment of R&D loans [note 16]	**(290,200)**	-
Repayment of capital lease obligations [note 17]	**(12,550)**	(6,785)
Repayment of convertible debentures [note 18]	**(3,245,000)**	-
Proceeds from issuance of shares upon exercise of warrants [note 19]	**629,125**	3,101,169
Proceeds from issuance of shares upon exercise of stock options [note 19]	**139,320**	479,530
Proceeds from issuance of term loans [note 16]	**3,145,000**	277,062
Proceeds from issuance of shares [note 19]	**6,654,917**	60,100
Share issue costs [note 19]	**(290,804)**	-
Net proceeds from issuance of convertible debentures [note 18]	**2,684,298**	-
	6,964,106	3,711,076
Net increase in cash	**22,135**	237,589
Cash - beginning of year	**622,846**	385,257
Cash - end of year	**644,981**	622,846

PyroGenesis Canada Inc.

Statements of Cash Flows
For the years ended December 31, 2018 and 2017

Supplemental cash flow disclosure

Non-cash transactions:		
Investments received in payment on an uncompleted contract	**-**	320,000
Purchase of property and equipment under finance lease obligations	**25,542**	25,521
Prepaid interest netted in proceeds from issuance of term loans	**-**	56,770
Lender's costs on term loans	**-**	14,968
Investment tax credits on property and equipment	**-**	154,706
Capitalised borrowing costs	**-**	189,000
Interest accretion on long-term debt	**-**	41,250
Exercise of stock options by controlling shareholder and CEO applied to repayment of long-term debt	**-**	96,250
Accounts receivable by controlling shareholder and CEO applied to repayment of long-term debt	**-**	65,238
Purchase of intangible assets included in accounts payable	**-**	100,158
Purchase of property and equipment included in accounts payable	**7,485**	-
Issuance of common shares in settlement of convertible debentures	**755,000**	
Issuance of common shares in settlement of accounts payable	**244,960**	-
Issuance of common shares in settlement of (IP debt) included in loans	**111,928**	-
Issuance of common shares in settlement of (IP debt) included in accounts payable	**3,215,643**	-
Issuance of common shares in settlement of short-term loans	**400,000**	-
Below market element of promissory notes	**58,607**	-
Interest accretion on short-term loans to contributed surplus	**9,700**	-
Other equity reclassified in contributed surplus	**120,865**	-
Equity component of convertible debenture	**401,760**	-
Equity component of convertible debenture reimbursed in contributed surplus	**572,582**	-

The accompanying notes form an integral part of the financial statements

1. Nature of operations and going concern disclosure

(a) Nature of operations

PyroGenesis Canada Inc. (the “Company”), incorporated under the laws of the Canada Business Corporations Act, was formed on July 11, 2011. The Company owns patents of advanced waste treatment systems technology and designs, develops, manufactures and commercialises advanced plasma processes and systems. The Company is domiciled at 1744 William Street, Suite 200, Montreal, Quebec. The Company is publicly traded on the TSX Venture Exchange under the Symbol “PYR”. During 2015, the Company received approval to trade on the OTCQB in the USA under the symbol “PYRNF”.

(b) Going concern

These 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.

The Company is subject to a number of risks and uncertainty associated with the successful development of its products and with the financing requirements of its operations. The achievement of profitable operations is dependent upon future events, including successful development and introduction of new products to its family of products and obtaining adequate financing.

The Company has incurred, in the last several years, operating losses and negative cash flow from operations, resulting in an accumulated deficit of $51,066,540 as at December 31, 2018. Furthermore, as at December 31, 2018, the Company’s current liabilities and expected level of expenses for the next twelve months exceed cash on hand of $644,981. The Company currently has no committed sources of financing available. The Company has relied upon external financings to fund its operations in the past, primarily through the issuance of equity, debt, and convertible debentures, as well as from investment tax credits.

The Company’s business plan is dependent upon raising additional funds to finance operations within and beyond the next twelve months. While the Company has been successful in securing financing in the past, raising additional funds is dependent on a number of factors outside the Company’s control, and as such there is no assurance that it will be able to do so in the future. If the Company is unable to obtain sufficient additional financing, it may have to curtail operations and development activities, any of which could harm the business, financial condition and results of operations.

These conditions indicate the existence of a material uncertainty that may cast significant doubt about the Company’s ability to continue operating as a going concern and realize its assets and settle its liabilities and commitments in the normal course of business.

The 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 achieve its plan and continue in business. If the going concern assumption were not appropriate for these financial statements then adjustments would be necessary to the carrying value of assets and liabilities, the reported expenses and the statements of financial position classifications used. Such adjustments could be material.

2. Basis of preparation

(a) Statement of compliance

These financial statements have been prepared in accordance with International Financial Reporting Standard (“IFRS”) as issued by the International Accounting Standards Board ("IASB"). These financial statements were approved and authorized for issuance by the Board of Directors on April 29, 2019.

(b) Functional and presentation currency

These financial statements are presented in Canadian dollars, which is the Company’s functional currency.

(c) Basis of measurement

These financial statements have been prepared on the historical cost basis except for the investments which are accounted for at fair value.

3. Changes in significant accounting policies

On January 1, 2018, the Company adopted the following new or amended IFRS standards and Interpretations of IFRS (“Interpretations”):

The Company has adopted amendments to IFRS 2, *Classification and Measurement of Share-Based Payment Transactions* and IFRIC 23, *Uncertainty over Income Tax Treatments*, as at January 1, 2018, but they did not have an impact on the Company’s financial statements at the transition date.

The Company has also adopted IFRS 15, *Revenue from Contracts with Customers* and IFRS 9, *Financial Instruments*, as at January 1, 2018. The effect of initially applying these two new standards is mainly attributed to the following:

IFRS 15 Revenue from Contracts with Customers

IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. It replaced IAS 18 *Revenue*, IAS 11 *Construction Contracts and related interpretations*. Under IFRS 15, revenue is recognised when a customer obtains control of the goods or services.

The Company adopted IFRS 15 using the cumulative effect method – i.e. by recognising the cumulative effect of initially applying IFRS 15 as an adjustment to the opening balance of equity at January 1, 2018. Accordingly, the information presented for 2017 has not been restated and continues to be reported under IAS 18 and IAS 11. The details of the significant changes and quantitative impact of the changes are set out below.

Revenue recognition for uninstalled materials

Previously under IAS 18, uninstalled materials were excluded from the measure of progress and the Company recorded revenue using a method that consisted of recognizing the contract’s total estimated margin proportionally over the progression of the contract. Under IFRS 15, the Company recognizes revenue on uninstalled materials to the extent of those costs incurred, i.e. at a zero percent profit margin, when certain conditions are met as it is a more faithful depiction of performance.

The following tables summarise the impacts of adopting IFRS 15 on the financial statements for the year ended December 31, 2018.

3. Changes in significant accounting policies (continued)

i. Statement of Financial Position

December 31, 2018	As reported	Adjustments	Balances without adoption of IFRS 15
	$	$	$
Costs and profits in excess of billings on uncompleted contracts	307,832	1,079,446	1,387,278
Accounts payable and accrued liabilities	2,357,607	1,073,188	3,430,795
Deficit	(51,066,540)	6,258	(51,060,282)

ii. Statement of Comprehensive Loss

Year ended December 31, 2018	As reported	Adjustments	Balances without adoption of IFRS 15
	$	$	$
Revenue	5,030,116	506,683	5,536,799
Cost of sales and services	3,920,819	520,457	4,441,276
Net loss and comprehensive loss	(7,845,800)	(13,774)	(7,859,574)

iii. Statement of Cash Flows

Year ended December 31, 2018	As reported	Adjustments	Balances without adoption of IFRS 15
	$	$	$
Net loss	(7,845,800)	(13,774)	(7,859,574)
Net change in non-cash operating working capital items	2,180,634	13,774	2,194,408

IFRS 9 Financial Instruments

Effective January 1, 2018 the Company adopted IFRS 9, *Financial Instruments*. The new standard requires financial assets to be classified at amortized cost, fair value through profit or loss ("FVTPL") or fair value through other comprehensive income ("FVOCI") based on the entity's business model for managing the financial assets and the contractual cash flow characteristics of these assets. Assessment and decision on the business model approach used is an accounting judgment.

A financial asset is measured at amortized cost if it is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows and its contractual terms give rise on specified dates

3. Changes in significant accounting policies (continued)

to cash flows that are solely payments of principal and interest on the principal amount outstanding. The Company includes in this category cash, accounts receivable and deposits.

A financial asset is measured at fair value through profit or loss (“FVTPL”) if:

(a) Its contractual terms do not give rise to cash flows on specified dates that are solely payments of principal and interest (SPPI) on the principal amount outstanding; or

(b) It is not held within a business model whose objective is either to collect contractual cash flows, or to both collect contractual cash flows and sell; or

(c) At initial recognition, it is irrevocably designated as measured at FVTPL when doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

The Company includes in this category investments in equity instruments.

Under IFRS 9, the classification and measurement of financial liabilities remain generally unchanged with the exception of liabilities recorded at FVTPL. For these liabilities, fair value changes attributable to changes in the entity's own credit risk are to be presented in other comprehensive income unless they affect amounts recorded in income. This modification had no impact on the Company’s financial statements at transition date.

