
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2017

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 000-21615

PRESSURE BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Massachusetts

(State or other jurisdiction of
incorporation or organization)

04-2652826

(I.R.S. Employer
Identification No.)

14 Norfolk Avenue
South Easton, Massachusetts

(Address of principal executive offices)

02375

(Zip Code)

(508) 230-1828

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

(Do not check if a
smaller reporting
company)

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2 of the Exchange Act).

Yes No

The number of shares outstanding of the Issuer's common stock as of August 11, 2017 was 1,101,884.

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

**PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED BALANCE SHEETS
(UNAUDITED)**

<u>ASSETS</u>	<u>June 30, 2017</u>	<u>December 31, 2016</u>
CURRENT ASSETS		
Cash and cash equivalents	\$ 201,333	\$ 138,363
Accounts receivable, net of \$28,169 reserve at June 30, 2017 and December 31, 2016	564,048	281,320
Inventories, net of \$20,000 reserve at June 30, 2017 and December 31, 2016	1,131,488	905,284
Prepaid income taxes	7,405	7,405
Prepaid expenses and other current assets	175,910	258,103
Total current assets	2,080,184	1,590,475
Investment in available-for-sale equity securities	25,986	25,865
Property and equipment, net	21,314	9,413
TOTAL ASSETS	\$ 2,127,484	\$ 1,625,753
LIABILITIES AND STOCKHOLDERS' DEFICIT		
CURRENT LIABILITIES		
Accounts payable	\$ 746,087	\$ 407,249
Accrued employee compensation	337,480	249,596
Accrued professional fees and other	1,354,615	956,884
Deferred revenue	180,397	159,654
Revolving note payable, net of unamortized debt discounts of \$909,017 and \$637,030, respectively	2,090,983	612,970
Related party convertible debt, net of debt discount of \$99,065 and \$0, respectively	192,069	-
Convertible debt, net of unamortized debt discounts of \$1,037,619 and \$2,235,839, respectively	5,633,751	4,005,702
Other debt, net of unamortized discounts of \$111,771 and \$380, respectively	1,769,376	238,157
Warrant derivative liability	1,950,681	1,685,108
Conversion option liability	907,386	951,059
Total current liabilities	15,162,825	9,266,379
LONG TERM LIABILITIES		
Related party convertible debt, net of debt discount of \$0 and \$165,611, respectively	-	125,523
Convertible debt, net of debt discount of \$0 and \$740,628, respectively	-	529,742
Deferred revenue	71,499	87,527
TOTAL LIABILITIES	15,234,324	10,009,171
COMMITMENTS AND CONTINGENCIES (Note 5)		
STOCKHOLDERS' DEFICIT		
Series D Convertible Preferred Stock, \$.01 par value; 850 shares authorized; 300 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively (Liquidation value of \$300,000)	3	3
Series G Convertible Preferred Stock, \$.01 par value; 240,000 shares authorized; 86,570 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	866	866
Series H Convertible Preferred Stock, \$.01 par value; 10,000 shares authorized; 10,000 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	100	100
Series H2 Convertible Preferred Stock, \$.01 par value; 21 shares authorized; 21 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	-	-
Series J Convertible Preferred Stock, \$.01 par value; 6,250 shares authorized; 3,521 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	35	35
Series K Convertible Preferred Stock, \$.01 par value; 15,000 shares authorized; 6,816 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	68	68
Common stock, \$.01 par value; 100,000,000 shares authorized; 1,101,884 and 1,033,328 shares issued and outstanding on June 30, 2017 and December 31, 2016, respectively	11,019	10,333
Warrants to acquire common stock	7,082,460	6,325,102
Additional paid-in capital	28,234,884	27,544,265
Accumulated other comprehensive income	6,190	-
Accumulated deficit	(48,442,465)	(42,264,190)
Total stockholders' deficit	(13,106,840)	(8,383,418)
TOTAL LIABILITIES AND STOCKHOLDERS' DEFICIT	\$ 2,127,484	\$ 1,625,753

The accompanying notes are an integral part of these unaudited consolidated financial statements

**PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)**

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2017	2016	2017	2016
Revenue:				
Products, services, other	\$ 480,400	\$ 474,187	\$ 1,006,398	\$ 928,538
Grant revenue	59,972	36,776	85,331	92,904
Total revenue	<u>540,372</u>	<u>510,963</u>	<u>1,091,729</u>	<u>1,021,442</u>
Costs and expenses:				
Cost of products and services	287,299	243,105	523,296	464,804
Research and development	241,783	321,428	505,239	656,698
Selling and marketing	300,111	193,885	513,120	385,121
General and administrative	915,470	813,242	1,753,468	1,621,460
Total operating costs and expenses	<u>1,744,663</u>	<u>1,571,660</u>	<u>3,295,123</u>	<u>3,128,083</u>
Operating loss	(1,204,291)	(1,060,697)	(2,203,394)	(2,106,641)
Other (expense) income:				
Interest expense, net	(1,983,112)	(1,010,236)	(3,509,744)	(1,845,380)
Other expense	(80)	-	(1,039)	(912)
Impairment loss on investment	-	-	(6,069)	-
Incentive warrants for warrant exercises	(186,802)	-	(186,802)	-
Change in fair value of derivative liabilities	2,790,525	3,032,762	(271,227)	(1,035,628)
Total other income (expense)	<u>620,531</u>	<u>2,022,526</u>	<u>(3,974,881)</u>	<u>(2,881,920)</u>
Net (loss) income	<u>(583,760)</u>	<u>961,829</u>	<u>(6,178,275)</u>	<u>(4,988,561)</u>
Net (loss) income per share attributable to common stockholders - basic				
	\$ (0.54)	\$ 1.11	\$ (5.83)	\$ (6.11)
Net (loss) income per share attributable to common stockholders - diluted				
	\$ (0.54)	\$ (0.03)	\$ (5.83)	\$ (6.11)
Weighted average common stock shares outstanding used in the basic net (loss) income per share calculation				
	1,077,529	865,128	1,059,250	816,035
Weighted average common stock shares outstanding used in the diluted net (loss) income per share calculation				
	1,077,529	2,358,754	1,059,250	816,035

The accompanying notes are an integral part of these unaudited consolidated financial statements

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(UNAUDITED)

	For the Three Months Ended		For the Six Months Ended	
	June 30,		June 30,	
	2017	2016	2017	2016
Comprehensive Income (Loss)				
Net income (loss)	\$ (583,760)	\$ 961,829	\$ (6,178,275)	\$ (4,988,561)
Other comprehensive loss				
Unrealized income (loss) on marketable securities	6,190	(73,041)	6,190	(212,739)
Comprehensive income (loss)	\$ (577,570)	\$ 888,788	\$ (6,172,085)	\$ (5,201,300)

The accompanying notes are an integral part of these unaudited consolidated financial statements

**PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)**

	For the Six Months Ended June 30,	
	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	\$ (6,178,275)	\$ (4,988,561)
Adjustments to reconcile net loss to net cash used in operating activities:		
Common stock issued for debt extension	10,000	-
Depreciation and amortization	4,716	12,325
Accretion of interest and amortization of debt discount	2,922,265	1,831,289
Issuance of incentive warrants	186,802	-
Gain on forgiveness of debt	(50,000)	-
Gain on settlement of debt	-	(5,044)
Stock-based compensation expense	179,511	192,311
Amortization of third party fees paid in common stock and warrants	-	312,200
Warrants issued for service	15,558	-
Shares issued for service	15,000	-
Impairment loss on investment	6,069	-
Change in fair value of derivative liabilities	271,227	1,035,628
Changes in operating assets and liabilities:		
Accounts receivable	(282,728)	(397,852)
Inventories	(226,204)	35,989
Prepaid expenses and other assets	82,193	68,966
	338,838	(51,526)
Accounts payable		
Accrued employee compensation	310,615	20,771
Deferred revenue and other accrued expenses	4,715	65,448
Net cash used in operating activities	<u>(2,389,698)</u>	<u>(1,868,056)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property plant and equipment	(16,617)	(245)
Net cash used in investing activities	<u>(16,617)</u>	<u>(245)</u>
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from related party convertible debt	-	96,667
Net proceeds from revolving note payable	1,660,000	-
Net proceeds from warrant exercises	140,215	-
Net proceeds from convertible debt	-	1,417,382
Payments on convertible debt	(840,541)	-
Net proceeds from non-convertible debt	1,987,752	623,311
Payments on non-convertible debt	(478,141)	(314,210)
Net cash provided by financing activities	<u>2,469,285</u>	<u>1,823,150</u>
NET DECREASE IN CASH	62,970	(45,151)
CASH AT BEGINNING OF YEAR	138,363	116,783
CASH AT END OF PERIOD	<u>\$ 201,333</u>	<u>\$ 71,632</u>
SUPPLEMENTAL INFORMATION		
Interest paid in cash	\$ 173,243	\$ 1,154
NON CASH TRANSACTIONS:		
Discount due to warrants issued with debt	554,998	-
Unrealized gain from available-for-sale equity securities	6,190	212,739
Derivative liability released upon warrant exercise	49,327	-
Debt discount from derivative liability	-	1,304,049
Cashless exercise of warrants	-	11,100
Conversion of preferred stock into common stock	-	63,459
Convertible debt exchanged for common stock	-	117,837
Convertible debt held in escrow	-	166,882
Common stock issued with debt	297,252	10,952
Discount due to beneficial conversion feature	-	7,962
Discount due to warrants issued with debt	-	39,755
Discount from one-time interest	175,000	-

The accompanying notes are an integral part of these unaudited consolidated financial statements

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS JUNE 30, 2017
(UNAUDITED)

1) Business Overview, Liquidity and Management Plans

Pressure Biosciences, Inc. (“we”, “our”, “the Company”) is focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming, and in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking, the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, called pressure cycling technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels (35,000 psi or greater) to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant, and microbial sources.

