PRESSURE BIOSCIENCES INC
Form 10-K
May 13, 2013

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

þ Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2012

or

o 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	04-2652826
(State or Other Jurisdiction of Incorporation or Organization)	(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)	

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $.01 per share	OTC Markets Group Inc
Preferred Share Purchase Rights	

Securities registered pursuant to Section 12(g) of the Act:

_____

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No þ

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o No þ

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 þ No o

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 during the preceding 12 months (or for such shorter period that registrant was required to submit and post such files. Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

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	o	Accelerated filer	o
Non-accelerated filer	o	Smaller reporting company	þ
(Do not check if smaller reporting company)			

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ

The aggregate market value of the voting and non-voting Common Stock held by non-affiliates of the registrant as of June 30, 2012 was $3,464,380 based on the closing price of $0.40 per share of Pressure BioSciences, Inc. Common Stock as quoted on the OTC Markets QB exchange on that date.

As of March 31, 2013, there were 12,149,267 shares of the registrant's Common Stock outstanding.

Documents Incorporated by Reference

N/A.

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Introductory Comment

Throughout this Annual Report on Form 10-K, the terms "we," "us," "our," "the Company" and "our company" refer to Pressu BioSciences, Inc., a Massachusetts corporation, and unless the context indicates otherwise, also includes our wholly-owned subsidiary.

PART I

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K 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 si 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 until May 2013;
- 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 pressure cycling technology ("PCT") operations;
- our belief that PCT has achieved initial market acceptance in the mass spectrometry market;
- the expected increase in number of PCT units installed and the increase in revenues from the sale of consumable products and extended service contracts;
- the expected development and success of new product offerings;
- the potential applications for PCT;
- 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 and consumable 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;
- 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.

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 Annual Report on Form 10-K. 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 Annual Report on Form 10-K 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 this Annual Report on Form 10-K as well as those discussed elsewhere in this Annual Report on Form 10-K. We qualify all of our forward-looking statements by these cautionary statements.

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A. ITEM 1. BUSINESS.

Throughout this document we use the following terms: Barocycler®, PULSE®, and BioSeq®, which are registered trademarks of the Company. We also use the terms ProteoSolveTM, ProteoSolveLRSTM, the Power of PCTTM, the PCT ShredderTM, all of which are unregistered trademarks of the Company.

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, called pressure cycling technology, or PCT, uses alternating cycles of hydrostatic pressure between ambient and ultra-high levels i.e., 35,000 pounds per square inch (“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 hold 14 United States and 10 foreign patents covering multiple applications of PCT in the life sciences field. Our pressure cycling technology 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:

biological sample preparation in such study areas as genomic, proteomic, lipidomic, metabolomic and small molecule;
pathogen inactivation;
protein purification;
control of chemical reactions, particularly enzymatic; and
immunodiagnostics.

Within the broad field of biological sample preparation, we focus the majority of our product development efforts in three specific areas: biomarker discovery (primarily through mass spectrometric analysis), forensics and histology.

Biomarker Discovery - Mass Spectrometry. A biomarker is any substance (e.g., protein) that can be used as an indicator of the presence or absence of a particular disease-state or condition, to measure disease progression, and to measure the effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions.

A mass spectrometer is one of the laboratory instruments used in the analysis of biological samples, primarily proteins, in life sciences research. It is frequently used to help discover biomarkers. According to a recently published market report by Transparency Market Research (www.transparencymarketresearch.com) "Spectrometry Market

(Atomic, Molecular and Mass Spectrometry) - Global Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017," the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compound annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue until 2017 and is expected to have approximately 36.2% of the market revenue share in 2017 followed by Europe. We believe PCT offers significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

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Forensics. The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples e.g., bone, and hair, using PCT in the sample preparation process. We believe PCT may be capable of differentially extracting DNA from sperm and female epithelial cells in swabs collected from rape victims and stored in rape kits. According to the Joyful Arts Foundation's website, an organization focused on bringing justice to all victims of rape cases that remain unsolved (http://endthebacklog.org/whatisthebacklog.htm), "Experts in the federal government estimate that there are hundreds of thousands of untested rape kits in police and crime lab storage facilities throughout the United States." We believe this backlog exists for reasons such as cost, processing time and quality of results. We further believe that the ability to differentially extract DNA from the sperm while not extracting DNA from the female epithelial cells could reduce the cost of such testing, while increasing quality, safety and speed.

Histology. The most commonly used technique worldwide for the preservation of biopsies of cancer and other tissues for subsequent pathology evaluation is formalin-fixation followed by paraffin-embedding ("FFPE"). We believe that the quality and analysis of FFPE tissues is highly problematic. We believe PCT offers significant advantages over current processing methods, which include standardization, speed, biomolecule recovery and safety.

Our customers include researchers at academic laboratories, government agencies, biotechnology, pharmaceutical and other life sciences companies in the United States, and distribution partners in foreign countries.

We have experienced negative cash flows from operations with respect to our PCT business since inception. As of December 31, 2012, we did not have adequate working capital resources to satisfy our current liabilities. Based on our current projections, including equity financing subsequent to December 31, 2012, we believe our current cash resources will enable us to extend our cash resources until May 2013.

As a result, the audit report issued by our independent registered public accounting firm on our audited consolidated financial statements for the fiscal year ended December 31, 2012, contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report issued by our independent registered public accounting firm for our financial statements for the fiscal year ended December 31, 2012 states that our auditing firm has substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets to cover our operating and capital requirements for the next twelve-month period; and, if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The conditions described above could adversely affect our ability to obtain additional financing on favorable terms, if at all, and may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not qualify its opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us.

Management has developed a plan to continue operations. This plan includes reducing expenses, streamlining operations, and obtaining capital through an equity and/or debt financing including our most recently completed financing on March 29, 2013 (the "Series J Private Placement"). In the Series J Private Placement, we sold units consisting of preferred shares convertible into the Company's Common Stock ("Common Stock") and warrants to purchase shares of Common Stock for net aggregate proceeds of approximately $746,000 in two tranches of $590,000 and $156,000, respectively; and the conversion of $1,113,700 in principal and accrued interest from convertible promissory notes. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure our investors that our plans to address these matters in the future will be successful. Additional

financing may not be available to us on a timely basis or on terms acceptable to us, if at all. In the event we are unable to raise sufficient funds on terms acceptable to us, we may be required to:

severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business. The accompanying financial statements do not include adjustments that may be required in the event of the disposal of assets or the discontinuation of the business;

obtain financing with terms that may have the effect of diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or

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obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Developments

Despite the continued uncertainty in the capital markets during 2012 that negatively affected the overall capital budgets of our existing and prospective customers, and notwithstanding our limited financial resources during such time, we reported a number of accomplishments during 2012:

2012

Strategic Partnership with Constant Systems Ltd. On November 26, 2012, we entered into a strategic marketing, selling, and distribution agreement with Constant Systems Ltd. ("Constant Systems"), a British company that provides niche, pressure-based products and services to a global client base. Under the terms of the agreement, the Company has been granted non-exclusive rights to market, sell, and distribute Constant Systems' unique, high-pressure cell disruption equipment and consumables in North America. In turn, Constant Systems has been granted non-exclusive rights to market, sell and distribute the Company's patented PCT-based instruments and consumables in 12 European/Asian countries, consisting of England, Scotland, Wales, Ireland, Spain, Portugal, Italy, Norway, Sweden, Finland, Denmark and Singapore.

Completion of the Series G Convertible Preferred Stock Private Placement. On November 15, 2012 (2nd tranche) and on July 6, 2012 (1st tranche), the Company completed a private placement, pursuant to which we sold an aggregate of 145,320 units for a purchase price of $5.00 per unit resulting in gross proceeds to us of $726,598 (the "Series G Private Placement"). Each unit consisted of (1) one share of Series G Convertible Preferred Stock, $0.01 par value per share (the "Series G Preferred Stock") convertible into 10 shares of Common Stock (subject to adjustment for stock splits, stock dividends, recapitalization, etc.), and (ii) a three-year warrant to purchase five shares of Common Stock at a per share exercise price of $0.50 (the "Series G Warrant"). The Series G Warrants will be exercisable until the close of business on the third anniversary of the applicable closing date of the Series G Private Placement. Of the $726,598 invested in the Series G Private Placement, $31,100 was received in cash and $695,498 was from the conversion of outstanding indebtedness and accrued board of directors' fees.

Worldwide Distribution Agreement with Cole-Parmer. On October 29, 2012, Cole-Parmer (one of the largest and best-known distributors of laboratory products worldwide, and a Thermo Fisher Company) announced that they had become a distributor of PBI's Shredder SG3 sample preparation device.

Multiple Presentations on the Advantages of the PCT Sample Preparation System. On November 2, 2012, October 31, 2012, October 18, 2012 and on July 17, 2012, the Company announced that researchers had reported that the PCT SPS significantly improved the detection of DNA and proteins in their biomarker discovery, forensics, environmental, and bio-defense studies.