All financial liabilities, other than those measured at fair value through profit or loss, are included in the financial liabilities measured at amortized cost. The Company includes in this category accounts payable and accrued liabilities, term loans, long-term debt and convertible debentures.

The following table presents the original measurement categories under IAS 39 and the new measurement categories under IFRS 9 for each class of the Company’s financial assets as at January 1, 2018:

	Original classification under IAS 39	**New classification under IFRS 9**
Cash	Loans and receivables	Amortized cost
Accounts receivable	Loans and receivables	Amortized cost
Deposits	Loans and receivables	Amortized cost
Investments	Fair value through profit or loss	Fair value through profit or loss

3. Changes in significant accounting policies (continued)

Recognition:

The Company recognizes a financial asset or a financial liability when it becomes a party to the contractual provisions of the instrument.

Purchases or sales of financial assets that require delivery of assets within the time frame generally established by regulation or convention in the market place (regular way trades) are recognized on the trade date, i.e. the date that the Company commits to purchase or sell the asset.

Initial measurement

Financial assets and liabilities (other than financial assets at FVTPL) are measured initially at their fair value plus any directly attributable incremental costs of acquisition or issue.

Financial assets and financial liabilities at FVTPL are recorded in the statement of financial position at fair value. All transaction costs for such instruments are recognized directly in profit or loss.

Subsequent measurement

Financial assets (other than financial assets at FVTPL) are measured at amortized cost using the effective interest method less any allowance for impairment. Gains and losses are recognized in profit or loss when the debt instruments are derecognized or impaired, as well as through the amortization process.

Financial liabilities are measured at amortized cost using the effective interest method. Gains and losses are recognized in profit or loss when the liabilities are derecognized, as well as through the amortization process.

Derecognition

A financial asset is derecognized where the rights to receive cash flows from the asset have expired, or the Company has transferred its rights to receive cash flows from the asset.
The Company derecognizes a financial liability when the obligation under the liability is discharged, cancelled or expired.

Offsetting of financial instruments

Financial assets and financial liabilities are offset, and the net amount reported in the statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

Impairment of financial instruments

IFRS 9 replaces the “incurred loss” model in IAS 39 with an “expected credit loss” (“ECL”) model. The new ECL impairment model applies to financial assets measured at amortized cost. The Company’s financial assets subject to the new impairment model are cash, trade accounts receivable and deposits. Under IFRS 9, credit losses are recognized earlier than under IAS 39.

The trade accounts receivable have no financing component and have maturities of less than 12 months at amortized cost and, as such, the Company has chosen to apply an approach similar to the simplified approach for expected credit losses (ECLs) under IFRS 9 to all its trade accounts receivable. Therefore, the Company

3. Changes in significant accounting policies (continued)

does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date.

The Company's approach to ECLs reflects a probability-weighted outcome, the time value of money and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

The Company uses the provision matrix as a practical expedient to measure ECLs on trade receivables, based on days past due for groupings of receivables with similar loss patterns. The provision matrix is based on historical observed loss rates over the expected life of the receivables and is adjusted for forward-looking estimates.

The new impairment guidance using the ELC model did not have a significant impact on the carrying amounts of the Company's trade accounts receivable as the Company has had negligible credit losses.

Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof.

4. Significant accounting policies

Except for the changes in significant accounting policies described above in Note 3, the accounting policies set out below have been applied consistently in the preparation of the financial statements of all years presented and have been applied consistently by the Company. Certain comparative information in the statements of financial position and statements of changes in shareholders' (deficiency) equity have been reclassified to conform with the financial statement presentation adopted in the current year.

(a) Revenue recognition

Revenue from contracts is recognized for each performance obligation either over a period of time or at a point in time, depending on which method reflects the transfer of control of the good and services underlying the particular performance obligation.

i) Long-term contracts

Long-term contracts involve made-to-order customized equipment and machines and are generally priced on a fixed fee basis. Under these contracts, the equipment or machines are made to a customer's specifications and if a contract is terminated by the customer, the Company is entitled to reimbursement of the costs incurred to date of termination, including a reasonable margin.

Revenue relating to long-term contracts is recognised over time based on the measure of progress determined by the Company's efforts or inputs towards satisfying the performance obligation relative to the total expected inputs. The degree of completion is assessed based on the proportion of total costs incurred to date, compared to total costs anticipated to provide the service under the entire contract, excluding the effects of inputs that do not depict performance, e.g. uninstalled materials. For long-term contracts with uninstalled materials, the Company adjusts the transaction price and recognises revenue on uninstalled materials to the extent of those costs incurred, i.e. at a zero percent profit margin, when certain conditions are met.

4. Significant accounting policies (continued)

Estimates are required to determine anticipated costs and/or hours on long-term contracts. A provision is made for the entire amount of expected loss, if any, in the period in which they are first determinable.

Contract modifications are changes in scope and/or price that are approved by the parties to the contract. Approval may be written, oral or implied by customary business practices, and are legally enforceable. The Company accounts for modifications as a separate contract if the modifications add distinct goods or services that are priced commensurate with stand-alone selling prices or if the remaining goods or services are distinct from those already transferred, otherwise modifications are accounted for as part of the original contract.

Costs and profits in excess of billings on uncompleted contracts and trade receivables are both rights to consideration in exchange for goods or services that the Company has transferred to a customer, however the classification depends on whether such right is only conditional on the passage of time (trade receivables) or if it is also conditional on something else (costs and profits in excess of billings on uncompleted contracts), such as the satisfaction of further performance obligations under the contract. Billing in excess of costs and profits on uncompleted contracts is the cumulative amount received and contractually receivable by the Company that exceeds the right to consideration resulting from the Company's performance under a given contract.

ii) Sales of goods

Revenue related to sales of goods, which may include powders and spare parts are measured based on the consideration specified in contracts with customers. The Company recognizes revenue at a point in time when it transfers control of the goods to the buyer. This is generally at the time the customer obtains legal title to the product and when it is physically transferred to the custody transfer point agreed with the customer.

(b) Foreign Currency Translation

Foreign currency balances are translated at year-end exchange rates for monetary items and at historical rates for non-monetary items. Revenues and expenses are translated using average exchange rates prevailing at the time of the transaction. Translation gains or losses are included in the determination of comprehensive loss.

(c) Compound Financial Instrument

Compound financial instrument issued by the Company comprises convertible debentures that can be converted into common shares at the option of the holder, and the number of shares to be issued does not vary with changes in their fair value.

The component parts of the compound instrument issued by the Company are initially classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument. The conversion option that will be settled by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Company's own equity instruments is an equity instrument.

At the date the convertible debentures are issued, the liability component is initially recognized at the fair value of similar debt instruments which do not have an equity conversion option. The initial amount of the liability component is determined by discounting the face value of the convertible debentures using a rate of interest prevailing for similar non-convertible instruments at the date of issue for instruments of similar terms and risks. The conversion option classified as the equity component is determined by deducting the amount of the liability component from the gross proceeds. The equity component is recognized net of income tax effects within the other equity account.

4. Significant accounting policies (continued)

Subsequently, the liability component is accounted for at amortized cost and is accreted using the effective interest method, up to the face value of the convertible debentures during the period they are outstanding. Interest expense on the convertible debentures is composed of the interest calculated on the face value of the convertible debentures and a non-cash notional interest representing the accretion of the carrying value of the convertible debentures. The equity component is not remeasured.

The conversion option classified as equity remains in the other equity account until the conversion option is exercised, in which case, the balance recognized in other equity is transferred to share capital. When the conversion option remains unexercised at the maturity date of the convertible debentures, the balance recognized in other equity will be transferred to contributed surplus. No gain or loss is recognized in the consolidated income statement upon conversion or expiration of the conversion option.

Transaction costs related to the issuance of convertible debentures are allocated to the liability and equity components in proportion to the allocation of the gross proceeds. Transaction costs relating to the equity component are recognized directly in other equity. Transaction costs relating to the liability component are included in the carrying amount of the liability component and are amortized over the term of the convertible debentures using the effective interest method.

(d) Effective Interest Method

The effective interest method is a method of calculating the amortized cost of a financial asset/financial liability and of allocating interest income/expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts/payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial instrument, or (when appropriate) a shorter period, to the net carrying amount on initial recognition.

(e) Inventories

Inventories are composed of raw materials and finished goods. Inventories are valued at the lower of cost and net realizable value. The cost of inventories is based on the first-in, first-out principle. Cost comprises all costs of purchases and costs directly related to the conversion of raw materials to finished goods. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and selling costs. Inventory held for sale pending receipt of export permits is classified as non-current assets.

(f) Deferred taxes

i) Current tax

Current tax assets and liabilities for the current and prior years are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted by the statements of financial position date.

ii) Deferred tax

Deferred tax is provided using the liability method, providing for temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements. The temporary difference is not

4. Significant accounting policies (continued)

provided for if it arises from the initial recognition of goodwill or the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. The amount of deferred tax provided is based on the expected manner of realization or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the financial position reporting date and whose implementation is expected over the period in which the deferred tax is realized or recovered. A deferred tax asset is recognized only to the extent that it is probable that future taxable profits will be available against which the asset can be used.

Deferred tax assets and liabilities are presented as non-current. Assets and liabilities are offset where the entity has a legally enforceable right to offset current tax assets and liabilities or deferred tax assets and liabilities, and the respective assets and liabilities relate to income taxes levied by the same taxation authority on the same taxable entity or different taxable entities which intend to settle the liabilities and assets on a net basis.