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels - at controlled temperatures and specific time intervals - to rapidly and repeatedly control the interactions of bio-molecules, such as DNA, RNA, proteins, lipids, and small molecules. Our laboratory instrument, the Barocycler®, and our internally developed consumables product line, including PULSE® (Pressure Used to Lyse Samples for Extraction) Tubes, other processing tubes, and application specific kits (which include consumable products and reagents) together make up our PCT Sample Preparation System, or PCT SPS.

In 2015, together with an investment bank, we formed a subsidiary called Pressure BioSciences Europe (“PBI Europe”) in Poland. We have 49% ownership interest with the investment bank retaining 51%. As of now, PBI Europe does not have any operating activities and we cannot reasonably predict when operations will commence. Therefore, we do not have control of the subsidiary and did not consolidate in our financial statements. PBI Europe did not have any operations in the first half of 2017 or in fiscal year 2016.

2) Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the liquidation of liabilities in the normal course of business. However, we have experienced negative cash flows from operations with respect to our pressure cycling technology business since our inception. As of June 30, 2017, we do not have adequate working capital resources to satisfy our current liabilities and as a result, there is substantial doubt regarding our ability to continue as a going concern. We have been successful in raising cash through debt and equity offerings in the past and as described in Notes 6 and 7, we received \$3,787,967 in net proceeds from loans and warrant exercises in the first half of 2017. We have financing efforts in place to continue to raise cash through debt and equity offerings.

Management has developed a plan to continue operations. This plan includes obtaining equity or debt financing. During the six months ended June 30, 2017 we received \$3,787,967 in net proceeds from warrant exercises, additional convertible and non-convertible debt. Although we have successfully completed financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

We need substantial additional capital to fund normal operations in future periods. In the event that we are unable to obtain financing on acceptable terms, or at all, we will likely be required to cease our operations, pursue a plan to sell our operating assets, or otherwise modify our business strategy, which could materially harm our future business prospects. These financial statements do not include any adjustments that might result from this uncertainty.

3) Interim Financial Reporting

The accompanying unaudited consolidated balance sheet as of December 31, 2016, which was derived from audited financial statements, and the unaudited interim consolidated financial statements of Pressure BioSciences, Inc. have been prepared in accordance with accounting principles generally accepted in the United States of America (“generally accepted accounting principles” or “GAAP”) for interim financial information. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all material adjustments (consisting of only normal recurring adjustments) considered necessary for a fair presentation have been included. Operating results for the three months and six months ended June 30, 2017 are not necessarily indicative of the results that may be expected for the year ending December 31, 2017. For further information, refer to the audited consolidated financial statements and footnotes thereto included in the Company’s Annual Report on Form 10-K (the “Form 10-K”) for the fiscal year ended December 31, 2016 as filed with the Securities and Exchange Commission on March 22, 2017.

On June 5, 2017, we effected a 1-for-30 reverse stock split of our common stock. All common shares, stock options, and per share information presented in the consolidated financial statements have been adjusted to reflect the reverse stock split on a retroactive basis for all periods presented. In lieu of issuing fractional shares, stockholders who otherwise would have been entitled to receive fractional shares because they held a number of shares not evenly divisible by the reverse stock split ratio were automatically entitled to receive an additional fraction of a share of Common Stock to round up to the next whole share. There was no change in the par value of the Company’s common stock. The ratio by which shares of preferred stock are convertible into shares of common stock were adjusted to reflect the effects of the reverse stock split.

4) Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of Pressure BioSciences, Inc., and its wholly-owned subsidiary PBI BioSeq, Inc. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

To prepare our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America, we are required to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. In addition, significant estimates were made in projecting future cash flows to quantify deferred tax assets, the costs associated with fulfilling our warranty obligations for the instruments that we sell, and the estimates employed in our calculation of fair value of stock options awarded and warrant derivative liability. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from the estimates and assumptions used.

Concentrations

Credit Risk

Our financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash, cash equivalents, and trade receivables. We have cash investment policies which, among other things, limit investments to investment-grade securities. We perform ongoing credit evaluations of our customers, and the risk with respect to trade receivables is further mitigated by the fact that many of our customers are government institutions, large pharmaceutical and biotechnology companies, and academic laboratories.

The following table illustrates the level of concentration as a percentage of total revenues during the three months and six months ended June 30, 2017 and 2016.

	For the Three Months Ended June 30,	
	2017	2016
Top Five Customers	60%	68%
Federal Agencies	11%	8%

	For the Six Months Ended June 30,	
	2017	2016
Top Five Customers	42%	40%
Federal Agencies	8%	10%

The following table illustrates the level of concentration as a percentage of net accounts receivable balance as of June 30, 2017 and December 31, 2016:

	June 30, 2017	December, 31, 2016
Top Five Customers	66%	82%
Federal Agencies	0%	1%

Product Supply

CBM Industries (Taunton, MA) has recently become the manufacturer of the Barocycler® 2320EXT. CBM is ISO 13485:2003 and 9001:2008 Certified. CBM provides us with precision manufacturing services that include management support services to meet our specific application and operational requirements. Among the services provided by CBM to us are:

- CNC Machining
- Contract Assembly & Kitting
- Component and Subassembly Design
- Inventory Management
- ISO certification

At this time, we believe that outsourcing the manufacturing of our new Barocycler® 2320EXT to CBM is the most cost-effective method for us to obtain ISO Certified, CE and CSA Marked instruments. CBM's close proximity to our South Easton, MA facility is a significant asset enabling interactions between our Engineering, R&D, and Manufacturing groups and their counterparts at CBM. CBM was instrumental in helping PBI achieve CE Marking on our Barocycler 2320EXT, as announced on February 2, 2017.

Although we currently manufacture and assemble the Barozyme HT48, Barocycler® HUB440, the SHREDDER SG3, and most of our consumables at our South Easton, MA facility, we plan to take advantage of the established relationship with CBM and transfer manufacturing of the entire Barocycler® product line, future instruments, and other products to CBM.

The Barocycler® NEP3229, launched in 2008, and manufactured by the BIT Group, will be phased out over the next several years and replaced by the new state-of-the-art Barocycler® HUB and Barozyme HT product lines.

Investment in Available-For-Sale Equity Securities

As of June 30, 2017, we held 601,500 shares of common stock of Everest Investments Holdings S.A. (“Everest”), a Polish publicly traded company listed on the Warsaw Stock Exchange. We account for this investment in accordance with ASC 320 “Investments — Debt and Equity Securities” as securities available for sale. On June 30, 2017, our consolidated balance sheet reflected the fair value of our investment in Everest to be \$25,986, based on the closing price of Everest shares of \$0.04 per share on that day. The carrying value of our investment in Everest common stock held will change from period to period based on the closing price of the common stock of Everest as of the balance sheet date. The change in market value since the receipt of stock was determined to be other than temporary. We recorded \$6,069 as an impairment loss in the first quarter of 2017. The carrying value increased in the current quarter by \$6,190 and was reflected as an unrealized gain in our Comprehensive Loss Statement.

Computation of Loss per Share

Basic loss per share is computed by dividing loss available to common shareholders by the weighted average number of common shares outstanding. Diluted loss per share is computed by dividing loss available to common shareholders by the weighted average number of common shares outstanding plus additional common shares that would have been outstanding if dilutive potential common shares had been issued. For purposes of this calculation, convertible preferred stock, common stock dividends, and warrants and options to acquire common stock, are all considered common stock equivalents in periods in which they have a dilutive effect and are excluded from this calculation in periods in which these are anti-dilutive to our net loss.

The following table illustrates our computation of loss per share for the three months and six months ended June 30, 2017 and 2016:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2017	2016	2017	2016
Numerator:				
Net loss	\$ (583,760)	\$ 961,829	\$ (6,178,275)	\$ (4,988,561)
Accretion of interest and amortization of debt discount	-	991,286	-	-
Change in fair value of derivative liabilities	-	(2,016,593)	-	-
Net loss applicable to common shareholders	<u>\$ (583,760)</u>	<u>\$ (63,478)</u>	<u>\$ (6,178,275)</u>	<u>\$ (4,988,561)</u>
Denominator for basic and diluted loss per share:				
Weighted average common stock shares outstanding	1,077,529	865,128	1,059,250	816,035
Net effect of dilutive common stock equivalents	-	1,493,626	-	-
Weighted average shares outstanding - diluted	1,077,529	2,358,754	1,059,250	816,035
Income (loss) per common share - basic	\$ (0.54)	\$ 1.11	\$ (5.83)	\$ (6.11)
Income (loss) per common share - diluted	\$ (0.54)	\$ (0.03)	\$ (5.83)	\$ (6.11)

The following table presents securities that could potentially dilute basic loss per share in the future. For all periods presented, the potentially dilutive securities were not included in the computation of diluted loss per share because these securities would have been anti-dilutive to our net loss. The Series D Convertible Preferred Stock, Series G Convertible Preferred Stock, Series H and H2 Convertible Preferred Stock, Series J Convertible Preferred Stock and Series K Convertible Preferred Stock are presented below as if they were converted into common shares according to the conversion terms.

	As of June 30,	
	2017	2016
Stock options	250,109	179,508
Convertible debt	827,560	844,795
Common stock warrants	890,047	880,111
Convertible preferred stock:		
Series D Convertible Preferred Stock	25,000	25,000
Series G Convertible Preferred Stock	28,857	28,857
Series H Convertible Preferred Stock	33,334	33,334
Series H2 Convertible Preferred Stock	70,000	70,000
Series J Convertible Preferred Stock	117,367	118,200
Series K Convertible Preferred Stock	227,200	227,200
	<u>2,469,474</u>	<u>2,407,005</u>

Accounting for Stock-Based Compensation Expense

We maintain equity compensation plans under which incentive stock options and non-qualified stock options are granted to employees, independent members of our Board of Directors and outside consultants. We recognize stock-based compensation expense over the requisite service period using the Black-Scholes formula to estimate the fair value of the stock options on the date of grant.