Global Sales Reach Broadened with New Distribution Agreements. On July 12, 2012 and March 1, 2012, the Company announced an expansion in its global sales reach with distribution agreements with three companies having a combined sales coverage in six new countries, consisting of China, Australia, New Zealand, Vietnam, Cambodia, and Laos.

Change to the Company's Board of Directors. On July 3, 2012, the Company announced a reduction in the size of its Board of Directors from eight to five members with the resignations of Dr. Calvin Saravis, Mr. Donald Payne, Mr. Alan Rosenson, Mr. Alan Goldberg and Mr. Gregory Freitag and the addition of two industry veterans, Mr. Vito Mangiardi and Mr. Kevin Pollack to fill the two vacancies.

Collaboration with LEAP Technologies. On May 7, 2012 and May 20, 2012, the Company announced a co-marketing, co-selling, and co-development agreement with LEAP Technologies.

Expansion of License and Collaboration Agreement with Target Discovery. On April 23, 2012, the Company announced an expanded license agreement and collaboration with personalized medicine company Target Discovery, with a first target goal to meet unmet needs in treatment guidance for ovarian cancer.

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Completion of the Series E Convertible Preferred Stock Registered Direct Offering. On April 9, 2012 the Company completed a registered direct offering with Ironridge pursuant to which we sold an aggregate of 500 shares of our Series E Preferred Stock to Ironridge for a purchase price of $1,000 per share or an aggregate purchase price of $500,000. Each share of Series E Preferred Stock was convertible into approximately 980 shares of Common Stock. The Series E Preferred Stock was entitled to a yearly dividend at a rate of 10.5% per year, subject to a credit risk and make-whole adjustment, and was payable in cash or shares of Common Stock at our election. Ironridge converted all 500 shares of Series E Preferred Stock into 490,106 shares of Common Stock in 2012.

Collaboration with Dr. Henry C. Lee. On March 9, 2012, the Company announced a collaboration with Dr. Henry C. Lee, one of the world's leading forensic scientists, on the use of PCT in multiple areas of forensic analysis.

Completion of an $800,000 Private Placement. On February 8, 2012, the Company raised an aggregate of $800,000 in a private placement of units consisting of a total of 971,867 shares of restricted Common Stock and warrants to purchase 485,937 shares of restricted Common Stock. Among the group of investors that participated in the private placement were the Company's chairman of the Board of Directors, the Company's president and chief executive officer, and two investors from our November 2011 registered direct offering. The price per unit was $0.8025 for units consisting of 789,350 shares of Common Stock and warrants, to purchase 394,677 shares of Common Stock at an exercise price of $0.74 per share, and $0.9125 for the units consisting of the remaining 182,517 shares of Common Stock and warrants to purchase 91,260 shares of Common Stock at an exercise price of $0.85 per share. Of the $800,000 invested in the private placement, $412,453 was received in cash and $387,547 was from the conversion of outstanding principal and interest on convertible promissory notes we issued in 2011.

Contracts and Grants Awarded in 2012. In October 2012, we were awarded a contract of approximately $850,000 from the Department of Defense to help fund the development of a PCT-based system to improve the processing of pathogenic organisms, specifically viruses and bacteria. The contract funds studies until approximately September 2013.

Corporate Information

We were incorporated in the Commonwealth of Massachusetts in August 1978 as Boston Biomedica, Inc. In September 2004, we completed the sale of Boston Biomedica's core business units and began to focus exclusively on the development and commercialization of the PCT platform. Following this change in business strategy, we changed our legal name from Boston Biomedica, Inc. to Pressure BioSciences, Inc. ("PBI"). We began operations as PBI in February 2005, research and development activities in April 2006, early marketing and selling activities of our Barocycler instruments in late 2007, and aggressive marketing and selling of our PCT-based instrument platform in 2012.

Available Information

Our Internet website address is http://www.pressurebiosciences.com. Through our website, we make available, free of charge, reports we file with the Securities and Exchange Commission ("SEC"), which include, but are not limited to, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any and all amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. These SEC reports can be also accessed through the investor relations section of our website. The information found on our website is not part of this or any other report we file with or furnish to the SEC.

You may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy and information

statements and other information regarding Pressure BioSciences and other issuers that file electronically with the SEC. The SEC's Internet website address is http://www.sec.gov.

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Sample Preparation for Genomic, Proteomic, Lipidomic and Small Molecule Studies

The Market

Since February 2005, we have focused substantially all of our research and development and commercialization efforts on sample preparation for genomic, proteomic, lipidomic, and small molecule studies. This market is comprised of academic and government research institutions, biotechnology and pharmaceutical companies, and other public and private laboratories that are engaged in studying genomic, proteomic and small molecule material within plant and animal cells, and tissues. We elected to initially focus our resources in the market of genomic, proteomic and small molecule sample preparation because we believe it is an area that:

is a rapidly growing market;
has a large and immediate need for better technology;
is comprised mostly of research laboratories, which are subject to minimal governmental regulation;
is the least technically challenging application for the development of our products;
is compatible with our technical core competency; and
we currently have strong patent protection.

We believe that our existing Barocycler instrumentation and PCT consumable products fill an important and growing need in the sample preparation market for the safe, rapid, versatile, reproducible and quality extraction of nucleic acids, proteins and small molecules from a wide variety of plant and animal cells and tissues.

Biomarker Discovery - Mass Spectrometry

A biomarker is any substance (e.g., protein) that can be used as an indicator of the presence or absence of a particular disease-state or condition, and to measure the progression and effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions.

A mass spectrometer is a laboratory instrument used in the analysis of biological samples, primarily proteins, in life sciences research. It is frequently used to help discover biomarkers. According to a recently published market report by Transparency Market Research (www.transparencymarketresearch.com) "Spectrometry Market (Atomic, Molecular and Mass Spectrometry) - Global Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017," the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compound annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue till 2017 and is expected to have approximately 36.2% of the market revenue share in 2017 followed by Europe. We believe PCT offers significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

Our plan is to focus primarily on the application of PCT-enhanced protein extraction and digestion for the mass spectrometry market and the advantages of PCT in this market, and the use of PCT in biomarker discovery, soil and plant biology, counter bio-terrorism and tissue pathology applications.

Forensics

The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples e.g., bone and hair using PCT in the sample preparation process. We believe that PCT may be

capable of differentially extracting DNA from sperm and female epithelial cells in swabs collected from rape victims and stored in rape kits. We also believe that there are many completed rape kits that remain untested for reasons such as cost, time and quality of results. We further believe that the ability to differentially extract DNA from sperm and not epithelial cells could reduce the cost of such testing, while increasing quality, safety and speed.

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Histology

The most commonly used technique worldwide for the preservation of cancer and other tissues for subsequent pathology evaluation is formalin-fixation followed by paraffin-embedding, or FFPE. We believe that the quality and analysis of FFPE tissues is highly problematic, and that PCT offers significant advantages over current processing methods, including standardization, speed, biomolecule recovery, and safety.

Sample Extraction Process

The process of preparing samples for genomic, proteomic and small molecule studies includes a crucial step called sample extraction or sample disruption. This is the process of extracting nucleic acid i.e., DNA and/or RNA, proteins or small molecules from the plant or animal cells and tissues that are being studied. Sample preparation is widely regarded as a significant impediment to research and discovery and sample extraction is generally regarded as the key part of sample preparation. Our current commercialization efforts are based upon our belief that pressure cycling technology provides a superior solution to sample extraction compared with other available technologies or procedures and can thus significantly improve the quality of sample preparation.

Collaboration Program

Our collaboration program is an important element of our business strategy. Initiating a collaboration with a researcher involves the installation of a Barocycler instrument for an agreed upon period of time of approximately three to six months, and the execution of an agreed upon work plan. Our primary objectives for entering into a collaboration agreement include:

- the development of a new application for PCT in sample preparation;
- the advancement and validation of our understanding of PCT within an area of life sciences in which we already have products;
- the demonstration of the effectiveness of PCT to specific research scientists who we believe can have a positive impact on market acceptance of PCT; and
- the expectation of peer-reviewed publications and/or presentations at scientific meetings by a third party on the merits of PCT.

Since we initiated our collaboration program in June 2005, third party researchers have cited the use of our PCT platform in publications and presentations. We believe that this program has provided and continues to provide us with independent and objective data about PCT from well-respected laboratories throughout the United States.

Company Products

We believe our PCT products allow researchers to improve scientific research studies in the life sciences field. Our products are developed with the expectation of meeting or exceeding the needs of research scientists while enhancing the safety, speed and quality that is available to them with existing sample preparation technology.