(g) Loss per share

The Company presents basic loss per share data for its common shares. Basic loss per share is computed by dividing net loss by the weighted average number of common shares outstanding during the year. Diluted loss per share is computed similarly to basic earnings per share, except that the weighted average number of shares outstanding is increased to include shares from the assumed exercise of stock options and share purchase warrants, if dilutive. The number of additional shares is calculated by assuming that outstanding share options and warrants were exercised and that the proceeds from such exercises were used to acquire common shares at the average market price during the year. For the years ended December 31, 2018 and 2017, potential shares from all outstanding stock options, share purchase warrants and convertible debentures have been excluded from the calculation of diluted loss per share as their inclusion is considered anti-dilutive in periods when a loss is incurred.

(h) Property and equipment

Property and equipment are measured at cost less accumulated depreciation and accumulated impairment losses if applicable. Cost includes expenditures that are directly attributable to the acquisition of the asset and bringing the asset into operation. Borrowing costs capitalized to asset under development represents the interest expense calculated under the effective interest method and does not include any fair value adjustments of investments designated at fair value through profit and loss. Investment tax credits related to the purchase or development of property and equipment are recorded in reduction of the cost. When major parts of an item of property and equipment have different useful lives, they are accounted for separately. Property and equipment are depreciated from the acquisition date or at the date of substantial completion.

Depreciation is calculated using the following methods and rates:

Computer hardware	Declining balance 45%
Computer software	Declining balance 50%
Machinery and equipment	Declining balance 20%
Automobile	Declining balance 30%
Leasehold improvements	Straight line over 20 years
Plasma Atomization System	Straight line over 20 years

4. Significant accounting policies (continued)

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted prospectively if appropriate.

Impairment – non-financial assets

The carrying amounts of the Company's non-financial assets are assessed at each reporting date to determine whether there is an indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated.

Impairment losses recognized in prior periods are assessed at each reporting date as to whether there are any indications that the previously recognized losses may no longer exist or may be decreased. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years.

(i) Government assistance and investment tax credits

Investment tax credits are comprised of scientific research and experimental development tax credits. Government assistance and investment tax credits are recognized when there is reasonable assurance of their recovery and recorded as a reduction of the related expense or cost of the asset acquired, as applicable. Investment tax credits are subject to the customary approvals by the pertinent tax authorities. Adjustments required, if any, are reflected in the year when such assessments are received.

(j) Intangible assets

Acquired intangible assets are measured at cost on initial recognition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses.

Intangible assets with finite lives are amortized over the useful life of the asset and assessed for impairment whenever there is an indication of impairment. Amortization expense on the intangible assets with finite lives is recognized in the statements of comprehensive loss.

Research costs are charged to comprehensive loss in the year they are incurred, net of related investment tax credits. Development costs are charged to comprehensive loss in the year they are incurred net of related investment tax credits unless they meet specific criteria related to technical, market and financial feasibility in order to be recognized as intangible assets which include:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the Company has the intention to complete and the ability to use or sell the asset;
- the asset will generate future economic benefits;
- the Company has the resources to complete the asset; and
- ability to measure reliably the expenditure during development.

4. Significant accounting policies (continued)

Amortization of the development costs is calculated on a straight-line basis over the remaining useful life of the related patent and begins when development is complete. During the period of development, the asset is tested annually for impairment.

The recoverable amount of an asset or cash-generating unit (CGU) is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Assets that cannot be tested individually are grouped into the smallest independent group of assets that generate cash inflows from continuing use. For the purposes of testing non-financial assets for impairment, management has identified one CGU since the Company operates as one segment.

An impairment loss is recognized if the carrying amount of an asset or its CGU exceeds its recoverable amount. Impairment losses are recognized in the statement of comprehensive loss. Impairment losses recognized in respect of the CGU are allocated first to reduce the carrying amount of goodwill allocated to the units, and then to reduce the carrying amounts on a pro-rata basis of the other assets in the unit.

Amortization is calculated on a straight-line basis:

	Useful life
Licenses	**5 to 10 years**
Patents	**5 to 20 years**
Development costs	**5 to 15 years**

(k) Employee benefits

Share-based payments

The Company applies a fair value-based method of accounting to all share-based payments. Employee and director stock options are measured at their fair value of each tranche on the grant date and recognized in its respective vesting period. Non-employee stock options are measured when the services are rendered by the consultant at the fair value of the services received, if the fair value can be measured reliably. In the case the fair value of the services cannot be measured reliably, the services are measured indirectly using the fair value of the equity instruments granted. If there are unidentifiable services, then they are measured at grant date. The cost of stock options is presented as share-based payment expense. On the exercise of stock options, share capital is credited for the consideration received and for the fair value amounts previously credited to contributed surplus. The Company uses the Black-Scholes option-pricing model to estimate the fair value of share-based payments.

Deferred profit-sharing plan

The Company established a yearly Deferred Profit-Sharing Plan (“DPSP”) for all eligible employees who have materially and significantly contributed to the prosperity and profits of the Company. The significance of any

4. Significant accounting policies (continued)

contribution of any employee to the prosperity and profits of the Company for purposes of eligibility in the DPSP is determined by the Board of Directors of the Company upon such relevant information as the Board, in its sole discretion, may find relevant. All related persons to the Company are excluded from participating in the DPSP.

For all eligible employees, the Company is required to contribute to the DPSP out of the profits of the Company. The amount of the Company's contribution will be such amount which, in the opinion of its Board of Directors, is warranted by the profits and overall financial position of the Company. During the year, the Company contributed $Nil to the DPSP. Obligations for contributions to the DPSP are recognized as an employee benefit expense in the statement of comprehensive loss in the periods during which services are rendered by employees.

Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided.

A liability is recognised for the amount expected to be paid under the short-term incentive plan if the Company has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

Extinguishing financial liabilities with equity instruments

When equity instruments issued to a creditor to extinguish all or part of a financial liability are recognised initially, the Company measures them at the fair value of the equity instruments issued, unless that fair value cannot be reliably measured. If the fair value of the equity instruments issued cannot be reliably measured then the equity instruments shall be measured to reflect the fair value of the financial liability extinguished.

Transactions with shareholders

Transactions with shareholders where the Company is receiving a benefit from the shareholder because an independent third party would not have been transacted at the same value is split into a capital transaction and a deemed third-party transaction. Proceeds from the deemed third-party transaction measured at fair value is recognised in the profit or loss, with the remaining proceeds being recognised directly in equity as a contribution from shareholders in the contributed surplus.

5. Significant accounting judgments, estimates and assumptions

The preparation of financial statements requires management to make judgments, estimates and assumptions based on currently available information that affect the reported amounts of assets, liabilities and contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Estimates and judgments are continuously evaluated and are based on management's experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. However, actual results could differ from those estimated. By their very nature, these estimates are subject to measurement uncertainty and the effect of any changes in estimates on the financial statements of future periods could be material.

5. Significant accounting judgments, estimates and assumptions (continued)

In the process of applying the Company's accounting policies, management has made the following judgments, estimates, and assumptions which have the most significant effect on the amounts recognized in the financial statements.

(a) Going concern

Information about critical judgements in applying accounting policies that have the most significant effect on the amounts recognised in the financial statements relates to the assessment of the Company's ability to continue as a going concern [note 1 (b)].

(b) Assumption and estimates

Information about assumptions and estimation uncertainty with a significant risk of resulting in material adjustments to the carrying amounts of assets and liabilities within the next financial year relate to the following:

(c) Assessment of impairment of property and equipment

At each reporting date, the Company reviews the carrying amounts of its property and equipment to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or cash generating units ("CGUs"). The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. An impairment loss is recognised if the carrying amount of an asset or CGU exceeds its recoverable amount. Impairment losses are recognised in profit or loss.

An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(d) Revenue recognition

Revenue recognition for long-term contracts completion requires the use of estimates to determine the recorded amount of revenues, costs in excess of billings and billings in excess of costs and profits on uncompleted contracts.

The determination of anticipated costs for completing a contract is based on estimates that can be affected by a variety of factors, including the cost of materials, labour and sub-contractors, as well as potential claims from customers and subcontractors.

As risks and uncertainties are different for each project, the sources of variations between anticipated costs and actual costs incurred will also vary by project. The determination of estimates is based on the Company's business practices as well as its historical experience. Estimates are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised.

5. Significant accounting judgments, estimates and assumptions (continued)

Given this estimation process, it is possible that changes in future conditions could cause a material change in the recognized amount of revenues and costs and profits in excess of billings on uncompleted contracts and accrued expenses.

Agreements that contain multiple deliverables require the use of judgment to determine whether they contain separately identifiable performance obligations and to allocate the consideration received to each performance obligation.

(e) Stock-based payments

The Company uses the fair value method of valuing compensation expense associated with the Company's stock option plan. Estimating fair value requires determining the most appropriate valuation model for a grant of equity instruments, which is dependent on the terms and conditions of the grant. This also requires determining the most appropriate inputs to the valuation model including the expected life of the option, volatility, expected forfeitures and distribution yield. The assumptions and models are discussed in note 16.