Determining Fair Value of Stock Option Grants

Valuation and Amortization Method - The fair value of each option award is estimated on the date of grant using the Black-Scholes pricing model based on certain assumptions. The estimated fair value of employee stock options is amortized to expense using the straight-line method over the vesting period.

Expected Term - The Company uses the simplified calculation of expected life, as the Company does not currently have sufficient historical exercise data on which to base an estimate of expected term. Using this method, the expected term is determined using the average of the vesting period and the contractual life of the stock options granted.

Expected Volatility - Expected volatility is based on the Company's historical stock volatility data over the expected term of the award.

Risk-Free Interest Rate - The Company bases the risk-free interest rate used in the Black-Scholes valuation method on the implied yield currently available on U.S. Treasury zero-coupon issues with an equivalent remaining term.

Forfeitures - The Company records stock-based compensation expense only for those awards that are expected to vest. The Company estimated a forfeiture rate of 5% for awards granted based on historical experience and future expectations of options vesting. The Company used this historical rate as our assumption in calculating future stock-based compensation expense.

The Company recognized stock-based compensation expense of \$104,982 and \$90,849 for the three months ended June 30, 2017 and 2016, respectively. The Company recognized stock-based compensation expense of \$179,511 and \$192,311 for the six months ended June 30, 2017 and 2016, respectively. The following table summarizes the effect of this stock-based compensation expense within each of the line items of our costs and expenses within our Consolidated Statements of Operations:

	For the Three Months Ended		For the Six Months Ended	
	June 30,		June 30,	
	2017	2016	2017	2016
Research and development	\$ 22,949	\$ 15,650	\$ 38,918	\$ 36,031
Selling and marketing	13,447	9,803	24,334	22,493
General and administrative	68,586	65,396	116,259	133,787
Total stock-based compensation expense	<u>\$ 104,982</u>	<u>\$ 90,849</u>	<u>\$ 179,511</u>	<u>\$ 192,311</u>

Fair Value of Financial Instruments

Due to their short maturities, the carrying amounts for cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses approximate their fair value. Long-term liabilities are primarily related to convertible debentures and deferred revenue with carrying values that approximate fair value.

Fair Value Measurements

The Company follows the guidance of FASB ASC Topic 820, “*Fair Value Measurements and Disclosures*” (“ASC 820”) as it related to all financial assets and financial liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis.

The Company generally defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The Company uses a three-tier fair value hierarchy, which classifies the inputs used in measuring fair values. These tiers include: Level 1, defined as observable inputs such as quoted prices for identical instruments in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring the Company to develop its own assumptions. A slight change in an unobservable input like volatility could have a significant impact on the fair value measurement of the derivative liability.

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company has determined that its financial assets are classified within Level 1 and its financial liabilities are currently classified within Level 3 in the fair value hierarchy. The development of the unobservable inputs for Level 3 fair value measurements and fair value calculations are the responsibility of the Company's management.

The following tables set forth the Company's financial assets and liabilities that were accounted for at fair value on a recurring basis as of June 30, 2017:

	June 30, 2017	Fair value measurements at June 30, 2017 using:		
		Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Available-For-Sale Equity Securities	25,986	25,986	-	-
Total Financial Assets	\$ 25,986	\$ 25,986	\$ -	\$ -

	June 30, 2017	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Conversion Option Derivative Liabilities	907,386	-	-	907,386
Total Derivatives	\$ 2,858,067	\$ -	\$ -	\$ 2,858,067

The following table provides a summary of the changes in fair value, including net transfers in and/or out, of the derivative financial instruments, measured at fair value on a recurring basis using significant unobservable inputs for the six months ended June 30, 2017:

	December 31, 2016	Issuance fair value	Change in fair value	Settlement	June 30, 2017
Series D Preferred Stock Purchase Warrants	\$ 23,313	\$ -	\$ 26,014	\$ (49,327)	\$ -
Warrants Issued with Convertible Debt	1,661,795	-	288,886	-	1,950,681
Conversion Option Derivative Liabilities	951,059	-	(43,673)	-	907,386
Total Derivatives	\$ 2,636,167	\$ -	\$ 271,227	\$ (49,327)	\$ 2,858,067

The following tables set forth the Company's financial assets and liabilities that were accounted for at fair value on a recurring basis as of December 31, 2016:

	December 31, 2016	Fair value measurements at December 31, 2016 using:		
		Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Available-For-Sale Equity Securities	25,865	25,865	-	-
Total Financial Assets	\$ 25,865	\$ 25,865	\$ -	\$ -

	December 31, 2016	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Warrants Issued with Convertible Debt	1,661,795	-	-	1,661,795
Conversion Option Derivative Liabilities	951,059	-	-	951,059
Total Derivatives	\$ 2,636,167	\$ -	\$ -	\$ 2,636,167

The assumptions for the binomial pricing model are represented in the table below for the warrants issued with the Convertible Debt throughout the period reflected on a per share common stock equivalent basis.

Assumptions	At Issuance Fair value	Warrants revalued at December 31, 2016	Warrants revalued at June 30, 2017
Expected life (in months)	60.0	43.0-51.0	36.0-45.0
Expected volatility	118.3-120.1%	110.0-116.0%	104.1-108.5%
Risk-free interest rate	1.48-1.69%	1.93%	1.50%
Exercise price	\$ 12.00	\$ 12.00	\$ 12.00
Fair value per warrant	\$ 5.70-\$6.30	\$ 3.60-4.20	\$ 4.16-4.77

The assumptions for the binomial pricing model are represented in the table below for the conversion options reflected on a per share common stock equivalent basis.

Assumptions	At Issuance fair value	At Settlement fair value	Conversion options revalued at December 31, 2016	Conversion options revalued at June 30, 2017
Expected life (in months)	6.0-24.0	0-18.0	6.0-15.0	1.0-9.0
Expected volatility	104.2-153.8%	86.9%-142.2%	84.4-94.8%	88.2-104.3%
Risk-free interest rate	0.05-0.99%	0.01-0.72%	0.62-0.85%	0.84-1.24%
Exercise price	\$ 3.00-\$10.50	\$ 3.00-\$7.50	\$ 8.40	\$ 8.40
Fair value per conversion option	\$ 2.70-\$8.40	\$ 2.10-\$7.80	\$ 0.90-\$1.80	\$ 0.28-\$2.14

5) Commitments and Contingencies

Operating Leases

Our corporate offices are currently located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. We are currently paying \$4,800 per month, on a lease extension, signed on December 29, 2016, that expires December 31, 2017, for our corporate office. We expanded our space to include the first floor starting May 1, 2017 with an increase in monthly rent of \$2,150.

On November 1, 2014 we signed a lease for lab space in Medford, MA. The lease expires December 30, 2017 and requires monthly payments of \$5,385 subject to annual cost of living increases.

Rental costs are expensed as incurred. During the six months ended June 30, 2017 and 2016 we incurred \$69,092 and \$70,567 in rent expense, respectively for the use of our corporate office and research and development facilities.

Government Grants

We have received a \$1.05 million NIH SBIR Phase II Grant. Under the grant, the NIH has committed to pay the Company to develop a high-throughput, high pressure-based DNA Shearing System for Next Generation Sequencing and other genomic applications.

6) Convertible Debt and Other Debt

We entered into Subscription Agreements (the "Subscription Agreement") with various individuals (each, a "Purchaser") between July 23, 2015 and March 31, 2016, pursuant to which the Company sold Senior Secured Convertible Debentures (the "Debentures") and warrants to purchase shares of common stock equal to 50% of the number of shares issuable pursuant to the subscription amount (the "Warrants") for an aggregate purchase price of \$6,329,549 (the "Purchase Price").

The Company issued a principal aggregate amount of \$6,962,504 in Debentures which includes a 10% original issue discount on the Purchase Price. The Debenture does not accrue any additional interest during the first year it is outstanding but accrues interest at a rate equal to 10% per annum for the second year it is outstanding. The Debenture has a maturity date of two years from issuance. The Debenture is convertible any time after its issuance date. The Purchaser has the right to convert the Debenture into shares of the Company's common stock at a fixed conversion price equal to \$8.40 per share, subject to applicable adjustments. In the second year that the Debenture is outstanding, any interest accrued shall be payable quarterly in either cash or common stock, at the Company's discretion.

At any time after the Issuance Date, the Company has the option, subject to certain conditions, to redeem some or all of the then outstanding principal amount of the Debenture for cash in an amount equal to the sum of (i) 120% of the then outstanding principal amount of the Debenture, (ii) accrued but unpaid interest and (iii) any liquidated damages and other amounts due in respect of the Debenture.

Warrants

The Company issued warrants exercisable into a total of 376,757 shares of our common stock. The Warrants issued in this transaction are immediately exercisable at an exercise price of \$12.00 per share, subject to applicable adjustments including full ratchet anti-dilution in the event that we issue any securities at a price lower than the exercise price then in effect. The Warrants have an expiration period of five years from the original issue date. The Warrants are subject to adjustment for stock splits, stock dividends or recapitalizations and also include anti-dilution price protection for subsequent equity sales below the exercise price.

Subject to the terms and conditions of the Warrants, at any time commencing six months from the Final Closing, the Company has the right to call the Warrants for cancellation if the volume weighted average price of its Common Stock on the OTCQB (or other primary trading market or exchange on which the Common Stock is then traded) equals or exceeds three times the per share exercise price of the Warrants for 15 out of 20 consecutive trading days.

Security Agreement

In connection with the Subscription Agreement and Debenture, the Company entered into Security Agreements with the Purchasers whereby the Company agreed to grant to Purchasers an unconditional and continuing, first priority security interest in all of the assets and property of the Company to secure the prompt payment, performance and discharge in full of all of Company's obligations under the Debentures, Warrants and the other Transaction Documents.