Barocycler Instrumentation

Our Barocycler product line consists of laboratory instrumentation that subjects a sample to cycles of pressure from ambient to ultra-high levels and then back to ambient; all in a precisely controlled manner. Our instruments, the Barocycler NEP3229 and Barocycler NEP2320, use cycles of high, hydrostatic pressure to quickly and efficiently break up the cellular structures of a specimen to release nucleic acids, proteins, lipids and small molecules from the specimen into our consumable processing tube, referred to as our PULSE Tubes. Our Barocycler instrumentation is

designed to fit on a laboratory bench top, inside a biological safety cabinet, or on the shelf of a laboratory cold room. Our instruments have an external chiller hook-up (to control temperature during the PCT process), automatic fill and dispensing valves, and an integrated micro-processor keypad. The microprocessor is capable of saving up to 99 specific PCT protocols; so, the researcher can achieve maximum reproducibility for the extraction of nucleic acids, proteins, lipids, or small molecules from various biological samples. Our Barocycler instruments and our consumable products make up our current PCT Sample Preparation System (See below).

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Barocycler NEP3229 – The Barocycler NEP3229 contains two units – a user interface and a power source – comprised primarily of a 1.5 horsepower motor and pump assembly (hydraulic). Combined, the two components of the NEP3229 weigh approximately 350 pounds. The Barocycler NEP3229 is capable of processing up to three samples simultaneously using our specially designed, single-use PULSE Tubes and up to 48 samples simultaneously using our specially-designed MicroTubes.

Barocycler NEP2320 – The Barocycler NEP2320 is a smaller, more compact version of our NEP3229 unit. It weighs approximately 80 pounds (with accessories), and works on compressed air (pneumatic) instead of hydraulics like the larger NEP3229 unit. Because this instrument is pneumatic, the NEP2320 can be easily attached by an air hose to a typical 85 psi air compressor found in most scientific laboratories as well as many consumer-sold portable compressors or even to bottled gas. This instrument is used by our sales directors as a demonstration instrument and is marketed as a second instrument alternative to our PCT SPS. The Barocycler NEP2320 is capable of processing one sample at a time using our specially designed, single-use PULSE Tubes and up to 16 samples simultaneously using our specially-designed MicroTubes.

Barocycler HUB440 – The Barocycler HUB440 was introduced to collaborators in the electron paramagnetic resonance ("EPR") market in 2011 for testing in a laboratory environment, and to elicit feedback from research scientists on performance and capabilities. The Barocycler HUB440 is capable of creating and controlling hydrostatic pressure from 35 Bar (500 psi) to 4,000 Bar (58,000 psi). It is computer controlled, and runs on software that was specially-written by PBI in LabVIEW (by National Instruments Corporation). PBI owns the rights and has a license to use the specialty LabVIEW software. The Barocycler HUB440 is the first portable, ready to use pressure generator for the laboratory bench. We believe that over the coming years, the Barocycler HUB440 will be the main instrument in the Company's PCT-based instrument line.

PCT MicroTube Adapter Kit – The PCT MicroTube Adapter Kit includes an ergonomically designed, space-saving Workstation, PCT MicroTubes and MicroCaps, and specialized tools to enable the user to process up to forty-eight samples simultaneously in our PCT SPS, as compared to three with the Barocycler NEP3229.

The Shredder SG3 –The Shredder SG3 is a low shear mechanical homogenization system for use with tough, fibrous and other difficult-to-disrupt tissues and organisms. The Shredder SG3 System uses a variety of Shredder PULSE Tubes to directly and rapidly grind a biological sample which, when combined with selected buffers, can provide effective extraction of proteins, DNA, RNA, lipids and small molecules from tissues and organisms. The Shredder SG3 features a three position force setting lever, which enables the operator to select and apply reproducible force to the sample during the shredding process and eliminates the need for the operator to exert force for long periods when processing one or more samples.

Consumable Products

PULSE Tubes (FT500) – The FT500 PULSE Tube is a specially-designed, plastic, single-use, processing container with two chambers separated by a small disk with small holes. This small disk is referred to as a Lysis Disk. PULSE Tubes transmit the power of PCT from the Barocycler instrument to the sample. In sample extraction, the specimen is placed on the Lysis Disk. Buffers are added to the PULSE tube and the PULSE Tube is capped and placed in the pressure chamber of the Barocycler instrument. The pressure chamber fluid then is added and pressurization begins. As pressure increases, a small moveable piston pushes the specimen from the top (sample) chamber, through the Lysis Disk and into the bottom (fluid retention) chamber. When pressure is released, the sample, which is now partially homogenized, is pulled back through the Lysis Disk by the receding ram. The combination of physical passage through the Lysis Disk, rapid pressure changes and other biophysical mechanisms related to cycled pressure break up the cellular structures of the specimen to quickly and efficiently release nucleic acids, proteins, lipids and small molecules.

Non-Disk PULSE Tubes (FT500-ND) – The FT500-ND PULSE Tube is a specially-designed, plastic, single-use, processing container with one chamber separated by a small disk with small holes. The FT500-ND is similar to the FT500 in look and feel, except there is no Lysis Disk separating the body of the processing container into two chambers, as in the FT500. The design change was based on market demand for a PCT consumable for the rapid and reproducible processing of solutions and suspensions that do not require partial homogenization by passage through a Lysis Disk and for a consumable that could accept smaller sample volumes. The FT500-ND offers variable sample volumes with a range five times that of the existing FT500.

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ProteoSolve - SB – (ProteoSolve for Systems Biology) is a PCT-dependent method for the simultaneous extraction, isolation and fractionation of nucleic acids (DNA and RNA), proteins and lipids from animal and plant samples routinely used in laboratory research. This patent-pending kit contains proprietary reagents, consumable processing containers (PULSE Tubes) and instructions for use. It is intended to be used with our patented PCT Sample Preparation System. The kit is based on an approach to a "systems biology" sample preparation method that was first unveiled during early 2008 in collaboration with Dr. Alexander Ivanov, who was then with the Harvard School of Public Health.

ProteoSolve - CE – (ProteoSolve for Conventional Extraction) is a PCT-dependent kit for the extraction of proteins from a variety of samples using optimized detergent-based reagent system compatible with two-dimensional electrophoresis or two-dimensional chromatographic separation for proteomic analysis. The kit contains the reagents and instructions necessary for the extraction of either denatured or non-denatured proteins, which can then be used for the analysis of protein structure and function.

Mitochondria Isolation Kits – These kits contain the chemical ingredients necessary for a scientist to extract mitochondria from skeletal muscle and lung tissue for subsequent analysis. Mitochondria play a major role in generating the energy required to power most cell processes and are involved in other important cell functions. Mitochondria have been implicated in several human diseases, including heart disease, stroke, Parkinson's disease, cancer and other mitochondrial diseases.

We believe our development of these products has helped, and will continue to help, drive the adoption of PCT within the life sciences market.

Company Services

Government Grants and Contracts

We view federal agency grants to be an important part of our business plan. These types of grants allow us to bill the federal agency for work that we are planning to perform as part of the development and commercialization of our technology. We generally start by submitting initial grant requests that are in response to requests for proposals (“RFPs”) from the federal government through their Small Business Innovation Research (“SBIR”) program. Initial (“SBIR Phase I”) grants are meant to fund approved research projects for six months, and generally have budgets of approximately $100,000 to $150,000. Because our work in SBIR Phase I grants has been successful, we have applied, and may in the future apply for larger National Institutes of Health (“NIH”) SBIR Phase II grants. Such larger grants are typically for a two-year period and can offer as much as $1,000,000 to support significant research projects in areas we would otherwise expect to support with internal funds should SBIR Phase II grants not be awarded. To date, we have been awarded three NIH SBIR Phase I grants and one SBIR Phase II grant. The data on one of the NIH SBIR Phase I grants was the basis for the submission, and subsequent award, of the NIH SBIR Phase II grant awarded to us in the approximate amount of $850,000 in August 2008. This NIH SBIR Phase II grant was for work in the area of using PCT to extract protein biomarkers, sub-cellular molecular complexes, and organelles, with the expectation that these studies might ultimately lead to the release of a new, commercially available PCT-based system, with validated protocols, end-user kits, and other consumables intended for the extraction of clinically important protein biomarkers, sub-cellular molecular complexes, and organelles from human and animal tissues. All three of the NIH SBIR Phase I grants and the NIH SBIR Phase II grant have been completed.

In October 2011, we were awarded a contract for approximately $850,000 from the Department of Defense (“DoD”) to help fund the development of a PCT-based system to improve the processing of pathogenic organisms, specifically viruses and bacteria. The contract funds studies until September 2013.

Extended Service Contracts

We offer extended service contracts on our laboratory instrumentation to all of our customers. These service contracts allow a customer who purchases a Barocycler instrument to receive on-site scheduled preventative maintenance, on-site repair and replacement of all worn or defective component parts, and telephone support, all at no incremental cost for the life of the service contract. We offer one-year and four-year extended service contracts to customers who purchase Barocycler instruments.

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Other Applications of Pressure Cycling Technology

PCT is an enabling, platform technology based on a physical process that had not previously been used to control bio-molecular interactions. During its early development, under the legacy business of Boston Biomedica, Inc., our scientists were researching and developing applications of pressure cycling technology in many areas of the life sciences, including genomic, proteomic and small molecule sample preparation. The data generated during these early years, combined with the data generated since we began focusing on PCT operations in February 2005, form the basis of knowledge that we believe will allow us to successfully commercialize PCT both within and outside of the sample preparation market.