(f) Useful lives of property and equipment

The Company estimates the useful lives of property and equipment based on the period over which the assets are expected to be available for use. The estimated useful lives of property and equipment are reviewed periodically and are updated if expectations differ from previous estimates due to physical wear and tear and legal or other limits on the use of the relevant assets. In addition, the estimation of the useful lives of property and equipment are based on management's experience with similar assets. It is possible, however, that future results of operations could be materially affected by changes in the estimates brought about by changes in factors mentioned above. The amounts and timing of recorded expenses for any period would be affected by changes in these factors and circumstances. Useful lives, depreciation rates and residual values are reviewed at least annually.

(g) Assessment of investment tax credits

The investment tax credits are estimated by management based on quantitative and qualitative analysis and interpretation of various government programmes, related restrictions, limitations, definitions, and eligibility conditions. Uncertainty over the eligibility and final assessment by taxation authorities of investment tax credits is considered a significant accounting judgment. Management involves its technical staff and external specialists in determining if the expenditures meet the requirements of the different tax credit claims. Management believes that its accruals for investment tax credit receivables are adequate for all claims based on its assessment of requirements of the tax credit claims.

(h) Intangible assets

The recognition of development costs as intangible assets requires management's judgments to determine whether the required criteria for recognition are met including management estimates of future economic benefits.

5. Significant accounting judgments, estimates and assumptions (continued)

(i) Fair value of investments

Where the fair value of investments recorded in the statement of financial position cannot be derived from active markets, they are determined using valuation techniques including the Black-Scholes models. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing the fair values. The judgments include considerations of inputs such as the expected volatility and the expected life. Should any of the inputs to these models or changes in assumptions about these factors occur, this could affect the reported fair value of the investments.

6. Future accounting changes

Certain new accounting standards and interpretations have been published that are not mandatory at December 31, 2018 and have not been early adopted. The Company's assessment of the impact of these new standards and interpretations is summarized as follows:

IFRS 16 – *Leases*

In January 2016, the IASB published a new Standard, IFRS 16, *Leases*, which provides a comprehensive model for the identification of lease arrangements and their treatment in the financial statements of both lessees and lessors. It supersedes IAS 17, *Leases* and its associated interpretative guidance.

The new standard brings most leases on-balance sheet for lessees under a single model (subject to limited exceptions for short-term leases and leases of low value assets), eliminating the distinction between operating and finance leases and further distinguishes between leases and service contracts on the basis of whether there is an identified asset controlled by the customer. Lessor accounting however remains largely unchanged and the distinction between operating and finance leases is retained.

The Company intends to adopt IFRS 16 in its financial statements for the annual period beginning on January 1, 2019. The Company is evaluating the impact of this new standard on its financial statements.

Annual Improvements to IFRS (2015-2017) Cycle

In December 2017, the IASB issued *Annual Improvements to IFRS Standards 2015–2017 Cycle*. The pronouncement contains amendments to four International Financial Reporting Standards (IFRS) as result of the IASB's annual improvements project. The amendments to IFRS 3 – *Business combinations* clarify that when an entity obtains control of a business that is a joint operation, it remeasures previously held interests in that business. The amendments to IFRS 11 – *Joint arrangements* clarify that when an entity obtains joint control of a business that is a joint operation, the entity does not remeasure previously held interests in that business.

The amendments to IAS 12 – *Income taxes* clarify that all income tax consequences of dividends should be recognized in profit or loss, regardless of how the tax arises. The amendments to IAS 23 – *Borrowing costs* clarify that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalisation rate on general borrowings. These amendments are effective for annual periods beginning on or after January 1, 2019. The Company is evaluating the impact of these amendments on its financial statements however it is not expected to have a significant impact for the Company.

There are no other standards that are not yet effective and that would be expected to have a material impact on the Company in the current or future reporting periods and on foreseeable future transactions.

7. Revenues

The Company's revenues from long-term contracts and sales of goods are generated primarily from PUREVAP™ related sales of $1,781,009 (2017 - $2,330,691), DROSRITE™ related sales of $1,237,740 (2017 - $98,391), the development and support related to systems supplied to the U.S. Military $1,451,998 (2017 - $4,337,681), and other sales and services $559,369 (2017 - $426,098).

Refer to note 28 for sales by geographic area and by product line.

Transaction price allocated to remaining performance obligations

As at December 31, 2018, revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially satisfied) at the reporting date is $7,697,748. Revenue will be recognized as the Company satisfies its performance obligations under long-term contracts, which is expected to occur over the next 3 years.

8. Accounts receivable

Details of accounts receivable were as follows:

	December 31, 2018	December 31, 2017
	$	$
1 – 30 days	**281,984**	263,005
31 – 60 days	**178,667**	127,086
61 – 90 days	**86,567**	-
Greater than 90 days	**16,613**	4,101
Total trade accounts receivable	**563,831**	394,192
Other receivables	**67,321**	43,677
	631,152	437,869

There is no allowance for expected credit losses recorded as at December 31, 2018 and December 31, 2017.

9. Costs and profits in excess of billings on uncompleted contracts

As at December 31, 2018, the Company had five uncompleted contracts with total billings of $1,087,339 which were less than total costs incurred and had recognized cumulative revenue of $1,395,171 since those projects began. This compares with three contracts with total billings of $106,097 which were less than total costs incurred and had recognized cumulative revenue of $221,323 as at December 31, 2017.

Changes in costs and profits in excess of billings on uncompleted contracts during the year are explained by $115,226 recognised at the beginning of the year being transferred to accounts receivable, and $307,832 resulting from changes in the measure of progress.

10. Inventories

	December 31, 2018	December 31, 2017
	$	$
Powders	**211,466**	52,986
Raw Materials	**168,904**	70,749
Spare Parts	**2,462**	-
	382,832	123,735

11. Deposits and investments

	December 31, 2018	December 31, 2017
	$	$
Deposits	**51,491**	57,530
Investments:		
Beauce Gold Fields (“BGF”) shares – level 3	**102,579**	-
HPQ Silicon Resources Inc. (“HPQ”) shares - level 1	**1,281,000**	561,000
HPQ warrants – level 3	**310,537**	-
	1,745,607	618,530

Investments in HPQ (TSXV: HPQ) comprise 21,350,000 common shares (5,100,000 - 2017) and 18,750,000 warrants (1,500,000 - 2017). 1,000,000 warrants have an exercise price of $0.25 with an expiry date of February 24, 2019, 1,500,000 warrants have an exercise price of $0.25 with an expiry date of November 21, 2020 and the remaining 16,250,000 warrants have an exercise price of $0.17 with an expiry date of August 21, 2021.

Investment in BGF (TSXV: BGF) consists of 1,025,794 of common shares. The 1,025,794 common shares of BGF were received in December 2018 as dividend in kind from a spinoff of HPQ.

16,250,000 common shares of HPQ and 16,250,000 warrants of HPQ were purchased in cash ($1,950,000) in 2018. 2,500,000 common shares and 2,500,000 warrants were received in 2017 in lieu of payment of services rendered by the Company to HPQ. At the transaction dates, these non-monetary transactions were measured based on the fair value of the common shares and warrants received for a total amount of $320,000. A gain from initial recognition of the warrants of $24,017 ($62,214 – 2017) has been deferred off balance sheet until realised.

11. Deposits and investments (*continued*)

	("BGF") shares – level 3		HPQ warrants – level 3		("HPQ") shares - level 1	
	Quantity	$	Quantity	$	Quantity	$
Balance, December 31, 2016	-	-	800,000	-	2,600,000	379,200
Additions	-	-	2,500,000	-	2,500,000	320,000
Change in the fair value	-	-	-	-	-	(138,200)
Balance, December 31, 2017	-	-	3,300,000	-	5,100,000	561,000
Additions	1,025,794	102,579	16,250,000	650,000	16,250,000	1,300,000
Expired warrants			(800,000)	-		
Change in the fair value	-	-	-	(339,463)	-	(580,000)
Balance, December 31, 2018	1,025,794	102,579	18,750,000	310,537	21,350,000	1,281,000

12. Property and equipment

	Computer hardware[1]	Computer software	Machinery and equipment	Automobile	Leasehold improvements	Plasma Atomization System	Total
	$	$	$	$	$	$	$
Cost							
Balance at December 31, 2016	204,187	247,125	1,569,578	21,912	83,215	456,104	2,582,121
Additions	**25,521**	**15,000**	**52,321**	**-**	**-**	**1,423,351**	**1,516,193**
Balance at December 31, 2017	229,708	262,125	1,621,899	21,912	83,215	1,879,455	4,098,314
Additions	**58,031**	**-**	**-**	**-**	**821,297**	**288,681**	**1,168,009**
Balance at December 31, 2018	**287,739**	**262,125**	**1,621,899**	**21,912**	**904,512**	**2,168,136**	**5,266,323**
Accumulated depreciation							
Balance at December 31, 2016	190,113	235,307	1,238,131	12,785	62,547	-	1,738,883
Depreciation	**12,075**	**9,660**	**70,821**	**2,738**	**16,643**	**-**	**111,937**
Balance at December 31, 2017	202,188	244,967	1,308,952	15,523	79,190	-	1,850,820
Depreciation	**24,069**	**8,578**	**62,590**	**1,917**	**10,046**	**105,421**	**212,621**
Balance at December 31, 2018	**226,257**	**253,545**	**1,371,542**	**17,440**	**89,236**	**105,421**	**2,063,441**
Carrying amounts							
Balance at December 31, 2017	27,520	17,158	312,947	6,389	4,025	1,879,455	2,247,494
Balance at December 31, 2018	**61,482**	**8,580**	**250,357**	**4,472**	**815,276**	**2,062,715**	**3,202,882**

[1] Includes computer equipment under finance lease of $70,516.