The Company determined that the conversion feature of the Debentures met the definition of a liability in accordance with ASC 815-40 and therefore bifurcated the conversion feature on each debt agreement and accounted for it as a derivative liability. The fair value of the conversion feature was accounted for as a note discount and are amortized to interest expense over the life of the loan. The fair value of the conversion feature was reflected in the conversion option liability line in the consolidated balance sheets.

The proceeds from these convertible debts were allocated between the host debt instrument and the convertible option based on the residual method. The estimated fair value of the convertible option was determined using a binomial formula, resulting in allocations to the convertible option and accounted for as a liability in the Company's consolidated balance sheet. In accordance with the provisions of ASC 815-40, the gross proceeds are offset by debt discounts, which are amortized to interest expense over the expected life of the debt.

ASC 470-20 states that the proceeds from the issuance of debt with detachable stock warrants should be allocated between the debt and warrants on the basis of their relative fair market values. The debt discount will be amortized to interest expense over the two year term of these loans. We amortized \$6,577,660 of the debt discount to interest expense through the second quarter of 2017. The warrants issued in connection with the convertible debentures are classified as warrant derivative liabilities because the warrants are entitled to certain rights in subsequent financings and the warrants contain "down-round protection" and therefore, do not meet the scope exception for treatment as a derivative under ASC 815, Derivatives and Hedging, ("ASC 815"). Since "down-round protection" is not an input into the calculation of the fair value of the warrants, the warrants cannot be considered indexed to the Company's own stock which is a requirement for the scope exception as outlined under ASC 815. The estimated fair value of the warrants was determined using the binomial model, resulting in an allocation of \$2,847,624 to the total warrants out of the gross proceeds of \$6,329,549. The fair value will be affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability, whichever comes first.

The specific terms of the convertible debts and outstanding balances as of June 30, 2017 are listed in the table below.

Inception Date	Term	Loan Amount	Outstanding Balance	Original Issue Discount	Interest Rate	Deferred Finance Fees	Discount related to fair value of conversion feature and warrants/shares
July 22, 2015	24 months	\$ 2,180,000	\$ 2,180,000	\$ 218,000 ¹	10% ²	\$ 388,532	\$ 2,163,074
September 25, 2015	24 months	1,100,000	1,100,000	110,000 ¹	10% ²	185,956	1,022,052
October 2, 2015	24 months	150,000	150,000	15,000 ¹	10% ²	26,345	140,832
October 6, 2015	24 months	30,000	30,000	3,000 ¹	10% ²	5,168	26,721
October 14, 2015	24 months	50,000	50,000	5,000 ¹	10% ²	8,954	49,377
November 2, 2015	24 months	250,000	250,000	25,000 ¹	10% ²	43,079	222,723
November 10, 2015	24 months	50,000	50,000	5,000 ¹	10% ²	8,790	46,984
November 12, 2015	24 months	215,000	215,000	21,500 ¹	10% ²	38,518	212,399
November 20, 2015	24 months	200,000	200,000	20,000 ¹	10% ²	37,185	200,000
December 4, 2015	24 months	170,000	170,000	17,000 ¹	10% ²	37,352	170,000
December 11, 2015	24 months	360,000	360,000	36,000 ¹	10% ²	75,449	360,000
December 18, 2015	24 months	55,000	55,000	5,500 ¹	10% ²	11,714	55,000
December 31, 2015	24 months	100,000	100,000	10,000 ¹	10% ²	20,634	100,000
January 11, 2016	24 months	100,000	100,000	10,000 ¹	10% ²	24,966	80,034
January 20, 2016	24 months	50,000	50,000	5,000 ¹	10% ²	9,812	40,188
January 29, 2016	24 months	300,000	300,000	30,000 ¹	10% ²	60,887	239,113
February 26, 2016	24 months	200,000	200,000	20,000 ¹	10% ²	43,952	156,048
March 10, 2016	24 months	125,000	125,000	12,500 ¹	10% ²	18,260	106,740
March 18, 2016	24 months	360,000	360,000	36,000 ¹	10% ²	94,992	265,008
March 24, 2016	24 months	106,667	106,667	10,667 ¹	10% ²	15,427	91,240
March 31, 2016	24 months	177,882	177,882	17,788 ¹	10% ²	2,436	175,446
June 15, 2016	6 months	40,000	-	-	12%	-	3,680
June 17, 2016	6 months	40,000	-	-	12%	-	3,899
June 22, 2016	6 months	35,000	-	-	12%	-	3,373
July 6, 2016	6 months	85,000	-	-	12%	-	15,048
July 29, 2016	6 months	100,000	-	-	12%	-	25,518
September 15, 2016	8 months	500,000	-	85,541	9%	-	65,972
April 3, 2017	8 months	50,000	-	-	10%	-	-
		<u>\$ 7,179,549</u>	<u>\$ 6,329,549</u>	<u>\$ 718,496</u>		<u>\$ 1,158,408</u>	<u>\$ 6,040,469</u>

1 The original issue discount is reflected in the first year.

2 The annual interest starts accruing in the second year.

The closings above included a total of approximately \$291,000 convertible debentures purchased by related parties who were members of the Company's Board of Directors and management and their family members.

At any time after six months from the Inception Date, the Company has the right to prepay the above Debentures in cash for 120% of the principal amount outstanding and any accrued interest.

In January 2017, we executed an amendment to the July 6, 2016 convertible note that was due on January 6, 2017. We received an extension of up to three months on the note's due date. In exchange for the extension, we agreed to issue 1,667 shares of restricted common stock and pay the investor \$10,000 for each 30-day extension. The shares issued for the extension were valued at \$10,000 and recorded as interest expense. We made a payment of \$34,000 in January 2017 for the first one-month extension and interest on the note from the initial close date through February 6, 2017. The Investor had the right, at any time, to convert all or part of the outstanding and unpaid principal sum and accrued interest into shares of common stock at the conversion price of \$13.50. On February 28, 2017, the note was paid in full.

On April 3, 2017, we signed a six-month agreement with an investor relations firm. The agreement includes a cash payment of \$10,000 plus a convertible 8-month note for \$50,000 with the following significant terms: (i) convertible at \$12.00/share, (ii) bears 10% annual interest, (iii) a 20% pre-payment penalty if the Company wants to pre-pay the Note, and (iv) a default rate of 18%. We terminated the agreement on June 7, 2017 and the investor relations firm agreed to forgive the loan resulting in a gain of \$50,000.

Revolving Note Payable

On October 28, 2016, an accredited investor (the “Investor”) purchased from us a promissory note in the aggregate principal amount of up to \$2,000,000 (the “Revolving Note”) due and payable on the earlier of October 28, 2017 (the “Maturity Date”) or on the seventh business day after the closing of a Qualified Offering (as defined in the Revolving Note). The Investor is obligated to provide us with advances of \$250,000 under the Revolving Note, but the Investor shall not be required to advance more than \$250,000 in any individual fifteen (15) day period and no more than \$500,000 in the thirty (30) day period immediately following the date of the initial advance. We received \$3,000,000 pursuant to the Revolving Note as amended and we issued to the Investor warrants to purchase 250,000 shares of our Common Stock at an exercise price per share equal to \$12.00 per share. The terms of the Warrants are identical except for the exercise date, issue date, and termination date which are based on the advance date.

The Revolving Note was amended on May 2, 2017 to increase the aggregate principal amount to \$3,000,000, to issue 16,667 shares of our Common Stock to the Investor, to decrease the exercise price per share of the warrants to the lower of (i) \$12.00 or (ii) the per share purchase price of the shares of our Common Stock sold in the Qualified Offering, and to change the references in the Revolving Note from “the six (6) month anniversary of October 28, 2016” to “July 25, 2017.” The fair value of the 16,667 shares issued was accounted for as a note discount and are amortized to interest expense over the life of the loan. We evaluated the accounting impact of the Revolving Note amendment and deemed that the amendment did not have a material impact on our consolidated financial statements.

In the event that a Qualified Offering occurs on or prior to July 25, 2017, within seven (7) Business Days of the closing of the Qualified Offering, the Company shall pay a cash fee equal to five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering or, at the option of the Company, issue to the Holder a number of restricted shares of the Company’s common stock equal to (x) five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering divided by (y) the purchase price provided by the documents governing the Qualified Offering. A Qualified Offering means the completion of a public offering of the Company’s securities pursuant to which the Company receives aggregate gross proceeds of at least Seven Million United States Dollars (US\$7,000,000) in consideration of the purchase of its securities and resulting in, pursuant to the effectiveness of the registration statement for such offering, the Company’s common stock being traded on the NASDAQ Capital Market, NASDAQ Global Select Market or the New York Stock Exchange.

In the event that a Qualified Offering occurs on or prior to July 25, 2017, but prior to the Maturity Date, within seven(7) Business Days of the closing of the Qualified Offering, the Company shall pay a cash fee equal to five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering or, at the option of the Company, issue to the Holder a number of restricted shares of the Company’s common stock equal to (x) five percent (5%) of the total outstanding amount owed by the Company to the Holder as of the closing date of the Qualified Offering divided by (y) the purchase price provided by the documents governing the Qualified Offering.

Interest on the principal balance of the Revolving Note shall be paid in full on the Maturity Date, unless otherwise paid prior to the Maturity Date. Interest shall be assessed as follows: (i) a one-time interest of 10% on all principal amounts advanced prior to April 28, 2017; (ii) the foregoing and 4% on any amount remaining outstanding if the principal amount is repaid between April 28, 2017 and July 28, 2017; or (iii) both of the foregoing and 4% on any amount remaining outstanding if the principal amount is repaid between July 28, 2017 and October 28, 2017.

Broker fees amounting to \$256,500, the one-time interest of \$300,000 and the fair value of the 250,000 warrants issued to the Investor amounting to \$1,034,729 were recorded as debt discounts and amortized over the term of the revolving note. The unamortized debt discounts as of June 30, 2017 related to the Revolving Note amounted to \$909,017.