Our research and development efforts have shown that, in addition to genomic, proteomic and small molecule sample preparation, PCT is potentially beneficial in a number of other areas of the life sciences, including pathogen inactivation, protein purification, control of chemical (particularly enzymatic) reactions, and immunodiagnostics. Other applications in the sample preparation market include forensics and histology, as we discuss above. Our pursuit of these markets, however, depends on a number of factors, including our success in commercializing PCT in the area of sample preparation, our judgment regarding the investment required to be successful in these areas, the value of these markets to our company, and the availability of sufficient financial resources. Below is a brief explanation of each of these additional potential applications and a short description of why we believe PCT can be used to improve scientific studies in these areas.

Pathogen Inactivation

Biological products manufactured for human use, such as blood, vaccines and drugs, are put through rigorous processing protocols in an effort to minimize the potential of that product to transmit disease. These protocols may include methods to remove infectious materials such as pre-processing testing, filtration or chromatography, or methods to inactivate infectious materials that are not captured in the removal steps such as pasteurization, irradiation and solvent detergent inactivation. Notwithstanding current diligence in both the removal and inactivation steps, significant concern remains that some bacteria and viruses capable of transmitting infection to recipients may not be removed or inactivated with current procedures. In addition, some removal and inactivation methods may not be useful because of cost, safety, ease-of-use or other practical concerns. To that end, we believe that a new inactivation method is needed that can safely, rapidly and inexpensively inactivate pathogens in blood, vaccines and drugs without the need for chemical or other potentially toxic additives. We believe we have successfully generated proof-of-concept that PCT can satisfy this need. We believe that compared with current procedures, a process that uses PCT has the potential to increase safety and yield, lower cost and decrease the potential side effects of current methods. We have been issued U.S., European, and Japanese patents for this PCT-dependent inactivation technology.

Protein Purification

Many vaccines and drugs are comprised of proteins. These proteins need to be purified from complex mixtures as part of the manufacturing process. Current purification techniques often result in the loss of a significant amount of the protein. Therefore, any method that could increase the amount of protein being recovered in the purification step, could subsequently lead to a reduction in cost to the manufacturer. We believe we have successfully generated proof-of-concept that PCT can satisfy this need. We believe that compared with current purification procedures, a process that uses PCT has the potential to increase protein recovery, increase the quality of the product, and lower production costs. We have been issued U.S. and European patents in this area.

Control of Chemical (Particularly Enzymatic) Reactions

Chemical reactions encompass many important interactions in nature. Methods used to control chemical reactions could have a positive effect on the quality, speed, and overall result of the reaction. The control and detection of chemical reactions is particularly useful in the biotechnology field for synthesizing and characterizing such molecules as nucleic acids and polypeptides. We believe that PCT offers distinct advantages in controlling chemical reactions over current methods, since PCT can provide precise, automated control over the timing and synchronization of chemical reactions, particularly enzymatic reactions. We have been issued U.S. and European patents in this area.

Immunodiagnostics

Many tests used in the clinical laboratory today are based on the formation of a complex between two proteins, such as an antigen and an antibody. Such “immunodiagnostic” methods are used for the detection of infectious agents such as the human immunodeficiency virus (“HIV”), hepatitis viruses, West Nile virus, and others, as well as for endocrine, drug testing and cancer diagnostics. We have generated proof-of-concept that PCT may be used to control biomolecular interactions between proteins, such as antigens and antibodies. We believe this capability may provide a greater degree of sensitivity and quantitative accuracy in immunodiagnostic testing than that offered by methods that are available today. We have been issued U.S. and European patents in this area.

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Customers

Our customers include researchers at academic laboratories, government agencies, biotechnology companies, pharmaceutical companies and other life science institutions in the United States. Our customers also include 11 foreign distribution partners. Our goal is to continue our market penetration in these target groups and releasing products in our publicized product pipeline. We also believe that there is a significant opportunity to sell and/or lease additional Barocycler instrumentation to additional laboratories at current customer institutions.

If we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic, and small molecule sample preparation and if we are successful in our attempts to attract additional capital, our potential customer base could expand to include hospitals, reference laboratories, blood banks and transfusion centers, plasma collection centers, pharmaceutical manufacturing plants and other sites involved in each specific application. If we are successful in forensics, our potential customers could be laboratories, military and other government agencies. If we are successful in histology, our potential customers could be pharmaceutical companies, hospitals, and laboratories focused on drug discovery or correlation of disease states.

Competition

We compete with companies that have existing technologies for the extraction of nucleic acids, proteins and small molecules from cells and tissues, including methods such as mortar and pestle grinding, sonication, rotor-stator homogenization, French Press, bead beating, freezer milling, enzymatic digestion and chemical dissolution. We believe that there are a number of significant issues related to the use of these methods, including: complexity, sample containment, cross-contamination, shearing of biomolecules of interest, and limited applicability to different sample types, ease-of-use, reproducibility, and cost. We believe that our PCT Sample Preparation System offers a number of significant advantages over these methods, including

labor reduction	versatility
temperature control	efficiency
precision	simplicity
reproducibility	safety

To be competitive in the industry, we believe we must be able to clearly and conclusively demonstrate to potential customers that our products provide these improved performance capabilities. We strongly believe that our PCT Sample Preparation System is a novel and enabling system for genomic, proteomic, and small molecule sample preparation. As such, many users of current manual techniques will need to be willing to challenge their existing methods of sample preparation and invest time to evaluate a method that could change their overall workflow in the sample preparation process, prior to adopting our technology.

Further, we are aware that the cost of the PCT Sample Preparation System may be greater than the cost of many of the other techniques currently employed. Consequently we are focusing our sales efforts on those product attributes that we believe will be most important and appealing to potential customers, namely versatility, reproducibility, quality and safety.

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Manufacturing and Supply

Source Scientific, LLC currently provides all of the manufacturing and assembly services for our Barocycler NEP2320 and Barocycler NEP3229 instrumentation products under an informal, unwritten understanding. We currently manufacture and assemble the Barocycler HUB440, the Shredder SG3, and the MicroTubes at our South Easton facility. We plan to continue to utilize Source Scientific, LLC as our primary assembler and contract manufacturer of our current, and future, Barocycler NEP 2320 and 3229 instruments. Until we develop a broader network of manufacturers and subcontractors, obtaining alternative sources of supply or manufacturing services could involve significant delays and other costs and challenges, and may not be available to us on reasonable terms, if at all. The failure of a supplier or contract manufacturer to provide sufficient quantities, acceptable quality and timely products at an acceptable price, or an interruption of supplies from such a supplier could harm our business and prospects.

Research and Development

Our research and development activities are split into two functional areas, applications and engineering.

1. Applications Research and Development: Our highly educated and trained staff has years of experience in molecular and cellular biology, virology, and proteomics. Our team of scientists focuses on the development of our PCT Sample Preparation System and further commercialization of PCT-dependent genomic, proteomic, and small molecule sample preparation methods. Dr. Alexander Lazarev, our vice president of Research & Development, meets regularly with our sales, marketing, and engineering staff to discuss market needs and trends. Our applications research and development team is responsible for the technical review of all scientific collaborations, for the support of our marketing and sales departments through the generation of internal data in a number of areas of market interest, and in the development of commercially-viable PCT-dependent products.

2. Engineering Research and Development: Our engineering research and development team is focused on the design and development of new and improved instrumentation and consumable products to support the commercialization of PCT. Our engineering department is led by Dr. Edmund Ting, our senior vice president of engineering. The primary focus of our engineering group is to ensure seamless production processes, perform installations and field service, and work with our application scientists to complete the development of a high throughput sample processing system for the mass spectrometry market.

Product Pipeline

The following instruments are in our research and development pipeline:

Barocycler FFPE Protein Extraction Instrument System - A PCT-based system offering the enhanced extraction of proteins from formalin-fixed, paraffin-embedded (“FFPE”) samples using a modified Barocycler instrument that combines the advantages of pressure cycling, high temperature and certain reagents.

XstreamPCT™ HPLC Digestion Module - For automated, in-line, on-demand PCT-enhanced protein digestion; the first module in PBI's PCT-based HPLC platform.

Barocycler HT Multiwell (24-384) - For high throughput, PCT-enhanced biomolecule extraction/accelerated enzymatic digestion with the capability of processing 24 - 384 samples.

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Sales and Marketing

Our sales and marketing efforts are centered on using the independent data developed and disseminated by our collaboration partners to help drive the installed base of our PCT Sample Preparation System. The development of scientific data by our partners and our internal researchers provides our sales and marketing staff with additional tools that are essential in selling a new technology such as PCT.

Sales

Direct US Sales Force

Our domestic sales force currently consists of one full-time sales director and one part-time salesperson. We believe that hiring seasoned sales professionals with significant industry experience will allow us to penetrate the market more effectively than with a small, focused sales force. We may increase the number of sales professionals if our financial resources permit and if we believe that doing so will accelerate our commercialization efforts.