During the year ended December 31, 2017, $189,000 in borrowing costs were capitalized in the Plasma Atomization System.

For the year ended December 31, 2018, investment tax credits of $43,292 (2017 - $154,706) were recorded in reduction of the Plasma Atomization System.

13. Intangible assets

	Licenses	Patents	Development costs	Total
	$	**$**	**$**	**$**
Cost				
Balance at December 31, 2016	8,409,051	-	-	8,409,051
Additions	**-**	**160,719**	**243,294**	**404,013**
Balance at December 31, 2017	**8,409,051**	**160,719**	**243,294**	**8,813,064**
Additions		**214,610**	**1,577**	**216,187**
Balance at December 31, 2018	**8,409,051**	**375,329**	**244,871**	**9,029,251**
Accumulated amortization				
Balance at December 31, 2016 and 2017	8,409,051	-	-	8,409,051
Amortization	-	43,818	16,508	60,326
Balance at December 31, 2018	**8,409,051**	**43,818**	**16,508**	**8,469,377**
Carrying amounts				
Balance at December 31, 2017	-	160,719	243,294	404,013
Balance at December 31, 2018	**-**	**331,511**	**228,363**	**559,874**

14. Accounts payable and accrued liabilities

	December 31, 2018	December 31, 2017
	$	$
Accounts payable	**1,072,257**	747,325
Accrued liabilities	**1,080,128**	1,295,628
Settlement agreement payable to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO	**-**	3,215,643
Accounts payable to the controlling shareholder	**205,222**	205,641
Accounts payable to a trust beneficially owned by the controlling shareholder	**-**	17,008
	2,357,607	5,481,245

In 2018, the Company and a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO, entered into a settlement agreement to resolve a claim in the amount of $5,531,928 filed on or about April, 5, 2018, made by the company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, in connection with the share for debt conversion transaction between the parties that took place in 2014. Under the share for debt conversion, the Company issued 7,500,000 common shares in 2014 to settle $6,000,000 of the carrying value of the Balance of sale payable. The current claim was settled for an amount of $3,700,000. The settlement agreement also constitutes the final payment of the Balance of sale, and provides for the issuance of units by the Company having a fair value of $3,327,571 to the company owned by Mr. Peter Photis Pascali, the

14. Accounts payable and accrued liabilities (*continued*)

father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO as follows: (i) on February 9 and March 7, 2018, issuance of 1,899,999 units at a value of $0.70 per unit with each unit consisting of 1 common share of the Company and 1 common share purchase warrant which entitles the holder to purchase 1 common share at a price of $1.25 until August 9, 2019, and (ii) on April 30, 2018, 3,385,715 units at a value of $0.59 per unit with each unit consisting of 1 common share of the Company and 1 common share purchase warrant which entitles the holder to purchase 1 common share at a price of $0.85 until April 19, 2020. Units agreed on April 30, 2018 have been issued on October 25, 2018. As the claim related to a dispute that existed at year-end, a liability and related expense of $3,215,643 was recorded as at December 31, 2017. The liability was initially measured based on the fair value of the units as at their expected issuance date, which is $0.70 on February 9 and March 7, 2018 and $0.59 on April 30, 2018. The difference between the fair value of the units as at April 30, 2018 and October 25, 2018 has been considered a transaction with shareholders and recorded in the shareholders' (Deficiency) Equity.

15. Billings in excess of costs and profits on uncompleted contracts

The amount to date of costs incurred and recognized profits less recognized losses for construction projects in progress amounted to $3,517,534 (2017 - $3,657,621).

Payments to date received were $5,919,944 and $1,950,000 of deposits on contracts in progress (2017 - $5,184,336 in cash and $320,000 of other assets).

Changes in billings in excess of costs and profits on uncompleted contracts during the year are explained by $1,846,715 recognised at the beginning of the year being recognised as revenue, an increase of $344,474 resulting from contract modifications, and an increase of $4,007,936 resulting from cash received excluding amounts recognised as revenue.

16. Term loans

	2017 SR&ED Tax Credits loan[1]	2016 SR&ED Tax Credits loan[2]	**Total**
	$	**$**	**$**
Balance, December 31, 2016	-	188,600	188,600
Addition	175,462	101,600	277,062
Lender fees and interest paid in advance	71,738	-	71,738
Balance, December 31, 2017	247,200	290,200	537,400
Repayment	-	(290,200)	(290,200)
Balance, December 31, 2018	247,200	-	247,200

[1] maturing December 7, 2018 with an option to renew automatically, bearing interest rate of 16.8% (effective interest rate 21%), repaid February 2018

[2] maturing September 30, 2018 bearing interest rate of 18% (effective interest rate 23%), repaid February 2018

16. Term loans (continued)

Term loans are financing, in the form of loans, with respect to the Company's scientific research and experimental development tax credits ("SR&ED Tax Credits"). The principal of the loans is subject to holdback to be disbursed upon reception of notice of assessment. The principal of the loans is subject to repayment at the earlier of (a) receipt of the SR&ED Tax Credits refund or (b) the maturity date. The SR&ED Tax Credits loans agreement provides for automatic renewal of twelve months if loan is not paid at maturity. As at December 31, 2018, the amount available under the term loan financing agreement totals $247,200 (2017 – $598,000).

Pursuant to the financing, the Company granted the lender a security interest and movable hypothec on all of its assets (inclusive of financial assets of $2,608,624 and inventory of $523,600 not including intellectual property), with a first rank claim on the refundable portion of its SR&ED Tax Credits for each of the fiscal years ended December 31, 2016, of $433,482 and 2017 of $363,990.

In 2018, the Company recorded investment tax credits receivables of $274,921 ($358,427 – 2017), of which an amount of $43,292 was recorded against property and equipment, $115,273 against cost of sales and services ($358,427 – 2017), $79,529 against research and development expenses and $36,444 against selling general and administrative expenses.

Other term loans

	Other term loans	Loan from a trust whose beneficiary is the controlling shareholder and CEO of the Company	Total
	$	$	$
Balance, December 31, 2016 and 2017	-	-	-
Addition	550,000	2,300,000	2,850,000
Repayment	(150,000)	(2,300,000)	(450,000)
Issuance of shares in settlement of loans	(400,000)	-	(2,400,000)
Balance, December 31, 2018	-	-	-

17. Long-term debt

	December 31, 2018	December 31, 2017
	$	$
Balance of sale – payable to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO (i)	**-**	111,928
Promissory notes payable to the controlling shareholder and CEO (ii)	**249,339**	-
Obligations under finance lease (iii)	**31,728**	18,736
	281,067	130,664
Current portion of the long-term debt	**12,491**	120,374
Long-term debt	**268,576**	10,290

17. Long-term debt (continued)

	Obligations under finance lease (iii)	Promissory notes payable to the controlling shareholder and CEO (ii)	Balance of sale – payable to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO (i)	Total
	$	$	$	$
Balance, December 31, 2016	-	-	432,166	432,166
Addition	25,521	-	-	25,521
Issuance of shares in settlement of debt	-	-	(320,238)	(320,238)
Repayment	(6,785)	-	-	(6,785)
Balance, December 31, 2017	18,736	-	111,928	130,664
Additions	24,008	295,000	-	319,000
Fair value adjustment		(58,607)		(58,607)
Accretion	-	12,946	-	12,946
Issuance of shares in settlement debt	-	-	(111,928)	(111,928)
Repayment	(11,016)	-	-	(11,016)
Balance, December 31, 2018	31,728	249,339	-	281,067
Instalments due within one year	12,491	-	-	12,491
Long-term debt	19,237	249,339	-	268,576

(i) The Balance of sale payable to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO of the Company was reimbursed by the issuance of units on April 30, 2018 (note 14).

(ii) The promissory notes payable to the controlling shareholder and CEO of the Company total $295,000, are unsecured and bear interest at 6% per annum payable on March 31, 2020, the maturity date. The fair value of the promissory note liability component at inception was determined using estimated future cash flows discounted using a market interest rate of 20%. The residual amount of $58,607 representing the below market element was recorded in the shareholders' (Deficiency) Equity in contributed surplus.

(iii) The obligations under finance lease bear interest at 4% and 8.3% and are repayable as follows:

	2019	2020	2021 and thereafter	Total
	$	$	$	$
Repayments	14,418	6,883	15,363	36,664
Interest included in payments	(1,927)	(1,314)	(1,695)	(4,936)
	12,491	5,569	13,668	31,728

18. Convertible debentures

2015 Convertible Debenture

On April 2, 2018, the Company redeemed $3,245,000 of the $4,000,000 unsecured convertible debenture issued on March 30, 2015 maturing on March 30, 2018 (the “2015 Convertible Debenture”). The remaining balance of $755,000 was redeemed on April 19, 2018, by the issuance of 1,258,333 units to Peter Photis Pascali the father of the controlling shareholder and CEO (note 19). The amount of $572,582 related to the equity component of the 2015 Convertible Debenture has been reclassified from Equity portion of convertible debentures to the contributed surplus at the extinguishment date.