The following table provides a summary of the changes in convertible debt and revolving note payable, net of unamortized discount, during 2017:

	<u>2017</u>
Balance at January 1,	\$ 5,273,937
Issuance of convertible debt, face value	1,800,000
Forgiveness of Debt	(50,000)
Deferred financing cost	(140,000)
Debt discount related to one-time interest charge	(175,000)
Debt discount from incentive shares to increase the Revolving Note aggregate principal limit	(150,000)
Debt discount from shares and warrants issued with the notes	(554,998)
Payments	(840,541)
Accretion of interest and amortization of debt discount to interest expense through June 30,	<u>2,753,405</u>
Balance at June 30,	7,916,803
Less: current portion	<u>7,916,803</u>
Convertible debt, long-term portion	<u>\$ -</u>

Other Notes

On January 6, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received \$250,000 in exchange for rights to all customer receipts until the lender is paid \$322,500, which is collected at the rate of \$1,280 per business day. The payments were secured by second position rights to all customer receipts until the loan has been paid in full. \$138,840 of the proceeds were used to pay off the outstanding balance of a previous loan from another lender. The Company recognized a gain on the settlement of the previous loan of \$5,044 which was credited to interest expense. The Company paid \$2,500 in fees in connection with this loan. We received an additional \$93,161 in June 2016 under the existing Merchant Agreement. The note is no longer outstanding as of June 30, 2017.

On February 8, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received \$100,000 in exchange for third position rights to all customer receipts until the lender is paid \$129,900, which is collected at the rate of \$927 per business day. The Company paid \$2,000 in fees in connection with this loan. We received an additional \$125,000 in June 2016 under the existing Merchant Agreement of which \$48,420 was used to pay off the prior loan. The lender provided an additional \$70,000 on August 16, 2016. As of June 30, 2017, the outstanding balance on this note was zero.

On August 26, 2016 we signed a Merchant Agreement with a lender. Under the agreement we received \$122,465 net proceeds in exchange for rights to all customer receipts which is collected at the rate of \$1,386 per business day. As of June 30, 2017, the outstanding balance on this note was zero.

On February 6, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of \$125,000. The Company paid \$1,250 in fees in connection with this loan. Under the agreement, \$16,180 was used to pay off the prior loan. The loan was no longer outstanding as of June 30, 2017.

On February 15, 2017, we received six-month, non-convertible loans in the aggregate of \$220,000 from two accredited investors. We agreed to issue each investor 5,667 shares of restricted common stock. The loans earn no interest but carry a 10% original issue fee. We recorded the fair value of the shares amounting to \$43,616 as debt discounts that will be amortized to interest expense during the term of the loans. The loans still remain outstanding as of June 30, 2017 with an aggregate balance of \$220,000. We amortized \$15,551 of debt discounts in the three months ended June 30, 2017. The unamortized debt discounts as of June 30, 2017 were \$15,904.

On March 2, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of \$75,750. The Company paid no fees in connection with this loan. The loan was no longer outstanding as of June 30, 2017.

On March 14, 2017, we received an eight-month, non-convertible loan of \$250,000 from a privately-held investment firm. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We also agreed to issue the investor 8,333 shares of restricted common stock. We recorded the fair value of the shares amounting to \$51,748 as a debt discount that will be amortized to interest expense during the term of the loan. The loan still remains outstanding as of June 30, 2017 with a balance of \$250,000. We amortized \$7,248 of the debt discount in the three months ended June 30, 2017. The unamortized debt discount as of June 30, 2017 was \$30,699.

On March 21, 2017, we received an eight-month, non-convertible loan of \$170,000 from an accredited investor. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We also agreed to issue the investor 5,667 shares of restricted common stock. We recorded the fair value of the shares amounting to \$35,079 as a debt discount that will be amortized to interest expense during the term of the loan. The loan still remains outstanding as of June 30, 2017 with a balance of \$170,000. We amortized \$2,893 of the debt discount in the three months ended June 30, 2017. The unamortized debt discount as of June 30, 2017 was \$22,857.

On April 19, 2017, we received a 7-month non-convertible loan of \$250,000 from a privately-held investment firm. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We agreed to issue 833 shares at closing. Until the loan is repaid, we will, over the next one hundred eighty (180) days, issue 2,500 shares to the Investor every sixty (60) days for a total issuance of 8,333 shares. We recorded the fair value of the shares amounting to \$16,809 as a debt discount that will be amortized to interest expense during the term of the loan. The loan remains outstanding and we have issued 3,333 shares including the closing shares since inception of the loan. The unamortized debt discount as of June 30, 2017 was \$33,169.

On May 19, 2017, we received a 45-day non-convertible loan of \$630,000 from a private investor. The loan provides guaranteed interest of \$63,000 and has an origination fee of \$32,000. We paid a broker \$31,500 in connection with this loan. We used these proceeds to pay off in full our September 2016 loan of \$589,189. The unamortized debt discount as of June 30, 2017 was \$2,100. The loan remains outstanding and accrues interest at a 20% annual rate from the maturity date.

On June 6, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of \$250,000. The Company paid \$6,250 in fees in connection with this loan. Under the agreement, \$119,021 was used to pay off three prior loans. The unamortized debt discount as of June 30, 2017 was \$5,486. The loan still remains outstanding as of June 30, 2017 with a balance of approximately \$220,000.

On June 21, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of \$150,000. The Company paid \$1,498 in fees in connection with this loan. The unamortized debt discount as of June 30, 2017 was \$1,423. The loan still remains outstanding as of June 30, 2017 with a balance of approximately \$140,000.

The total amortized expense for non-convertible debt during the six months period ended June 30, 2017 was \$168,860.

7) Stockholders' Deficit

Preferred Stock

We are authorized to issue 1,000,000 shares of preferred stock with a par value of \$0.01. Of the 1,000,000 shares of preferred stock:

- 1) 20,000 shares have been designated as Series A Junior Participating Preferred Stock (“*Junior A*”)
- 2) 313,960 shares have been designated as Series A Convertible Preferred Stock (“*Series A*”)
- 3) 279,256 shares have been designated as Series B Convertible Preferred Stock (“*Series B*”)
- 4) 88,098 shares have been designated as Series C Convertible Preferred Stock (“*Series C*”)
- 5) 850 shares have been designated as Series D Convertible Preferred Stock (“*Series D*”)
- 6) 500 shares have been designated as Series E Convertible Preferred Stock (“*Series E*”)
- 7) 240,000 shares have been designated as Series G Convertible Preferred Stock (“*Series G*”)
- 8) 10,000 shares have been designated as Series H Convertible Preferred Stock (“*Series H*”)
- 9) 21 shares have been designated as Series H2 Convertible Preferred Stock (“*Series H2*”)
- 10) 6,250 shares have been designated as Series J Convertible Preferred Stock (“*Series J*”)
- 11) 15,000 shares have been designated as Series K Convertible Preferred Stock (“*Series K*”)

As of June 30, 2017, there were no shares of Junior A, and Series A, B, C and E issued and outstanding. See our Annual Report on Form 10-K for the year ended December 31, 2016 for the pertinent disclosures of preferred stock.

Stock Options and Warrants

Our stockholders approved our amended 2005 Equity Incentive Plan (the “Plan”) pursuant to which an aggregate of 1,800,000 shares of our common stock were reserved for issuance upon exercise of stock options or other equity awards made under the Plan. Under the Plan, we may award stock options, shares of common stock, and other equity interests in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of June 30, 2017, options to acquire 35,608 shares were outstanding under the Plan.

On December 12, 2013 at the Company’s special meeting the shareholders approved the 2013 Equity Incentive Plan (the “2013 Plan”) pursuant to which 3,000,000 shares of our common stock were reserved for issuance upon exercise of stock options or other equity awards. Under the 2013 Plan, we may award stock options, shares of common stock, and other equity interests in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of June 30, 2017, options to acquire 84,564 shares were outstanding under the Plan with 2,915,436 shares available for future grants under the 2013 Plan.

On November 29, 2015 the Company’s Board of Directors adopted the 2015 Nonqualified Stock Option Plan (the “2015 Plan”) pursuant to which 5,000,000 shares of our common stock were reserved for issuance upon exercise of non-qualified stock options. Under the 2015 Plan, we may award non-qualified stock options in the Company to employees, officers, directors, consultants, and advisors, and to any other persons the Board of Directors deems appropriate. As of June 30, 2017, non-qualified options to acquire 129,937 shares were outstanding under the Plan with 4,870,063 shares available for future grants under the 2015 Plan.

All of the outstanding non-qualified options had an exercise price that was at or above the Company’s common stock share price at time of issuance.

The following tables summarize information concerning options and warrants outstanding and exercisable:

	<u>Stock Options</u>		<u>Warrants</u>		<u>Total</u>	
	<u>Weighted Average</u>		<u>Weighted Average</u>			
	<u>Shares</u>	<u>Price per share</u>	<u>Shares</u>	<u>Price per share</u>	<u>Shares</u>	<u>Exercisable</u>
Balance outstanding, 12/31/16	<u>175,642</u>	\$ 12.60	<u>881,990</u>	\$ 12.00	<u>1,057,632</u>	991,032
Granted	87,198	8.40	188,944	11.10	276,142	
Exercised	—		(19,889)	7.50	(19,889)	
Expired	(2,868)	30.00	(160,998)	11.10	(163,866)	
Forfeited	<u>(9,863)</u>	10.12	—	—	<u>(9,863)</u>	
Balance outstanding, 6/30/2017	<u>250,109</u>	\$ 10.95	<u>890,047</u>	\$ 12.00	<u>1,140,156</u>	1,031,492

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number of Options	Weighted Average		Number of Options	Weighted Average	
		Remaining Contractual Life (Years)	Exercise Price		Remaining Contractual Life (Years)	Exercise Price
\$9.00 - \$11.99	135,663	8.8	\$ 8.62	58,200	7.7	\$ 8.89
12.00 – 14.99	88,705	8.2	12.00	57,504	8.1	12.00
15.00 – 17.99	7,547	5.1	15.00	7,547	5.1	15.00
18.00 – 20.99	10,350	2.6	18.00	12,854	2.6	18.00
21.00 – 30.00	7,844	3.0	30.00	5,340	3.0	30.00
\$9.00 - \$30.00	<u>250,109</u>	8.0	\$ 10.95	<u>141,445</u>	7.1	\$ 12.11

As of June 30, 2017, the total estimated fair value of unvested stock options to be amortized over their remaining vesting period was \$593,019. The non-cash, stock-based compensation expense associated with the vesting of these options is expected to be \$191,466 remaining in 2017, \$272,539 in 2018, \$106,477 in 2019 and \$22,537 in 2020. The fair value of options granted in 2017 was \$487,914.