Foreign Distributor Network

Currently, we have 11 distribution arrangements covering 22 countries in Europe, Asia and Australia. In June 2008, we entered into a distribution agreement with Veritas Corporation ("Veritas") of Tokyo, Japan pursuant to which we granted Veritas exclusive distribution rights to all of our products in Japan. This agreement extends through December 31, 2013. In October 2011, we entered into a distribution agreement with IUL Instruments GmbH ("IUL") of Germany pursuant to which we granted IUL exclusive distribution rights to all of our products in Germany and Switzerland through March 31, 2014. In November 2011, we entered into a distributor agreement with Oroboros Instruments Corp. ("Oroboros") of Austria pursuant to which we granted Oroboros non-exclusive world-wide distribution rights to the PBI Shredder SG3 System and related products through December 31, 2013. In March and July 2012, we entered into a distribution agreement with six companies pursuant to which we granted non-exclusive distribution rights to certain PCT products in six European and Asian countries and Australia through December 2013. In October 2012, we entered into a supply agreement with Cole Parmer Corporation pursuant to which we granted Cole Parmer non-exclusive, worldwide distribution rights to our PBI Shredder SG3 System and related consumables through December 2014. In November 2012, we entered into a distribution agreement with UK-based Constant Systems, pursuant to which we granted Constant Systems non-exclusive distribution rights to certain of our PCT SPS product line in 12 European and Asian countries. This agreement extends through December 31, 2013.

Marketing and Sales

Our marketing and sales function is led by Dr. Nathan Lawrence, our vice president of Marketing and Sales. Dr. Lawrence oversees and directs marketing and sales activities such as trade show attendance and sponsorship, on-line advertising, website maintenance and improvement, search engine optimization, creation and dissemination of a PCT newsletter, market research initiatives, the arrangement of on-location seminars, lectures, and demonstrations of PCT capabilities, and the supervision of our two-person sales force. Dr. Lawrence is also responsible for the overall coordination of our collaboration programs, from initial set-up, research plan design, and training, service, and data analysis. Some of these responsibilities are shared with other PBI departments such as Research and Development, but marketing and sales drives the collaborative process. Dr. Lawrence is also responsible for the continued coordination and support of our foreign and domestic distribution partners.

In January and May 2012, we entered into co-marketing/selling and research and development agreements with Digilab, a provider of products for life sciences, analytical chemistry and diagnostic markets, and LEAP Technologies, a provider of automation equipment for the genomic and proteomic industries. Under these

agreements, we are co-marketing and co-selling our respective product lines worldwide, including in industry publications, at scientific meetings, on each company's website, through common collaborator studies, at key industry trade shows, and in visits to customer sites. We are also exploring ways to co-develop new instrumentation, accessories/modules for existing instrumentation, and consumables that combine the robotics and high throughput capabilities of these companies' products with the extraction, protein digestion, and other advantages of our PCT platform.

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Intellectual Property

We believe that protection of our patents and other intellectual property is essential to our business. Subject to the availability of sufficient financial resources, our practice is to file patent applications to protect technology, inventions, and improvements to inventions that are important to our business development. We also rely on trade secrets, know-how, and technological innovations to develop and maintain our potential competitive position.

To date, we have been granted 14 United States and 10 foreign patents. Our issued patents expire between 2015 and 2027. Our failure to obtain and maintain adequate patent protection may adversely affect our ability to enter into, or affect the terms of, any arrangement for the marketing or sale of any of our PCT products. It may also allow our competitors to duplicate our products without our permission and without compensation.

License Agreements Relating to Pressure Cycling Technology

BioMolecular Assays, Inc.

In 1996, we acquired our initial equity interest in BioSeq, Inc., which at the time was developing our original pressure cycling technology. BioSeq, Inc. acquired its pressure cycling technology from BioMolecular Assays, Inc. under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining outstanding capital stock of BioSeq, Inc., and at such time, the technology transfer and patent assignment agreement was amended to require us to pay BioMolecular Assays, Inc., a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq, Inc. acquired from BioMolecular Assays, Inc. We are also required to pay BioMolecular Assays, Inc. 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminate in 2016. During the years ended December 31, 2012 and 2011, we incurred approximately $23,634 and $21,090, respectively, in royalty expense associated with our obligation to BioMolecular Assays, Inc.

In connection with our acquisition of BioSeq, Inc., we licensed certain limited rights to the original pressure cycling technology back to BioMolecular Assays, Inc. This license is non-exclusive and limits the use of the original pressure cycling technology by BioMolecular Assays, Inc. solely for molecular applications in scientific research and development and in scientific plant research and development. BioMolecular Assays, Inc. is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BioMolecular Assays, Inc. under the license. BioMolecular Assays, Inc. must pay us these royalties until the expiration of the patents held by BioSeq, Inc. in 1998, which we anticipate will be 2016. We have not received any royalty payments from BioMolecular Assays, Inc. under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute ("Battelle"). The licensed technology is the subject of a patent application filed by Battelle in 2008 and relates to a method and a system for improving the analysis of protein samples, including through an automated system utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. In addition to royalty payments on net sales on “licensed products,” we are obligated to make minimum royalty payments for each year that we retain the rights outlined in the patent license agreement and we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. The minimum annual royalty for 2011 was $7,500. Our only obligation for 2012 was a minimum royalty payment of $10,000.

Regulation

Many of our activities are subject to regulation by governmental authorities within the United States and similar bodies outside of the United States. The regulatory authorities may govern the collection, testing, manufacturing, safety, efficacy, labeling, storage, record keeping, transportation, approval, advertising, and promotion of our products, as well as the training of our employees.

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All of our commercialization efforts to date are focused in the area of genomic, proteomic and small molecule sample preparation. We do not believe that our current Barocycler products used in sample preparation are considered "medical devices" under the United States Food, Drug and Cosmetic Act (the "FDA Act") and we do not believe that we are subject to the law's general control provisions that include requirements for registration, listing of devices, quality regulations, labeling and prohibitions against misbranding and adulteration. We also do not believe that we are subject to regulatory inspection and scrutiny. If, however, we are successful in commercializing PCT in applications beyond our current focus area of genomic, proteomic and small molecule sample preparation, such as protein purification, pathogen inactivation and immunodiagnostics, our products may be considered "medical devices" under the FDA Act, at which point we would be subject to the law's general control provisions and regulation by the U.S. Food and Drug Administration (the "FDA") that include requirements for registration listing of devices, quality regulations, labeling, and prohibitions against misbranding and adulteration. The process of obtaining approval to market these devices in the other potential applications of PCT would be costly and time consuming and could prohibit us from pursuing such markets.

We may also become subject to the European Pressure Equipment Directive, which requires certain pressure equipment meet certain quality and safety standards. We do not believe that we are currently subject to this directive because our Barocycler instruments are below the threshold documented in the text of the directive. If our interpretation were to be challenged, we could incur significant costs defending the challenge, and we could face production and selling delays, all of which could harm our business.

We self-certified that our Barocycler instrumentation was electromagnetically compatible, or "CE" compliant, which means that our Barocycler instruments meet the essential requirements of the relevant European health, safety and environmental protection legislation. In order to maintain our CE Marking, a requirement to sell equipment in many countries of the European Union, we are obligated to uphold certain safety and quality standards.

Employees

At December 31, 2012, we had 12 full-time employees and 3 part-time employees. All employees enter into confidentiality agreements intended to protect our proprietary information. We believe that our relations with our employees are good. None of our employees are represented by a labor union. Our performance depends on our ability to attract and retain qualified professional, scientific and technical staff. The level of competition among employers for skilled personnel is high. Subject to our limited financial resources, we attempt to maintain employee benefit plans to enhance employee morale, professional commitment and work productivity and provide an incentive for employees to remain with us.

ITEM 1A. RISK FACTORS.

This Annual Report on Form 10-K contains forward-looking statements that involve risks and uncertainties, such as statements of our objectives, expectations and intentions. The cautionary statements made in this Annual Report on Form 10-K should be read as applicable to all forward-looking statements wherever they appear in this report. Our actual results could differ materially from those discussed herein. Factors that could cause or contribute to such differences include those discussed below, as well as those discussed elsewhere in this Annual Report on Form 10-K.

As of March 29, 2013, we had available cash of approximately $187,000. We require additional capital to fund our operations and cannot ensure that additional capital will be available on acceptable terms or at all.

We have experienced negative cash flows from operations from our pressure cycling technology business since we commenced our pressure cycling technology operations. As of March 29, 2013, we had available cash of approximately $187,000 which, based on current projections, will be sufficient to fund operations until May 2013. We

need substantial additional capital to fund our operations beyond May 2013.

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We have received an opinion from our independent registered public accounting firm expressing doubt regarding our ability to continue as a going concern.