2018 Convertible Debenture

On April 2, 2018, the Company completed a $3,000,000 non-brokered private placement of 9.5% secured convertible debentures (the “2018 Convertible Debenture”). The 2018 convertible debentures bear interest at the rate of 9.5% per annum, with interest payable in cash on a quarterly basis, and mature on March 29, 2020. Each Debenture is convertible into common shares of the Company at a conversion price of $0.80 per common share. The 2018 convertible debentures may be redeemed before maturity, in whole at anytime or in part from time to time at the option of the Company. In the event the Company elects to redeem the debentures before the maturity date, the Company shall be required to pay all interest that otherwise would have accrued on the debentures up to the maturity date. The 2018 convertible debentures are secured by an hypothec on the universality of all of the property, rights and assets of the Company, present and future, movable and immovable, corporeal and incorporeal.

The 2018 Convertible Debenture is a compound financial instrument and the total proceeds of the issuance was allocated between a liability for the debenture and an equity component for the conversion feature. The fair value of the debt liability component at inception was determined using estimated future cash flows discounted using a market interest rate of 20%. The residual amount representing the value of the conversion option equity component was classified in the shareholders’ (Deficiency) Equity.

In connection with the convertible debenture, the Company paid finder fees in the amount of $180,000 to the agent. Total transaction costs amount to $315,702 and have been allocated between the liability and equity components. The effective interest rate of the liability component is 20.23%.

At the issuance date, the 2018 Convertible Debenture was recorded as follows:

	$
Debt component, net of transactions cost of $268,364	2,282,538
Conversion option recognized in equity, net of transaction cost of $47,338	401,760
Net proceeds	**2,684,298**

18. Convertible debentures (*continued)*

	December 31, 2018	December 31, 2017
	$	$
Balance, beginning of year	**3,916,549**	3,605,897
Effective interest accretion	**83,451**	-
	4,000,000	-
Repayment of 2015 Convertible Debenture in cash	**(3,245,000)**	-
Repayment of 2015 Convertible Debenture in shares	**(755,000)**	-
	-	3,605,897
Issuance of 2018 Convertible Debenture	**2,282,538**	-
Effective interest accretion	**244,703**	310,652
Balance, end of year	**2,527,241**	3,916,549

19. Shareholders' deficiency

Common shares and warrants

Authorized:

The Company is authorized to issue an unlimited number of Class A common shares without par value.

Issuance of shares

On December 17, 2018, the Company issued an amount of 2,146,967 units at a price of $0.58 per unit, for gross proceeds of $1,245,241. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.85 until December 18, 2020.

On October 25, 2018, the Company issued 3,385,718 units to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO under a settlement agreement.

On October 19, 2018, the Company issued an amount of 1,112,000 units as repayment of term loans and accounts payable to three creditors, which were measured at an amount of $644,960, to reflect the fair value of the financial liabilities extinguished at that time. Each unit also consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.58 until February 13, 2021.

On October 19, 2018, the Company issued an amount of 388,750 units at a price of $0.58 per unit, for gross proceeds of $225,475. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.58 until February 13, 2021.

On September 28, 2018, the Company issued an amount of 3,448,276 units to a trust whose beneficiary is the controlling shareholder and CEO at a price of $0.58 per unit, for gross proceeds of $2,000,000. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.58 until January 28, 2021.

19. Shareholders' deficiency (continued)

The Company also issued 1,850,000 units to an unrelated party for an aggregate amount of 3,108,333 at a price of $0.60 per unit, for gross proceeds of $1,110,000. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.85 until April 19, 2020. In connection with the private placement, the Company paid finder fees in the amount of $89,478 and issued 74,000 finder's compensation warrants to the agents.

On February 9, 2018 and March 7, 2018, the Company issued 1,899,999 units to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO under a settlement agreement (see notes 14 and 17) and 2,971,430 units to unrelated parties at a price of $0.70 per unit, for gross proceeds of $2,080,001. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $1.25 until August 9, 2019. In connection with the private placement, the Company paid finder fees in the amount of $127,750 and issued 88,000 finder's compensation warrants to the agents.

The fair value of the finder's compensation warrants issued was measured as follows based on the Black-Scholes option pricing model:

Date of issuance	**April 19, 2018**	**Feb 9, 2018**
Exercise price ($)	0.85	1.25
Weighted-average issuance date market price ($)	0.62	0.70
Expected life (months)	24	18
Expected volatility (%)	71.9	71.9
Semi-annual weighted-average risk-free interest rate (%)	1.74	1.74
Dividend yield (%)	0	0

During the year ended December 31, 2018, the Company issued 1,797,500 common shares upon the exercise of warrants for net proceeds of $629,125.

During the year ended December 31, 2018, 544,000 stock options were exercised for net proceeds of $139,320. The amounts credited to share capital from the exercise of stock options include an ascribed value from contributed surplus of $93,920.

Stock option plan

The Company has a stock option plan authorizing the Board of Directors to grant options to directors, officers, employees and consultants to acquire common shares of the Company at a price computed by reference to the closing market price of the shares of the Company on the business day before the Company notifies the stock exchanges of the grant of the option. The number of shares which may be granted to any one person shall not exceed 5% (2% for consultants) of total share capital over a twelve-month period.

As at December 31, 2018, an amount of $127,195 remains to be amortized in future periods (until January 2021) related to the grant of stock options.

19. Shareholders' deficiency (continued)

Stock option plan (continued)

The following table sets out the activity in stock options:

	Number of options	Weighted average exercise price
		$
Options, December 31, 2016	9,751,000	0.22
Granted	2,600,000	0.58
Expired	(2,885,000)	(0.20)
Forfeited	(90,000)	(0.30)
Balance – December 31, 2017	**9,376,000**	**0.32**
Granted	**1,350,000**	**0.60**
Exercised	**(544,000)**	**(0.26)**
Forfeited	**(260,000)**	**(0.25)**
Balance, December 31, 2018	**9,922,000**	**0.37**

On October 29, 2018, the Company granted 100,000 stock options to an Officer of the Company. The stock options have an exercise price of $0.52 per Common Share and are exercisable over a period of 5 years. The fair value of the stock options was estimated at $0.30 per option by applying the Black-Sholes option pricing model.

On July 3, 2018, the Company granted 300,000 stock options to a member of the Board of Directors of the Company. The stock options have an exercise price of $0.51 per Common Share and are exercisable over a period of 60 months. The fair value of the stock options was estimated at $0.24 per option by applying the Black-Sholes option pricing model.

On May 10, 2018, the Company granted 250,000 stock options to a member of the Board of Directors of the Company. The stock options have an exercise price of $0.52 per Common Share and are exercisable over a period of 60 months. The fair value of the stock options was estimated at $0.29 per option by applying the Black-Sholes option pricing model.

On April 3, 2018, the Company granted 500,000 stock options to a consultant, to promote the business interests of the Company worldwide. The stock options have an exercise price of $0.70 per Common Share and are exercisable over a period of 18 months. The fair value of the stock options was estimated at $0.22 per option by applying the Black-Sholes option pricing model.

On February 23, 2018, the Company issued 200,000 stock options to an Officer of the Company with an exercise price of $0.60 and are exercisable over a period of 60 months. The fair value of the stock options was estimated at $0.37 per option by applying the Black-Sholes option pricing model.

19. Shareholders' deficiency (continued)

Stock option plan (continued)

The fair value of the stock options granted in the year ended December 31, 2018 was measured based on the Black-Scholes option pricing model using the following assumptions:

Date of grant	February 23, 2018 (1)	April 3, 2018 (2)	May 10, 2018 (3)	July 3, 2018 (4)	October 29, 2018 (5)
Number of options granted	200,000	500,000	250,000	300,000	100,000
Exercise price ($)	0.60	0.70	0.52	0.51	0.52
Fair value of each option under the Black Scholes pricing model ($)	0.365	0.220	0.289	0.244	0.300
Assumptions under the Black Scholes model:					
Fair value of the market share ($)	0.60	0.66	0.55	0.49	0.52
Risk free interest rate (%)	2.04	1.79	2.00	2.19	2.42
Expected volatility (%)	73	73	58	58	68
Expected dividend yield	-	-	-	-	-
Expected life (number of months)	60	18	60	60	60
Forfeiture rate (%)	-	-	-	-	-

(1) A total of 20,000 of the stock options granted vested on the day of the grant, 40,000 will vest on February 23, 2019, 60,000 will vest on February 23, 2020 and 80,000 will vest on February 23, 2021.

(2) A total of 500,000 of the stock options granted vested on the day of the grant.

(3) A total of 125,000 of the stock options granted vested on the day of the grant, and 125,000 will vest on May 10, 2019.

(4) A total of 150,000 of the stock options granted vested on the day of the grant, and 150,000 will vest on July 3, 2019.

(5) A total of 10,000 of the stock options granted vested on the day of the grant, 20,000 will vest on October 29, 2019, 30,000 will vest on October 29, 2020 and 40,000 will vest on October 29, 2021.

19. Shareholders’ deficiency (continued)

Stock option plan (continued)

The underlying expected volatility was determined by reference to historical data of the Company’s share price. No special features inherent to the stock options granted were incorporated into the measurement of fair value.