The aggregate intrinsic value associated with the options outstanding and exercisable as of June 30, 2017 was zero. The aggregate intrinsic value associated with the warrants outstanding and exercisable as of June 30, 2017 was zero.

In January 2017, we issued warrants to purchase 3,334 shares of restricted common stock with a fair value of \$15,558 to an investor relations firm for services performed.

Common Stock Issuances

On various dates from January to March 2017, the Company issued 27,000 shares of restricted common stock to investors as compensation for loans provided to us.

We issued 1,667 shares of restricted common stock with a fair value of \$15,000 to an investor relations firm.

On April 19, 2017, we received a 7-month non-convertible loan of \$250,000 from a privately-held investment firm. The loan earns an annual interest rate of 10% and includes a 10% original issue discount. We agreed to issue 833 shares at closing. Until the loan is repaid, we will, over the next one hundred eighty (180) days, issue 2,500 shares to the Investor every sixty (60) days for a total issuance of 8,333 shares. The loan remains outstanding and we have issued 3,333 shares including the closing shares since inception of the loan.

The Revolving Note was amended on May 2, 2017 to increase the aggregate principal amount to \$3,000,000. In exchange for this increase, we agreed to issue 16,667 shares of our Common Stock to the Investor, to decrease the exercise price per share of the warrants to the lower of (i) \$12.00 or (ii) the per share purchase price of the shares of our Common Stock sold in a qualified offering, and to change the trigger date in the Revolving Note from the six month anniversary of October 28, 2016 to July 25, 2017.

On May 10, 2017, we received \$149,164 from the exercise of 19,889 stock purchase warrants from the Series D registered direct offering on November 10, 2011. We paid \$8,949 to a broker in connection with the warrant exercises. In consideration for the warrant exercises, we issued to the investors warrants to purchase 39,778 shares of our Common Stock at an exercise price per share equal to \$8.40 per share. The warrants expire on the third year anniversary date. We determined the fair value of \$186,802 for these warrants and recorded the value as other expenses.

8) Subsequent Events

On July 17, 2017, we signed a Merchant Agreement with a lender. Under the agreement we received a loan of \$125,000. The Company paid \$1,250 in fees in connection with this loan.

On August 1, 2017, we received a 6-month non-convertible loan of \$75,000 from a privately-held investment firm. The Company paid total fees of \$18,750 including original issue discount, interest, and other costs related to this loan.

ITEM 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). In some cases, forward-looking statements are identified by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. Such statements include, without limitation, statements regarding:

- our need for, and our ability to raise, additional equity or debt financing on acceptable terms, if at all;
- our need to take additional cost reduction measures, cease operations or sell our operating assets, if we are unable to obtain sufficient additional financing;
- our belief that we have sufficient liquidity to finance normal operations;
- the options we may pursue in light of our financial condition;
- the amount of cash necessary to operate our business;
- the anticipated uses of grant revenue and the potential for increased grant revenue in future periods;
- our plans and expectations with respect to our continued operations;
- our belief that PCT has achieved initial market acceptance in the mass spectrometry and other markets;
- the expected increase in the number of pressure cycling technology ("*PCT*") and constant pressure ("*CP*") based units installed and the increase in revenues from the sale of consumable products and extended service contracts;
- the expected development and success of new instrument and consumables product offerings;
- the potential applications for our instrument and consumables product offerings;
- the expected expenses of, and benefits and results from, our research and development efforts;
- the expected benefits and results from our collaboration programs, strategic alliances and joint ventures;
- our expectation of obtaining additional research grants from the government in the future;
- our expectations of the results of our development activities funded by government research grants;
- the potential size of the market for biological sample preparation;
- general economic conditions;
- the anticipated future financial performance and business operations of our company;
- our reasons for focusing our resources in the market for genomic, proteomic, lipidomic and small molecule sample preparation;
- the importance of mass spectrometry as a laboratory tool;

- the advantages of PCT over other current technologies as a method of biological sample preparation in biomarker discovery, forensics, and histology and for other applications;
- the capabilities and benefits of our PCT sample preparation system, consumables and other products;
- our belief that laboratory scientists will achieve results comparable with those reported to date by certain research scientists who have published or presented publicly on PCT and our other products;
- our ability to retain our core group of scientific, administrative and sales personnel; and
- our ability to expand our customer base in sample preparation and for other applications of PCT and our other products.

These forward-looking statements are only predictions and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements, expressed or implied, by such forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this Quarterly Report on Form 10-Q. Except as otherwise required by law, we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained in this Quarterly Report on Form 10-Q to reflect any change in our expectations or any change in events, conditions or circumstances on which any of our forward-looking statements are based. Factors that could cause or contribute to differences in our future financial and other results include those discussed in the risk factors set forth in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2016. We qualify all of our forward-looking statements by these cautionary statements.

OVERVIEW

We are focused on solving the challenging problems inherent in biological sample preparation, a crucial laboratory step performed by scientists worldwide working in biological life sciences research. Sample preparation is a term that refers to a wide range of activities that precede most forms of scientific analysis. Sample preparation is often complex, time-consuming and, in our belief, one of the most error-prone steps of scientific research. It is a widely-used laboratory undertaking – the requirements of which drive what we believe is a large and growing worldwide market. We have developed and patented a novel, enabling technology platform that can control the sample preparation process. It is based on harnessing the unique properties of high hydrostatic pressure. This process, which we refer to as Pressure Cycling Technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and 45,000 psi or greater to safely, conveniently and reproducibly control the actions of molecules in biological samples, such as cells and tissues from human, animal, plant and microbial sources.

Our pressure cycling technology uses internally developed instrumentation that is capable of cycling pressure between ambient and ultra-high levels at controlled temperatures and specific time intervals, to rapidly and repeatedly control the interactions of bio-molecules, such as deoxyribonucleic acid (“DNA”), ribonucleic acid (“RNA”), proteins, lipids and small molecules. Our laboratory instrument, the Barocycler[®], and our internally developed consumables product line, which include our Pressure Used to Lyse Samples for Extraction (“PULSE”) tubes, and other processing tubes, and application specific kits such as consumable products and reagents, together make up our PCT Sample Preparation System (“PCT SPS”).

We have experienced negative cash flows from operations with respect to our pressure cycling technology business since our inception. As of June 30, 2017, we did not have adequate working capital resources to satisfy our current liabilities and as a result we have substantial doubt about our ability to continue as a going concern. Based on our current projections, including equity financing subsequent to June 30, 2017, we believe we will have the cash resources that will enable us to continue to fund normal operations into the foreseeable future.

We need substantial additional capital to fund normal operations in future periods. If we are able to obtain additional capital or otherwise increase our revenues, we may increase spending in specific research and development applications and engineering projects and may hire additional sales personnel or invest in targeted marketing programs. In the event that we are unable to obtain financing on acceptable terms, or at all, we will likely be required to cease our operations, pursue a plan to sell our operating assets, or otherwise modify our business strategy, which could materially harm our future business prospects.

We have 14 United States granted patents and one foreign granted patent (Japan: 5587770, EXTRACTION AND PARTITIONING OF MOLECULES) covering multiple applications of PCT in the life sciences field. PBI also has 19 pending patents in the USA, Canada, Europe, Australia, China, and Taiwan PCT employs a unique approach that we believe has the potential for broad use in a number of established and emerging life sciences areas, which include, but are not limited to:

- biological sample preparation – including but not limited to sample extraction, homogenization, and digestion - in such study areas as genomic, proteomic, lipidomic, metabolomic and small molecule;
- pathogen inactivation;
- protein purification;
- control of chemical reactions, particularly enzymatic; and
- immunodiagnostics.

We reported a number of accomplishments in the first half of 2017:

On February 2, 2017, the Company announced that it had achieved CE Marking for the Barocycler 2320EXTREME, the Company's recently released, next-generation PCT-based sample preparation instrument. PBI is now permitted to begin sales of the Barocycler 2320EXT to the 31 countries of the European Economic Area.

On March 1, 2017, the Company announced that its Barocycler 2320EXTREME had been named the "Best New Instrument for Sample Preparation 2017" by Corporate America News ("Corp America") as part of the publication's 2017 North American Excellence Awards.

On March 23, 2017, the Company announced that it had significantly bolstered its marketing and sales capabilities by contracting with EKG Sales Associates, a lead generation company and by hiring two of its planned four additional field sales directors.

On April 10, 2017, the Company announced that Joseph Damasio, Jr. had joined the Company as its full-time Chief Financial Officer and Vice President of Finance.

A one-for-thirty reverse split of our common stock became effective as of June 5, 2017. As a result of the reverse stock split, every thirty shares of the Company's common stock issued and outstanding prior to the opening of trading on June 5, 2017 was consolidated into one issued and outstanding share, with no change in the nominal par value per share of \$0.01. No fractional shares were issued as a result of the reverse stock split. Shareholders who otherwise would have been entitled to receive a fractional share in connection with the reverse stock split received an additional fraction of a share of common stock to round up to the next whole share.

Results of Operations

Comparison for the three months ended June 30, 2017 and 2016

Revenue

We recognized total revenue of \$540,372 for the three months ended June 30, 2017 as compared to \$510,963 during the three months ended June 30, 2016, an increase of \$29,409 or 6%. This increase is attributable primarily to an increase in grant related activities.