The audit report issued by our independent registered public accounting firm on our audited consolidated financial statements for the fiscal year ended December 31, 2012 contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report states that our auditing firm has substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets at December 31, 2012 to cover our operating and capital requirements for the next twelve-month period; and if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Management has developed a plan to continue operations. This plan includes further reductions in expenses and obtaining equity or debt financing including our most recently completed financing on February 6, 2013 and March 28, 2013, in which we sold units consisting of shares of convertible preferred stock and warrants to purchase shares of Common Stock for net proceeds of approximately $746,000 in two tranches of $590,000 and $156,000, respectively; and the conversion of $1,113,700 in principal and accrued interest from convertible promissory notes. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful.

The factors described above could adversely affect our ability to obtain additional financing on favorable terms, if at all, and may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not qualify its opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us.

Our business could be adversely affected if we fail to implement and maintain effective disclosure controls and procedures and internal control over financial reporting.

We concluded that as of December 31, 2012, our disclosure controls and procedures and our internal control over financial reporting were not effective. As described in Item 9A of this Annual Report on Form 10-K, we have determined that we have limited resources for adequate personnel to prepare and file reports under the Securities Exchange Act of 1934 within the required time periods and that material weaknesses in our internal control over financial reporting exist relating to our accounting for complex equity transactions. If we are unable to implement and maintain effective disclosure controls and procedures and remediate the material weaknesses in a timely manner, or if we identify other material weaknesses in the future, our ability to produce accurate and timely financial statements and public reports could be impaired, which could adversely affect our business and financial condition. 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 preventive controls to properly safeguard assets. In addition, investors may lose confidence in our reported information and the market price of our Common Stock may decline.

We will need a greater amount of additional capital than we currently expect to need if we experience unforeseen costs or expenses, unanticipated liabilities or delays in implementing our business plan, developing our products and achieving commercial sales.

We need substantial capital to implement our sales distribution strategy for our current products and to develop and commercialize future products using our pressure cycling technology products and services in the sample preparation area, as well as for applications in other areas of life sciences. Our capital requirements will depend on many factors, including but not limited to:

the problems, delays, expenses, and complications frequently encountered by early-stage companies;
market acceptance of our pressure cycling technology products and services for sample preparation;
the success of our sales and marketing programs; and
changes in economic, regulatory or competitive conditions in the markets we intend to serve.

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To satisfy our potential capital requirements to cover the cost of implementing our sales distribution strategy for our current products and services and to develop and commercialize future products and services using our pressure cycling technology relating to sample preparation and other life science applications, we need to raise additional funds in the public or private capital markets. We may seek to raise any necessary additional funds through the issuance of warrants, equity or debt financings or executing collaborative arrangements with corporate partners or other sources, which may be dilutive to existing stockholders or otherwise have a material effect on our current or future business prospects. Additional financing may not be available to us on a timely basis, if at all, or on terms acceptable to us. If adequate funds are not available or if we fail to obtain acceptable additional financing, we may be required to:

- severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business;
- obtain financing with terms that may have the effect of substantially diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or
- obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Our actual results and performance, including our ability to raise additional capital, may be adversely affected by current economic conditions.

Our actual results and performance could be adversely affected by the current economic conditions in the global economy, which continue to pose a risk to the overall demand for our products from our customers who may elect to defer or cancel purchases of, or decide not to purchase, our products in response to continuing tightness in the credit markets, negative financial news and general uncertainty in the economy. In addition, our ability to obtain additional financing, on acceptable terms, if at all, may be adversely affected by the uncertainty in the current economic climate.

We have a history of operating losses, anticipate future losses and may never be profitable.

We have experienced significant operating losses in the area of PCT in each period since we began investing resources in PCT. These losses have resulted principally from research and development, sales and marketing, and general and administrative expenses associated with the development of our PCT business. During the year ended December 31, 2012, we recorded a net loss applicable to common shareholders of $4,400,215, or ($0.44) per share, as compared with $5,107,661, or ($0.77) per share, of the corresponding period in 2011. We expect to continue to incur operating losses until sales of our PCT products increase substantially. We cannot be certain when, if ever, we will become profitable. Even if we were to become profitable, we might not be able to sustain such profitability on a quarterly or annual basis.

Our financial results depend on revenues from our pressure cycling technology products and services, and from government grants.

We currently rely on revenues from our pressure cycling technology products and services in the sample preparation area and from revenues derived from grants awarded to us by governmental agencies, such as the National Institutes of Health. We have been unable to achieve market acceptance of our product offerings to the extent necessary to achieve significant revenue. Competition for government grants is very intense, and we can provide no assurance that we will continue to be awarded grants in the future. If we are unable to increase revenues from sales of our pressure cycling technology products and services and government grants, our business will fail.

We may be unable to obtain market acceptance of our pressure cycling technology products and services.

Many of our initial sales of our pressure cycling technology products and services have been to our collaborators, following their use of our products in studies undertaken in sample preparation for genomics, proteomics and small molecules studies. Our technology requires scientists and researchers to adopt a method of sample extraction that is different than existing techniques. Our PCT sample preparation system is also more costly than existing techniques. Our ability to obtain market acceptance will depend, in part, on our ability to demonstrate to our potential customers that the benefits and advantages of our technology outweigh the increased cost of our technology compared with existing methods of sample extraction. If we are unable to demonstrate the benefits and advantages of our products and technology as compared with existing technologies, we will not gain market acceptance and our business will fail.

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Our business may be harmed if we encounter problems, delays, expenses, and complications that often affect companies that have not achieved significant market acceptance.

Our pressure cycling technology business continues to face challenges in achieving market acceptance. If we encounter problems, delays, expenses and complications, many of which may be beyond our control or may harm our business or prospects. These include:

availability of adequate financing;
unanticipated problems and costs relating to the development, testing, production, marketing, and sale of our products;
delays and costs associated with our ability to attract and retain key personnel; and
competition.

The sales cycle of our pressure cycling technology products is lengthy. We have incurred and may continue to incur significant expenses and we may not generate any significant revenue related to those products.

Many of our current and potential customers have required between three and six months or more to test and evaluate our pressure cycling technology products. This increases the possibility that a customer may decide to cancel its order or otherwise change its plans, which could reduce or eliminate our sales to that potential customer. As a result of this lengthy sales cycle, we have incurred and may continue to incur significant research and development, selling and marketing, and general and administrative expense related to customers from whom we have not yet generated any revenue from our products, and from whom we may never generate the anticipated revenue if a customer is not satisfied with the results of the evaluation of our products or if a customer cancels or changes its plans.

Our business could be harmed if our products contain undetected errors or defects.

We are continuously developing new and improving our existing, pressure cycling technology products in sample preparation and we expect to do so in other areas of life sciences depending upon the availability of our resources. Newly introduced products can contain undetected errors or defects. In addition, these products may not meet their performance specifications under all conditions or for all applications. If, despite internal testing and testing by our collaborators, any of our products contain errors or defects or fail to meet customer specifications, then we may be required to enhance or improve those products or technologies. We may not be able to do so on a timely basis, if at all, and may only be able to do so at considerable expense. In addition, any significant reliability problems could result in adverse customer reaction, negative publicity or legal claims and could harm our business and prospects.

Our success may depend on our ability to manage growth effectively.

Our failure to manage growth effectively could harm our business and prospects. Given our limited resources and personnel, growth of our business could place significant strain on our management, information technology systems, sources of manufacturing capacity and other resources. To properly manage our growth, we may need to hire additional employees and identify new sources of manufacturing capabilities. Failure to effectively manage our growth could make it difficult to manufacture our products and fill orders, as well as lead to declines in product quality or increased costs, any of which would adversely impact our business and results of operations.

Our success is substantially dependent on the continued service of our senior management.

Our success is substantially dependent on the continued service of our senior management. We do not have long-term employment agreements with our key employees. In November 2012, our Vice President of Finance and Administration left the Company to pursue other opportunities. While we have replaced the individual with a

temporary part-time controller and we have hired a Chief Financial Officer, the loss of the services of any of our senior management has made, and could make it more difficult to successfully operate our business and achieve our business goals. In addition, our failure to retain existing engineering, research and development and sales personnel could harm our product development capabilities and customer and employee relationships, delay the growth of sales of our products and could result in the loss of key information, expertise or know-how.

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We may not be able to hire or retain the number of qualified personnel, particularly engineering and sales personnel, required for our business, which would harm the development and sales of our products and limit our ability to grow.

Competition in our industry for senior management, technical, sales, marketing, finance and other key personnel is intense. If we are unable to retain our existing personnel, or attract and train additional qualified personnel, either because of competition in our industry for such personnel or because of insufficient financial resources, our growth may be limited. Our success also depends in particular on our ability to identify, hire, train and retain qualified engineering and sales personnel with experience in design, development and sales of laboratory equipment.

Our reliance on a single third party for all of our manufacturing, and certain of our engineering, and other related services could harm our business.