As at December 31, 2018, the outstanding options, as issued under the stock option plan to directors, officers, employees and consultants for the purchases of one common share per option, are as follows:

	Number of stock options Dec 31, 2017	Granted	Exercised	Forfeitures	Number of stock options Dec 31, 2018	Exercise price per option	Expiry date
						$	
February 12, 2015	2,470,000	-	(345,000)	(160,000)	1,965,000	0.30	Feb 12, 2020
September 25, 2016	4,150,000	-	(175,000)	(100,000)	3,875,000	0.18	Sep 25, 2021
October 20, 2016	56,000	-	(24,000)	-	32,000	0.18	Oct 20, 2021
October 25, 2016	100,000	-	-	-	100,000	0.19	Oct 25, 2021
November 3, 2017	2,600,000	-	-	-	2,600,000	0.58	Nov 3, 2022
February 9, 2018	-	200,000	-	-	200,000	0.60	Feb 9, 2023
April 3, 2018	-	500,000	-	-	500,000	0.70	Oct 3, 2019
May 10, 2018	-	250,000	-	-	250,000	0.52	May 10, 2023
July 3, 2018	-	300,000	-	-	300,000	0.51	July 3, 2019
October 29, 2018	-	100,000	-	-	100,000	0.52	Oct 29, 2023
	9,376,000	1,350,000	(544,000)	(260,000)	9,922,000	0.37	

19. Shareholders' deficiency (continued)

Share purchase warrants

The following table reflects the activity in warrants during the year ended December 31, 2018 and the number of issued and outstanding share purchase warrants at December 31, 2018:

	Number of warrants December 31, 2017	Issued	Exercised	Number of warrants December 31, 2018	Price per warrant	Expiry date
					$	
Private placement – July 26, 2016[1]	1,797,500	-	(1,797,500)	-	-	-
Issuance of units – February 9, 2018	-	4,871,429	-	4,871,429	1.25	Aug 9, 2019
Broker warrants – February 9, 2018	-	88,000	-	88,000	1.25	Aug 9, 2019
Issuance of units – April 19, 2018	-	3,108,333	-	3,108,333	0.85	Apr 19, 2020
Issuance of broker warrants – April 19, 2018	-	74,000	-	74,000	0.85	Apr 19, 2020
Issuance of units – April 20, 2018	-	3,385,715	-	3,385,715	0.85	Apr 20, 2020
Issuance of units – September 28, 2018	-	3,448,276	-	3,448,276	0.58	Jan 28, 2021
Issuance of units – October 19, 2018	-	1,500,750	-	1,500,750	0.58	Feb 13, 2021
Issuance of units – December 17, 2018	-	2,146,967	-	2,146,967	0.85	Dec 18, 2020
	1,797,500	18,623,470	(1,797,500)	18,623,470	0.88	

[1] The weighted average share price at the date of exercise of share purchase warrants exercised in 2018 was $0.26.

20. Supplemental disclosure of cash flow information

Net changes in non-cash components of operating working capital

	2018	2017
	$	$
Decrease (increase) in:		
Accounts receivable	**(193,283)**	(140,391)
Costs and profits in excess of billings on uncompleted contracts	**(192,606)**	40,768
Investment tax credits receivable	**164,484**	(212,635)
Deposits	**(300,816)**	(283,830)
Prepaid expenses	**51,254**	154,608
Increase (decrease) in:		
Accounts payable and accrued liabilities	**405,003**	718,716
Billings in excess of costs and profits on uncompleted contracts	**2,505,695**	(134,107)
	2,439,731	143,129

21. Other information

The aggregate amortization of intangible assets expense for the year ended December 31, 2018 was $60,326 (2017 - $Nil) and was recorded in cost of sales and services.

Depreciation on property and equipment amounted to $212,622 for the year ended December 31, 2018 (2017 - $111,937) and is recorded in selling, general and administrative. Employee benefits totaled $6,504,081 in the year ended December 31, 2018 (2017 - $5,347,697) and included share-based compensation of $673,249 (2017 - $759,013).

The Company has been awarded various grants during the year, which were recognized when they became receivable. The grants, received in 2018, are unconditional and amounted to $191,380 (2017 - $28,333). An amount of $145,470 (2017 - $Nil) was recorded as a reduction to the related expenses in research and development and an amount of $45,910 (2017 - $28,333) was recorded as a reduction to the related expenses in selling, general and administrative.

22. Net finance costs:

	2018	2017
	$	$
Finance costs		
Interest and fees on convertible debentures	**291,140**	300,060
Interest accretion of convertible debentures	**328,153**	310,652
Interest on term loans	**54,063**	38,992
Interest on promissory notes	**7,427**	-
Interest on obligations under capital leases	**1,534**	-
Interest accretion on related party debts	**22,646**	41,250
Change in the fair value of investments	**919,463**	138,200
Other interest expenses	**3,428**	1,772
	1,627,854	830,926
Dividend in kind	**(102,579)**	-
Capitalized borrowing costs	**-**	(189,000)
Net finance costs	**1,525,275**	641,926

23. Related party transactions

During the year ended December 31, 2018, the Company concluded the following transactions with related parties:

Rent and property taxes were charged by a trust whose beneficiary is the controlling shareholder and CEO of the Company in the amount of $260,803 (2017 - $226,120). A balance due of $Nil (2017 - $17,008) is included in accounts payable and accrued liabilities.

An amount of $240,159 was paid as a deposit for rent to a trust whose beneficiary is the controlling shareholder and CEO of the Company (December 31, 2017 – $Nil), of this amount $172,941 is included in prepaids.

An amount of $9,700 was accreted on a loan from a trust whose beneficiary is the controlling shareholder and CEO of the Company (December 31, 2017 – $Nil), of this amount $9,700 was expensed.

An amount of $10,213 was owed by a trust whose beneficiary is the controlling shareholder and CEO of the Company (December 31, 2017 – $Nil) of this amount $10,213 is included in accounts receivable.

Interest of $14,171 (2017 - $56,685) was paid on the $755,000 convertible debentures held by Mr. Peter Photis Pascali the father of the controlling shareholder and CEO. Accreted interest related to the 2015 Convertible Debenture held by Peter Photis Pascali amounted to $11,623 (2017 - $58,630).

A balance due to the controlling shareholder and CEO of the Company amounted to $205,222 (December 31, 2017 - $205,641) for expense report, salary and vacation payables and is included in accounts payable and accrued liabilities as at December 31, 2018.

The Balance of sale (note 17) due to a company owned by Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO, and under common control of the controlling shareholder and CEO, was $Nil (December 31, 2017 - $111,928), and was included in long-term debt. Accreted interest related to the balance of sale amounted to $Nil (2017 - $41,250).

An amount of $7,427 (December 31, 2017 - $Nil), of interest payable and an accretion amount of $12,946 (December 31, 2017 - $Nil), were accrued on the loan of $295,000 from the controlling shareholder and CEO of the Company and are included in accounts payable and accrued liabilities.

As discussed in notes 14 and 17, the Company and a company under the control of Mr. Peter Photis Pascali, the father of the controlling shareholder and CEO and under common control of the controlling shareholder and CEO, entered into a settlement agreement with respect to the balance of sale payable (Notes 14 and 17).

23. Related party transactions (*continued*)

The key management personnel of the Company are the members of the Board of Directors and certain officers. Total compensation to key management consisted of the following:

	2018	2017
	$	$
Salaries –officers	**408,000**	406,038
Pension contributions	**8,160**	8,121
Fees – Board of Directors	**118,000**	130,000
Share-based compensation – officers	**365,379**	632,798
Share-based compensation – Board of Directors	**114,070**	55,895
Other benefits – officers	**13,066**	34,082
Total compensation	**1,026,675**	1,266,934

A balance of $127,748 of key management compensation, of the amounts noted above, is included in accounts payable and accrued liabilities as at December 31, 2018 (December 31, 2017 - $72,617).

24. Financial instruments

As part of its operations, the Company carries a number of financial instruments. It is management's opinion that the Company is not exposed to significant interest, currency or credit risks arising from these financial instruments except as otherwise disclosed. The Company's overall risk management program focuses on the unpredictability of the financial market and seeks to minimize potential adverse effects on the Company's financial performance. The Company does not use derivative financial instruments to hedge these risks.

Foreign currency risk

The Company enters into transactions denominated in US dollars for which the related revenues, expenses, accounts receivable and accounts payable and accrued liabilities balances are subject to exchange rate fluctuations.

As at December 31, the following items are denominated in US dollars:

	2018 CDN	**2017 CDN**
	$	**$**
Cash	4,472	360,379
Accounts receivable	527,761	369,258
Accounts payable and accrued liabilities	(240,866)	(263,733)
Total	291,367	465,904

24. Financial instruments (continued)

Foreign currency risk (continued)

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Sensitivity analysis

At December 31, 2018, if the US Dollar changes by 10% against the Canadian dollar with all other variables held constant, the impact on pre-tax gain or loss for the year ended December 31, 2018 would have been $29,000 (December 31, 2017 – $46,000).

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The maximum credit risk to which the Company is exposed as at December 31, 2018 represents the carrying amount of cash, accounts receivable and deposits.

Credit concentration

During the year ended December 31, 2018, three customers accounted for 85% (December 31, 2017 – four customers for 85%) of revenues from operations.