Products, Services, Other. Revenue from the sale of products and services increased 1% to \$480,400 for the three months ended June 30, 2017 as compared to \$474,187 during the three months ended June 30, 2016. Sales of consumables decreased for the three months ended June 30, 2017 to \$52,365 compared to \$72,773 during the same period in the prior year, a decrease of 28%. Products, Services, and Other Revenue included \$17,088 from non-cash transactions in the current quarter. Revenue from non-cash transactions was recognized on the fair value of the assets involved per ASC 845.

Grant Revenue. During the three months ended June 30, 2017, we recorded grant revenue of \$59,972 compared to grant revenue of \$36,776 in the comparable period in 2016. Increase is from increased grant related activities during the current quarter.

Cost of Products and Services

The cost of products and services was \$287,299 for the three months ended June 30, 2017 compared to \$243,105 for the comparable period in 2016. The cost of products and services increased from an updated labor/overhead allocation. Gross profit margin on products and services decreased slightly to 47% for the three months ended June 30, 2017, as compared to 49% for the prior period.

Research and Development

Research and development expenditures were \$241,783 during the three months ended June 30, 2017 as compared to \$321,428 in the same period in 2016, a decrease of \$79,645 or 25%. The prior period included expenses for CE marking and the development of the final prototypes of our Barocycler 2320EXTREME for production.

Research and development expense recognized in the three months ended June 30, 2017 and 2016 included \$22,949 and \$15,650 of non-cash, stock-based compensation expense, respectively.

Selling and Marketing

Selling and marketing expenses increased to \$300,111 for the three months ended June 30, 2017 from \$193,885 for the comparable period in 2016, an increase of \$106,226 or 55%. This increase is primarily attributable to expansion of the company's sales force by three individuals plus recruitment fees.

During the three months ended June 30, 2017 and 2016, selling and marketing expense included \$13,447 and \$9,803 of non-cash, stock-based compensation expense, respectively.

General and Administrative

General and administrative costs totaled \$915,470 for the three months ended June 30, 2017 as compared to \$813,242 for the comparable period in 2016, an increase of \$102,228 or 13%. The increase included support activities such as investor and public relations, the hire of a chief financial officer, and other activities that we believed would augment and support our 2017 fund raising and business growth efforts.

During the three months ended June 30, 2017 and 2016, general and administrative expense included \$68,586 and \$65,396 of non-cash, stock-based compensation expense, respectively.

Operating Loss

Our operating loss was \$1,204,291 for the three months ended June 30, 2017 as compared to \$1,060,697 for the comparable period in 2016, an increase of \$143,594 or 14%. This increase was primarily due to increases in sales and marketing expenses and public relations activities, as described above.

Other Income (Expense), Net

Interest (Expense) Income

Interest expense was \$1,983,112 for the three months ended June 30, 2017 as compared to interest expense of \$1,010,236 for the three months ended June 30, 2016. Interest expense reflected amortization of debt discounts related primarily to the sale of senior secured convertible debentures. The increase is primarily from deferred finance charges on our Revolving Note that closed October 2016 and discussed in Note 6 of the accompanying consolidated financial statements.

Change in fair value of warrant derivative liability

During the three months ended June 30, 2017, we recorded non-cash income of \$1,018,507 for warrant revaluation in our consolidated statements of operations due to a decrease in the fair value of the warrant liability related to warrants issued in our private placement offerings. We recorded \$1,025,183 non-cash income in the prior comparable period. This decrease in fair value was primarily due to the decrease in price of the Company's common stock at June 30, 2017 as compared to the price on June 30, 2016. The components for determining the fair value of the warrants are contained in the table in Note 4 of the accompanying consolidated financial statements.

Change in fair value of conversion option liability

During the three months ended June 30, 2017, we recorded non-cash income of \$1,772,018 for conversion option revaluation expense in our consolidated statements of operations due to a decrease in the fair value of the conversion option liability related to convertible debt. This decrease in fair value was primarily due to the decrease in price of the Company's common stock on June 30, 2017 as compared to the price on June 30, 2016 or the date the debt was incurred during the quarter and the shorter time to maturity of the debt. For the three months ended June 30, 2016 we recorded non-cash income \$2,007,579 for conversion option liability revaluation. The components for determining the fair value of the conversion option liabilities are contained in the table in Note 4 of the accompanying consolidated financial statements.

Incentive warrants for warrant exercises

On May 10, 2017, we received \$149,164 from the exercise of 19,889 stock purchase warrants from the Series D registered direct offering on November 10, 2011. In consideration for the warrant exercises, we issued to the investors warrants to purchase 39,778 shares of our Common Stock at an exercise price per share equal to \$8.40 per share. The warrants expire on the third year anniversary date. We determined the fair value of \$186,802 for these warrants and recorded the value as other expenses.

Comparison for the six months ended June 30, 2017 and 2016

Revenue

We recognized total revenue of \$1,091,729 for the six months ended June 30, 2017 as compared to \$1,021,442 during the six months ended June 30, 2016, an increase of \$70,286 or 7%. This increase is attributable to increases in the sales of our products and services as detailed below.

Products, Services, Other. Revenue from the sale of products and services increased 8% to \$1,006,398 for the six months ended June 30, 2017 as compared to \$928,538 during the six months ended June 30, 2016. This increase was primarily attributable to sales of the recently released Barocyler 2320EXT units. Sales of consumables remained steady for the six months ended June 30, 2017 at \$115,629 compared to \$117,008 during the same period in the prior year.

Grant Revenue. During the six months ended June 30, 2017, we recorded grant revenue of \$85,331 compared to grant revenue of \$92,904 in the comparable period in 2016. Work on the \$1.05 million NIH grant decreased during the first half of 2017 as we needed to wait for certain significant parts to be manufactured. These parts were received and should result in an increase in grant work beginning in the third quarter of the 2017 calendar year.

Cost of Products and Services

The cost of products and services was \$523,296 for the six months ended June 30, 2017 compared to \$464,804 for the comparable period in 2016. Gross profit margin on products and services was 52% for the six months ended June 30, 2017, as compared to 50% for the prior period. We are realizing better margins from the Barocyler 2320 EXTREME system compared to the previous Barocyler NEP2320 Enhanced units.

Research and Development

Research and development expenditures were \$505,239 during the six months ended June 30, 2017 as compared to \$656,698 in the same period in 2016, a decrease of \$151,459 or 23%. The prior period included costs expenses for CE marking and the development of the final prototypes of our Barocyler 2320EXTREME for production and lower employee costs in the current period.

Research and development expense recognized in the six months ended June 30, 2017 and 2016 included \$38,918 and \$36,031 of non-cash, stock-based compensation expense, respectively.

Selling and Marketing

Selling and marketing expenses increased to \$513,120 for the six months ended June 30, 2017 from \$385,121 for the comparable period in 2016, an increase of \$127,999 or 33%. This increase is primarily attributable to expansion of the company's sales force by three individuals plus recruitment fees.

During the six months ended June 30, 2017 and 2016, selling and marketing expense included \$24,334 and \$22,493 of non-cash, stock-based compensation expense, respectively.

General and Administrative

General and administrative costs totaled \$1,753,468 for the six months ended June 30, 2017 as compared to \$1,621,460 for the comparable period in 2016. We continued to actively support activities such as investor and public relations, outside consulting services, and other activities that we believed would augment and support our 2017 fund raising and business growth efforts.

During the six months ended June 30, 2017 and 2016, general and administrative expense included \$116,259 and \$133,787 of non-cash, stock-based compensation expense, respectively.

Operating Loss

Our operating loss was \$2,203,394 for the six months ended June 30, 2017 as compared to \$2,106,641 for the comparable period in 2016. This increase was primarily due to sales, marketing and investor relations activities.

Other Income (Expense), Net

Interest (Expense) Income

Interest expense was \$3,509,744 for the six months ended June 30, 2017 as compared to interest expense of \$1,845,380 for the six months ended June 30, 2016. The interest expense is from the amortization of debt discounts relating to the sale of senior secured convertible debentures and other convertible and non-convertible notes.

Change in fair value of warrant derivative liability

During the six months ended June 30, 2017, we recorded non-cash charges of \$314,900 for warrant revaluation in our consolidated statements of operations due to an overall increase in the fair value of the warrant liability related to warrants issued in our 2015/16 private placement offerings compared to non-cash charges of \$162,587 for warrant revaluation for the six months ended June 30, 2016. The components for determining the fair value of the warrants are contained in the table in Note 4 of the accompanying consolidated financial statements.

Change in fair value of conversion option liability

During the six months ended June 30, 2017, we recorded non-cash income of \$43,673 for conversion option revaluation in our consolidated statements of operations due to decreases in the fair value of the conversion option liability related to convertible debt compared to non-cash charges of \$464,469 for conversion option revaluation for the six months ended June 30, 2016. We recorded \$1,337,510 as non-cash charge at issuance of these convertible debentures. The components for determining the fair value of the conversion option liabilities are contained in the table in Note 4 of the accompanying consolidated financial statements.

Incentive warrants for warrant exercises

On May 10, 2017, we received \$149,164 from the exercise of 19,889 stock purchase warrants from the Series D registered direct offering on November 10, 2011. In consideration for the warrant exercises, we issued to the investors warrants to purchase 39,778 shares of our Common Stock at an exercise price per share equal to \$8.40 per share. The warrants expire on the third year anniversary date. We determined the fair value of \$186,802 for these warrants and recorded the value as other expenses.

Liquidity and Financial Condition

We have experienced negative cash flows from operations with respect to our pressure cycling technology business since our inception. As of June 30, 2017, we did not have adequate working capital resources to satisfy our current liabilities and as a result, we have substantial doubt regarding our ability to continue as a going concern. We have been successful in raising cash through debt and equity offerings in the past and as described in Note 6 of the accompanying consolidated financial statements, we received \$3,787,967 in net proceeds from loans and warrant exercises in the first half of 2017. We have efforts in place to continue to raise cash through debt and equity offerings.