We currently rely on Source Scientific, LLC ("Source Scientific"), a third party contract manufacturer, to manufacture our PCT instrumentation, provide engineering expertise, and manage the majority of our sub-contractor supplier relationships. Because of our dependence on one manufacturer, our success will depend, in part, on the ability of Source Scientific to manufacture our products cost effectively, in sufficient quantities to meet our customer demand, if and when such demand occurs, and meeting our quality requirements. If Source Scientific experiences manufacturing problems or delays, or if Source Scientific decides not to continue to provide us with these services, our business may be harmed. While we believe other contract manufacturers are available to address our manufacturing and engineering needs, if we find it necessary to replace Source Scientific, there will be a disruption in our business and we would incur additional costs and delays that would harm our business.

Our failure to manage current or future alliances or joint ventures effectively may harm our business.

We have entered into business relationships with 11 distribution partners and one co-marketing partner, and we may enter into additional alliances, joint ventures or other business relationships to further develop, market and sell our pressure cycling technology product line. We may not be able to:

identify appropriate candidates for alliances, joint ventures or other business relationships;
assure that any candidate for an alliance, joint venture or business relationship will provide us with the support anticipated;
successfully negotiate an alliance, joint venture or business relationship on terms that are advantageous to us; or
successfully manage any alliance or joint venture.

Furthermore, any alliance, joint venture or other business relationship may divert management time and resources. Entering into a disadvantageous alliance, joint venture or business relationship, failing to manage an alliance, joint venture or business relationship effectively, or failing to comply with any obligations in connection therewith, could harm our business and prospects.

We may not be successful in growing our international sales.

We cannot guarantee that we will successfully develop our international sales channels to enable us to generate significant revenue from international sales. We currently have 11 international distribution agreements that cover 22 countries in Europe, Asia and Australia. We have generated limited sales to date from international sales and cannot guarantee that we will be able to increase our sales. As we expand, our international operations may be subject to numerous risks and challenges, including:

multiple, conflicting and changing governmental laws and regulations, including those that regulate high pressure equipment;

reduced protection for intellectual property rights in some countries;
protectionist laws and business practices that favor local companies;
political and economic changes and disruptions;
export and import controls;
tariff regulations; and
currency fluctuations.

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Our operating results are subject to quarterly variation. Our operating results may fluctuate significantly from period to period depending on a variety of factors, including but not limited to the following:

- our ability to increase our sales of our pressure cycling technology products for sample preparation on a consistent quarterly or annual basis;
- the lengthy sales cycle for our products;
- the product mix of the Barocycler instruments we install in a given period, and whether the installations are completed pursuant to sales, rental or lease arrangements, and the average selling prices that we are able to command for our products;
- our ability to manage our costs and expenses;
- our ability to continue our research and development activities without incurring unexpected costs and expenses; and
- our ability to comply with state and federal regulations without incurring unexpected costs and expenses.

Our instrumentation operates at high pressures and may therefore become subject to certain regulation in the European Community. Regulation of high pressure equipment may limit or hinder our development and sale of future instrumentation.

Our Barocycler instruments operate at high pressures. If our Barocycler instruments exceed certain pressure levels, our products may become subject to the European Pressure Equipment Directive, which requires certain pressure equipment meet certain quality and safety standards. We do not believe that we are subject to this directive because our Barocycler instruments are currently below the threshold documented in the text of the directive. If our interpretation were to be challenged, we could incur significant costs defending the challenge, and we could face production and selling delays, all of which could harm our business.

We expect that we will be subject to regulation in the United States, such as the Food and Drug Administration, and overseas, if and when we begin to invest more resources in the development and commercialization of PCT in applications outside of sample preparation for the research field.

Our current pressure cycling technology products in the area of sample preparation for the research field are not regulated by the FDA. Applications in which we intend to develop and commercialize pressure cycling technology, such as protein purification, pathogen inactivation and immunodiagnostics, are expected to require regulatory approvals or clearances from regulatory agencies, such as the FDA, prior to commercialization, when we expand our commercialization activities outside of the research field. We expect that obtaining these approvals or clearances will require a significant investment of time and capital resources and there can be no assurance that such investments will receive approvals or clearances that would allow us to commercialize the technology for these applications.

If we are unable to protect our patents and other proprietary technology relating to our pressure cycling technology products, our business will be harmed.

Our ability to further develop and successfully commercialize our products will depend, in part, on our ability to enforce our patents, preserve our trade secrets, and operate without infringing the proprietary rights of third parties. We currently have 14 United States and 10 foreign patents. The patents expire between 2015 and 2027.

There can be no assurance that (a) any patent applications filed by us will result in issued patents; (b) patent protection will be secured for any particular technology; (c) any patents that have been or may be issued to us will be valid or enforceable; (d) any patents will provide meaningful protection to us; (e) others will not be able to design around our patents; and (f) our patents will provide a competitive advantage or have commercial value. The failure to obtain adequate patent protection would have a material adverse effect on us and may adversely affect our ability to enter

into, or affect the terms of, any arrangement for the marketing or sale of any product.

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Our patents may be challenged by others.

We could incur substantial costs in patent proceedings, including interference proceedings before the United States Patent and Trademark Office, and comparable proceedings before similar agencies in other countries, in connection with any claims that may arise in the future. These proceedings could result in adverse decisions about the patentability of our inventions and products, as well as about the enforceability, validity, or scope of protection afforded by the patents.

If we are unable to maintain the confidentiality of our trade secrets and proprietary knowledge, others may develop technology and products that could prevent the successful commercialization of our products.

We rely on trade secrets and other unpatented proprietary information in our product development activities. To the extent we rely on trade secrets and unpatented know-how to maintain our competitive technological position, there can be no assurance that others may not independently develop the same or similar technologies. We seek to protect our trade secrets and proprietary knowledge, in part, through confidentiality agreements with our employees, consultants, advisors and contractors. These agreements may not be sufficient to effectively prevent disclosure of our confidential information and may not provide us with an adequate remedy in the event of unauthorized disclosure of such information. If our employees, consultants, advisors, or contractors develop inventions or processes independently that may be applicable to our products, disputes may arise about ownership of proprietary rights to those inventions and processes. Such inventions and processes will not necessarily become our property, but may remain the property of those persons or their employers. Protracted and costly litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection, for any reason, could harm our business.

If we infringe on the intellectual property rights of others, our business may be harmed.

It is possible that the manufacture, use or sale of our pressure cycling technology products or services may infringe patent or other intellectual property rights of others. We may be unable to avoid infringement of the patent or other intellectual property rights of others and may be required to seek a license, defend an infringement action, or challenge the validity of the patents or other intellectual property rights in court. We may be unable to secure a license on terms and conditions acceptable to us, if at all. Also, we may not prevail in any patent or other intellectual property rights litigation. Patent or other intellectual property rights litigation is costly and time-consuming, and there can be no assurance that we will have sufficient resources to bring any possible litigation related to such infringement to a successful conclusion. If we do not obtain a license under such patents or other intellectual property rights, or if we are found liable for infringement, or if we are unsuccessful in having such patents declared invalid, we may be liable for significant monetary damages, may encounter significant delays in successfully commercializing and developing our pressure cycling technology products, or may be precluded from participating in the manufacture, use, or sale of our pressure cycling technology products or services requiring such licenses.

We may be unable to adequately respond to rapid changes in technology and the development of new industry standards.

The introduction of products and services embodying new technology and the emergence of new industry standards may render our existing pressure cycling technology products and related services obsolete and unmarketable if we are unable to adapt to change. We may be unable to allocate the funds necessary to improve our current products or introduce new products to address our customers' needs and respond to technological change. In the event that other companies develop more technologically advanced products, our competitive position relative to such companies would be harmed.

We may not be able to compete successfully with others that are developing or have developed competitive technologies and products.

A number of companies have developed, or are expected to develop, products that compete or will compete with our products. We compete with companies that have existing technologies for the extraction of nucleic acids, proteins and small molecules from cells and tissues, including methods such as mortar and pestle, sonication, rotor-stator homogenization, French press, bead beating, freezer milling, enzymatic digestion, and chemical dissolution.

We are aware that there are additional companies pursuing new technologies with similar goals to the products developed or being developed by us. Some of the companies with which we now compete, or may compete in the future, have or may have more extensive research, marketing, and manufacturing capabilities, more experience in genomics and proteomics sample preparation, protein purification, pathogen inactivation, immunodiagnostics, and DNA sequencing and significantly greater technical, personnel and financial resources than we do, and may be better positioned to continue to improve their technology to compete in an evolving industry. To compete, we must be able to demonstrate to potential customers that our products provide improved performance and capabilities. Our failure to compete successfully could harm our business and prospects.

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Provisions in our articles of organization and bylaws may discourage or frustrate stockholders' attempts to remove or replace our current management.

Our articles of organization and bylaws contain provisions that may make it more difficult or discourage changes in our management that our stockholders may consider to be favorable. These provisions include:

a classified board of directors;
advance notice for stockholder nominations to the board of directors;
limitations on the ability of stockholders to remove directors; and
a provision that allows a majority of the directors to fill vacancies on the board of directors.

These provisions could prevent or frustrate attempts to make changes in our management that our stockholders consider to be beneficial and could limit the price that our stockholders might receive in the future for shares of our Common Stock.