		2018		**2017**
	Revenues	**% of total revenues**	**Revenues**	**% of total revenues**
	$	**%**	**$**	**%**
Customer 1	**1,718,904**	**34**	2,279,397	32
Customer 2	**1,221,811**	**24**	2,231,504	31
Customer 3	**1,214,403**	**24**	-	-
Customer 4	**-**	**-**	777,858	11
Customer 5	**-**	**-**	821,697	11
Total	**4,155,118**	**82**	6,110,456	85

One customer accounted for 85% (December 31, 2017 – two customers for 89%) of trade accounts receivable with amounts owing to the Company of $478,699 (2017 - $350,614), representing the Company's major credit risk exposure. Credit concentration is determined based on customers representing 10% or more of total revenues and/or total accounts receivable. The Company believes that there is no unusual exposure associated with the collection of these receivables. The Company manages its credit risk by performing credit assessments of its customers and provides allowances for potentially uncollectible accounts receivable. The Company does not generally require collateral or other security from customers on accounts receivable.

24. Financial instruments (continued)

Fair value of financial instruments

Financial instruments are comprised of cash, accounts receivable, investments, deposits, accounts payable and accrued liabilities, term loans, long-term debt and convertible debentures. There are three levels of fair value that reflect the significance of inputs used in determining fair values of financial instruments:

Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.
Level 2 — inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
Level 3 — inputs for the asset or liability that are not based on observable market data.

Investments in HPQ shares are valued at quoted market prices and are classified as Level 1.

Investments in HPQ warrants are valued using the Black-Scholes pricing model and are classified as Level 3.

Investments in BGF shares are valued based on a valuation technique that estimates a business' value based on a recent round of financing and are classified as Level 3.

The fair values of cash, accounts receivable, accounts payable and accrued liabilities, term loans and finance lease approximate their carrying amounts due to their short-term maturities.

The fair value of the long-term debt and of the 2018 Convertible Debenture approximates their carrying amounts due to their recent issuance.

Interest rate risk

Interest rate risk is the risk that the value of a financial instrument might be adversely affected by a change in interest rates. Changes in market interest rates may have an effect on the cash flows associated with some financial assets and liabilities, known as cash flow risk, and on the fair value of other financial assets or liabilities, known as price risk, and on the fair value of investments or liabilities, known as price risks. The Company is exposed to a risk of fair value on the term loans and convertible debentures as those financial instruments bear interest at fixed rates.

Price risk

Price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market price (other than those arising from foreign currency risk and interest risk), whether those changes are caused by factors specific to the individual financial instrument or its issuers or factors affecting all similar financial instruments traded in the market. The most significant exposure to the price risk for the Company arises from its investments in shares of public companies quoted on the TSXV Exchange. If equity prices had increased or decreased by 15% as at December 31, 2018, with all other variables held constant, the Company’s investments would have increased or decreased respectively, by approximately $262,000 (December 31, 2017 - $93,000).

24. Financial instruments (continued)

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivery of cash or another financial asset. The Company's ability to continue as a going concern is dependent on management's ability to raise required funding through future equity and / or debt issuances and to generate positive cash flows from operations (see note 1 (b)). The Company manages its liquidity risk by forecasting cash flows from operations and anticipating any investing and financing activities. Management and the Board of Directors are actively involved in the review, planning and approval of significant expenditures and commitments.

The following table summarizes the contractual maturities of financial liabilities as at December 31, 2018:

	Total	6 months or less	6 to 12 months	1- 3 years
	$	$	$	$
Accounts payable and accrued liabilities	**3,419,462**	**3,419,462**	**-**	**-**
Capital lease obligations	**36,892**	**7,209**	**7,209**	**22,474**
Term loans	**247,200**	**247,200**	**-**	**-**
Long-term debt	**317,125**	**-**	**-**	**317,125**
Convertible debentures	**3,356,250**	**142,500**	**142,500**	**3,071,250**
	7,519,429	**3,778,441**	**149,709**	**3,410,849**

25. Contingent liabilities

The Company is currently a party to various legal proceedings and a tax authorities' review. If management believes that a loss arising from these matters is probable and can reasonably be estimated, that amount of the loss is recorded. As additional information becomes available, any potential liability related to these matters is assessed and the estimates are revised, if necessary. Based on currently available information, management believes that the ultimate outcome of these matters, individually and in aggregate, will not have a material adverse effect on the Company's financial position or overall trends in results of operations.

The Company had received a government grant in prior years of approximately $800,000 to assist with the development of a new system of advanced waste treatment systems technology. The grant is potentially repayable at the rate of 3% of any consideration received as a result of the project, for which funding has been received, to a maximum of the actual grant received. This repayment provision will remain in effect until May 30, 2024. The Company abandoned the project in 2011 and accordingly, no amount is expected to be repaid.

26. Capital management

The Company's objectives in managing capital are:

a) To ensure sufficient liquidity to support its current operations and execute its business plan; and

b) To provide adequate return to the shareholders

The Company's primary objectives when managing capital is to ensure the entity continues as a going concern as well as to maintain optimal returns to shareholders and benefits for other stakeholders.

The Company currently funds these requirements from cash flows from operations and with financing arrangements with third parties and shareholders. The Company is not subject to any externally imposed capital requirements.

The management of capital includes common shares, warrants reserve, contributed surplus and equity portion of convertible debentures for a total amount of $50,060,490 (2017 - $37,032,241) and debt of $3,055,508, (2017 - $4,584,613). The Company monitors its working capital in order to meet its financial obligations. As at December 31, 2018, the Company's working capital deficiency was $4,101,429 (2017 – deficiency of $9,527,105).

There were no changes in the Company's approach during fiscal 2018.

27. Income taxes

a) Reconciliation of income taxes

	2018	2017
	$	$
Loss before income taxes	**(7,845,000)**	(6,174,303)
Income tax rates	**26.7%**	26.80%
Income tax recovery at the combined basic Federal and Provincial tax rates	**(2,094,829)**	(1,654,713)
Permanent differences	**835,340**	1,205,490
Tax rate changes	**(68,446)**	31,269
True-up deferred	**(53,208)**	98,065
Unrecognized tax assets	**1,381,143**	319,889
Income tax expense	**-**	-

27. Income taxes *(continued)*

b) Deferred tax expense

	2018 $	2017 $
Origination and reversal of temporary differences	(1,381,142)	(319,889)
Change in unrecognized deductible temporary differences	1,381,142	319,889
Income tax expense	-	-

c) The tax effects of significant items comprising the Company's net deferred tax assets and liabilities are as follows:

	2018 $	2017 $
Investments	97,932	21,124
Financing costs	87,834	68,309
Property, plant and equipment	112,054	118,456
Intangible assets	1,101,341	1,141,236
Research and development expenses	1,878,263	1,536,058
Non-capital losses carried forward	4,988,950	3,916,271
	8,266,374	6,801,454
Deferred tax assets not recognized	(8,266,374)	(6,801,454)
	-	-

d) Tax carry forward

The Company has the following non-capital losses available to reduce future income taxes:

Expiry date	Federal $	Provincial $
2031	2,313,597	2,313,897
2032	3,945,870	3,945,870
2033	2,047,643	2,047,643
2034	589,007	589,007
2035	703,664	416,827
2036	3,579,827	3,440,527
2037	1,577,876	1,568,739
2038	4,102,742	4,459,672
	18,860,226	18,781,882

27. Income taxes *(continued)*

The Company has a total of $2,665,648 of federal income tax credits that can be carried forward for 20 years and expire from 2018 to 2038.

The Company has a total of $7,521,670 of federal pool balance of deductible SR&ED expenditures and $6,521,845 of Quebec R&D expenditures that can be carried forward indefinitely in the future to reduce income taxes.

28. Segment information

The Company operates in one segment, based on financial information that is available and evaluated by the Company's Board of Directors.

The Company's head office is located in Montreal, Quebec. The operation of the Company is located in one geographic area: Canada. The following is a summary of the Company's geographic information:

	2018	2017
	$	$
Revenue from external customers		
Canada	**1,908,109**	2,465,644
United States	**1,643,811**	4,360,733
Europe	**147,368**	220,168
Mexico	**1,214,403**	59,906
Asia	**116,425**	85,672
Middle East	**-**	738
	5,030,116	7,192,861

The following is a summary of the Company's revenue by product line:

	2018	2017
	$	$
Sales of goods under long-term contracts	**4,867,667**	7,072,652
Sales of goods in point of time	**162,449**	70,209
Other revenues	**-**	50,000
	5,030,116	7,192,861

29. Commitments

The Company has entered into long-term leases for premises, computer software, photocopier equipment and automobile. The total minimum lease payments due under those agreements are as follows:

	$
2019	**521,053**
2020	**514,033**
2021	**518,721**
2022	**172,656**
2023	**4,839**
	1,731,302

Included in the above are commitments to a trust beneficially owned by a shareholder of the Company of $266,584 for 2019, $266,958 for 2020, $266,958 for 2021, and $24,247 for 2022.

30. Subsequent events

On January 7, 2019, the Company received an additional subscription and sold an additional aggregate amount of 97,400 units of the Company at a price of $0.58 per unit for gross proceeds of $56,492. As a result of the initial subscriptions and subsequent subscription, the Company issued and sold pursuant to the Private Placement dated December 17, 2018 a total of 2,244,367 units for gross proceeds of $1,301,733. Each unit consists of one common share of the Company and one Common Share purchase warrant. Each warrant entitles the holder thereof to purchase one common share at a price of $0.85 until December 18, 2020.

On February 6, 2019, the Company received a refund for the 2017 SR&ED Tax Credits claimed of $65,610, net of the 2017 SR&ED loan balance repayment of $247,200.