We will need substantial additional capital to fund our operations in future periods. In the event that we are unable to obtain financing on acceptable terms, or at all, we will likely be required to cease our operations, pursue a plan to sell our operating assets, or otherwise modify our business strategy, which could materially harm our future business prospects.

On December 22, 2016, the Company filed a preliminary Form S-1 with the Securities and Exchange Commission to register shares of its common stock which would allow the Company to raise up to \$12.5 million.

Net cash used in operations for the six months ended June 30, 2017 was \$2,389,698 as compared to \$1,868,056 for the six months ended June 30, 2016. We had a slightly higher operating loss in the current period plus additional interest expense.

Net cash used in investing activities for the six months ended June 30, 2017 totaled \$16,617 compared to none in the prior period. Cash capital expenditures included laboratory equipment and IT equipment.

Net cash provided by financing activities for the six months ended June 30, 2017 was \$2,469,285 as compared to \$1,421,674 for the same period in the prior year. The cash from financing activities in the period ending June 30, 2017 included \$1,660,000 from our Revolving Note and \$140,215 from warrant exercises. We also received \$1,987,752 from non-convertible debt, net of fees, less payment on non-convertible debt of \$478,141 and payment on convertible debt of \$840,541. The prior period included proceeds from senior secured convertible debt.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

This Item 3 is not applicable to us as a smaller reporting company and has been omitted.

ITEM 4. CONTROLS AND PROCEDURES

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Securities Exchange Act of 1934 filings are recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our President and Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer), as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, as ours are designed to do, and management was necessarily required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of June 30, 2017, we carried out an evaluation, under the supervision and with the participation of our management, including our Principal Executive Officer and Principal Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934. Based upon that evaluation, our Principal Executive Officer and Principal Financial Officer concluded that our disclosure controls and procedures were not effective.

Our conclusion that our disclosure controls and procedures were not effective as of June 30, 2017 is due to the continued presence of the material weaknesses in our internal control over financial reporting identified in our Annual Report on Form 10-K for the year ended December 31, 2016. These material weaknesses are the following:

- We identified a lack of sufficient segregation of duties. Specifically, this material weakness is such that the design over these areas relies primarily on detective controls and could be strengthened by adding preventative controls to properly safeguard Company assets.
- Management has identified a lack of sufficient personnel in the accounting function due to our limited resources with appropriate skills, training and experience to perform the review processes to ensure the complete and proper application of generally accepted accounting principles, particularly as it relates to valuation of warrants and other complex debt /equity transactions. Specifically, this material weakness resulted in audit adjustments to the annual consolidated financial statements and revisions to related disclosures, valuation of warrants and other equity transactions.
- Limited policies and procedures that cover recording and reporting of financial transactions.
- Lack of multiple levels of review over the financial reporting process

We continue to plan to remediate those material weaknesses as follows:

- Improve the effectiveness of the accounting group by augmenting our existing resources with additional consultants or employees to assist in the analysis and recording of complex accounting transactions, and to simultaneously achieve desired organizational structuring for improved segregation of duties. We plan to mitigate this identified deficiency by hiring an independent consultant once we generate significantly more revenue or raise significant additional working capital.
- Improve expert review and achieve desired segregation procedures by strengthening cross approval of various functions including quarterly internal audit procedures where appropriate.

During the period covered by this Report, we implemented and performed additional substantive procedures, such as supervisory review of work papers and consistent use of financial models used in equity valuations, to ensure our consolidated financial statements as of and for the three month period ended June 30, 2017, are fairly stated in all material respects in accordance with GAAP. We have not, however, been able to fully remediate the material weaknesses due to our limited financial resources. Our remediation efforts are largely dependent upon our securing additional financing to cover the costs of implementing the changes required. If we are unsuccessful in securing such funds, remediation efforts may be adversely affected in a material manner.

Except as described above, there have been no changes in our internal controls over financial reporting that occurred during the period ended June 30, 2017 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently involved in any litigation that we believe could have a material adverse effect on our financial condition or results of operations. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the executive officers of our company or any of our subsidiaries, threatened against or affecting our company, our common stock, any of our subsidiaries or of our companies or our subsidiaries' officers or directors in their capacities as such, in which an adverse decision could have a material adverse effect.

Item 1A. Risk Factors

Factors that could cause or contribute to differences in our future financial and operating results include those discussed in the risk factors set forth in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2016. The risks described in our Form 10-K and this Report are not the only risks that we face. Additional risks not presently known to us or that we do not currently consider significant may also have an adverse effect on the Company. If any of the risks actually occur, our business, results of operations, cash flows or financial condition could suffer.

There have been no material changes to the risk factors set forth in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2016.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The Revolving Note discussed in Note 6 of the accompanying consolidated financial statements was amended on May 2, 2017 to increase the aggregate principal amount to \$3,000,000, to issue 16,667 shares of our Common Stock to the Investor, to decrease the exercise price per share of the warrants to the lower of (i) \$12.00 or (ii) the per share purchase price of the shares of our common stock sold in a Qualified Offering, and to change the trigger date in the Revolving Note from the six month anniversary of October 28, 2016 to July 25, 2017.

On May 10, 2017, we received \$149,164 from the exercise of 19,889 stock purchase warrants from the Series D registered direct offering on November 10, 2011. In consideration for the warrant exercises, we issued to the investors warrants to purchase 39,778 shares of our Common Stock at an exercise price per share equal to \$8.40 per share. The warrants expire on the third year anniversary date.

For the three months ended June 30, 2017, we received \$750,000 pursuant to the Revolving Note as amended and we issued to the Investor warrants to purchase 62,500 shares of our Common Stock at an exercise price per share equal to \$12.00 per share.

Item 3. Defaults upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibits

- 4.1 Form of Debenture (incorporated by reference to Exhibit 4.1 of the Company's Form 8-K filed with the SEC on April 24, 2017).
- 10.1 Letter Agreement, dated April 19, 2017 (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K filed with the SEC on April 24, 2017).
- 10.2 Amendment to the July 1, 2016 \$200,000 Convertible Note between Vision Capital and Pressure BioSciences, Inc. (incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q filed with the SEC on May 16, 2017).
- 10.3 Amendment Number 1 to October 26 Promissory Note, dated May 2, 2017 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed with the SEC on May 26, 2017).
- 10.4 Promissory Note, dated May 19, 2017 (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K filed with the SEC on May 26, 2017).
- 10.5 BG Preferred Stock Letter Agreement, dated June 16, 2017 (incorporated by reference to Exhibit 10.1 of the Company's Form 8-K filed with the SEC on June 22, 2017).
- 10.6 Form of Debenture Holder Letter Agreement, dated June 16, 2017 (incorporated by reference to Exhibit 10.2 of the Company's Form 8-K filed with the SEC on June 22, 2017).
- 10.7 Form of Debenture and Fall 2016 Holder Letter Agreement, dated June 16, 2017 (incorporated by reference to Exhibit 10.3 of the Company's Form 8-K filed with the SEC on June 22, 2017).
- 10.8 Accredited Investor Letter Agreement, dated June 16, 2017 (incorporated by reference to Exhibit 10.4 of the Company's Form 8-K filed with the SEC on June 22, 2017).
- 31.1* Principal Executive Officer and Principal Financial Officer Certification Pursuant to Item 601(b)(31) of Regulation S-K, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2* Principal Financial Officer Certification Pursuant to Item 601(b)(31) of Regulation S-K, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1** Principal Executive Officer Certification Pursuant to Item 601(b)(32) of Regulation S-K, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2** Principal Financial Officer Certification Pursuant to Item 601(b)(32) of Regulation S-K, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS* XBRL Instance Document
- 101.SCH* XBRL Taxonomy Extension Schema Document
- 101.CAL* XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF* XBRL Taxonomy Extension Definition Linkbase Document
- 101.LAB* XBRL Taxonomy Extension Label Linkbase Document
- 101.PRE* XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith.

** In accordance with SEC Release 33-8238, Exhibits 32.1 and 32.2 are furnished and not filed.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

PRESSURE BIOSCIENCES, INC.

Date: August 14, 2017

By: /s/ Richard T. Schumacher

Richard T. Schumacher
President & Chief Executive Officer
(Principal Executive Officer)

Date: August 14, 2017

By: /s/ Joseph L. Damasio, Jr.

Joseph L. Damasio, Jr.
Vice President of Finance & Chief Financial Officer
(Principal Financial Officer)

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Richard T. Schumacher, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Pressure BioSciences, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiary, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal controls over financial reporting, or caused such internal controls over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 14, 2017

/s/ Richard T. Schumacher

Richard T. Schumacher
President & Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Joseph L. Damasio, Jr., certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Pressure BioSciences, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiary, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal controls over financial reporting, or caused such internal controls over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 14, 2017

/s/ Joseph L. Damasio, Jr.

Joseph L. Damasio, Jr.
Vice President of Finance & Chief Financial Officer
(Principal Financial Officer)

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Quarterly Report on Form 10-Q of Pressure BioSciences, Inc., a Massachusetts corporation (the "Company") for the period ended June 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Richard T. Schumacher, President and Chief Executive Officer of the Company, do hereby certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) that:

- (1) The Report of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 14, 2017

By: /s/ Richard T. Schumacher
Richard T. Schumacher
President & Chief Executive Officer
(Principal Executive Officer)

A signed original of this written statement required by Section 906 has been provided to Pressure BioSciences, Inc. and will be retained by Pressure BioSciences, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Quarterly Report on Form 10-Q of Pressure BioSciences, Inc., a Massachusetts corporation (the "Company") for the period ended June 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Joseph L. Damasio, Jr., Principal Financial Officer of the Company, do hereby certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) that:

(1) The Report of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 14, 2017

By: /s/ Joseph L. Damasio, Jr.

Joseph L. Damasio, Jr.
Vice President & Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906 has been provided to Pressure BioSciences, Inc. and will be retained by Pressure BioSciences, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.