The costs of compliance with the reporting obligations of the Exchange Act, and with the requirements of the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, may place a strain on our limited resources and our management's attention may be diverted from other business concerns.

As a result of the regulatory requirements applicable to public companies, we incur legal, accounting, and other expenses that are significant in relation to the size of our company. In addition, the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as rules subsequently implemented by the SEC and OTC Markets Group, Inc., have required changes in corporate governance and financial disclosure practices of public companies, some of which are currently applicable to us and others will or may become applicable to us in the future. These rules and regulations have increased and will continue to increase our legal and financial compliance costs and may make some activities more time-consuming. These requirements have placed and will continue to place a strain on our systems and on our management and financial resources.

Certain of our net deferred tax assets could be substantially limited if we experience an ownership change as defined in the Internal Revenue Code.

Certain of our net operating losses ("NOLs") give rise to net deferred tax assets. Our ability to utilize NOLs and to offset our future taxable income and/or to recover previously paid taxes would be limited if we were to undergo an "ownership change" within the meaning of Section 382 of the Internal Revenue Code (the "Code"). In general, an "ownership change" occurs whenever the percentage of the stock of a corporation owned by "5 percent shareholders," within the meaning of Section 382 of the Code, increases by more than 50 percentage points over the lowest percentage of the stock of such corporation owned by such "5 percent shareholders" at any time over the preceding three years.

An ownership change under Section 382 of the Code would establish an annual limitation on the amount of NOLs we could utilize to offset our taxable income in any single taxable year to an amount equal to (i) the product of a specified rate, which is published by the U.S. Treasury, and the aggregate value of our outstanding stock plus; and (ii) the amount of unutilized limitation from prior years. The application of these limitations might prevent full utilization of the deferred tax assets attributable to our NOLs. We may have or will have experienced an ownership change as defined by Section 382 through the sale of equity and, therefore, we will consider whether the sale of equity units will result in limitations of our net operating losses under Section 382 when we start to generate taxable income. However, whether a change in ownership occurs in the future is largely outside of our control, and there can be no assurance that such a change will not occur.

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Risks Related to Share Ownership:

The holders of our Common Stock could suffer substantial dilution due to our corporate financing practices.

The holders of our Common Stock could suffer substantial dilution due to our corporate financing practices, which, in the past few years, have included private placements and a registered direct offering. As of December 31, 2012, we have issued shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, Series D Convertible Preferred Stock, Series E Convertible Preferred Stock, and Series G Convertible Preferred Stock. We also have authorized shares of Series H Convertible Preferred Stock.

As of December 31, 2012, all of the shares of Series A Convertible Preferred Stock, Series B Convertible Preferred Stock, Series C Convertible Preferred Stock, and Series E Convertible Preferred Stock had been converted into shares of Common Stock. As of December 31, 2012 only shares of Series D Convertible Preferred Stock and Series G Convertible Preferred Stock were outstanding. As of March 31, 2013, there were also shares of Series J Convertible Preferred Stock outstanding. Further, in connection with those private placements and the Series D registered direct offering, we issued warrants to purchase Common Stock. If all of the outstanding shares of Series D Convertible Preferred Stock, Series G Convertible Preferred Stock, and Series J Convertible Preferred Stock were converted into shares of Common Stock and all outstanding warrants to purchase shares of Common Stock were exercised, each as of March 31, 2013, an additional 18,190,299 shares of Common Stock would be issued and outstanding. This additional issuance of shares of Common Stock would cause immediate and substantial dilution to our existing stockholders and could cause a significant reduction in the market price of our Common Stock.

Sales of a significant number of shares of our Common Stock in the public market or the perception of such possible sales, could depress the market price of our Common Stock.

Sales of a substantial number of shares of our Common Stock in the public markets, which include an offering of our preferred stock or Common Stock could depress the market price of our Common Stock and impair our ability to raise capital through the sale of additional equity or equity-related securities. We cannot predict the effect that future sales of our Common Stock or other equity-related securities would have on the market price of our Common Stock.

Our share price could be volatile and our trading volume may fluctuate substantially.

The price of Common Stock has been and may in the future continue to be extremely volatile, with the sale price fluctuating from a low of $0.15 to a high of $1.53 since January 1, 2011. Many factors could have a significant impact on the future price of our shares of Common Stock, including:

our inability to raise additional capital to fund our operations, whether through the issuance of equity securities or debt;

our failure to successfully implement our business objectives;

compliance with ongoing regulatory requirements;

market acceptance of our products;

technological innovations and new commercial products by our competitors;

changes in government regulations;

general economic conditions and other external factors;

actual or anticipated fluctuations in our quarterly financial and operating results; and

the degree of trading liquidity in our shares of Common Stock.

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A decline in the price of our shares of Common Stock could affect our ability to raise further working capital and adversely impact our ability to continue operations.

The relatively low price of our shares of Common Stock, and a decline in the price of our shares of Common Stock, could result in a reduction in the liquidity of our Common Stock and a reduction in our ability to raise capital. Because a significant portion of our operations has been and will continue to be financed through the sale of equity securities, a decline in the price of our shares of Common Stock could be especially detrimental to our liquidity and our operations. Such reductions and declines may force us to reallocate funds from other planned uses and may have a significant negative effect on our business plans and operations, including our ability to continue our current operations. If the price for our shares of Common Stock declines, it may be more difficult to raise additional capital. If we are unable to raise sufficient capital, and we are unable to generate funds from operations sufficient to meet our obligations, we will not have the resources to continue our operations.

The market price for our shares of Common Stock may also be affected by our ability to meet or exceed expectations of analysts or investors. Any failure to meet these expectations, even if minor, may have a material adverse effect on the market price of our shares of Common Stock.

If we issue additional securities in the future, it will likely result in the dilution of our shares of existing stockholders.

Our restated articles of organization, as amended, currently authorize the issuance of up to 50,000,000 shares of Common Stock and 1,000,000 shares of preferred stock. As of March 31, 2013, we had 12,149,267 shares of Common Stock issued and outstanding; 300 units of Series D issued and outstanding (convertible into 750,000 shares of Common Stock); 145,320 shares of Series G Convertible Preferred Stock (convertible into 1,453,200 shares of Common Stock); 4,650 shares of Series J Convertible Preferred Stock (convertible into 4,650,000 shares of Common Stock); outstanding options and warrants to purchase an aggregate of 8,418,974 shares of Common Stock; and 359,250 shares of Common Stock reserved for future awards, which we may grant under our equity compensation plan. In September 2012 we increased the number of our authorized shares of Common Stock from 20,000,000 to 50,000,000. From time to time, we also may increase the number of shares available for issuance in connection with our equity compensation plan, we may adopt new equity compensation plans, and we may issue awards to our employees and others who provide services to us outside the terms of our equity compensation plans. Our board of directors may fix and determine the designations, rights, preferences or other variations of each class or series of preferred stock and may choose to issue some or all of such shares to provide additional financing in the future.

The issuance of any securities for acquisition, licensing or financing efforts, upon conversion of any preferred stock or exercise of warrants, pursuant to our equity compensation plans, or otherwise may result in a reduction of the book value and market price of the outstanding shares of our Common Stock. If we issue any such additional securities, such issuance will cause a reduction in the proportionate ownership and voting power of all current stockholders. Further, such issuance may result in a change in control of our Company.

Financial Industry Regulatory Authority (“FINRA”) sales practice requirements may also limit a stockholder’s ability to buy and sell our Common Stock.

FINRA has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low-priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer’s financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low-priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our Common Stock, which may limit your ability to buy and sell our Common

Stock and have an adverse effect on the market for our shares.

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We have never paid dividends on our Common Stock and do not anticipate paying any in the foreseeable future.

We have never declared or paid a cash dividend on our Common Stock and we do not expect to pay cash dividends on our Common Stock in the foreseeable future.

Our shares of Series D Convertible Preferred Stock are entitled to certain rights, privileges and preferences over our Common Stock, including a preference upon a liquidation of our company, which will reduce amounts available for distribution to the holders of our Common Stock.

The holders of our shares of Series D are entitled to payment, prior to payment to the holders of Common Stock in the event of liquidation of the Company.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

Not Applicable.

ITEM 2. PROPERTIES.

Our corporate office is currently located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. We are currently paying $4,800 per month, on a lease extension, signed on January 16, 2013, that expires December 31, 2013, for our corporate office.

Effective January 1, 2010, we entered into a three-year lease agreement with the University of Massachusetts in Boston, pursuant to which we are leasing laboratory and office space at the Venture Development Center on campus at the university for research and development activities. In September 2012, we extended the lease to the end of December 31, 2014 at $5,500 per month for the use of these facilities at the University of Massachusetts. We believe that our facilities are adequate for our operations and that suitable additional space will be available if and when needed.

ITEM 3. LEGAL PROCEEDINGS.

We are not currently involved in any legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

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PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES.

Our Common Stock is currently traded on the OTCQB tier of the OTC Markets under the trading symbol "PBIO." As previously reported, the NASDAQ Hearings Panel determined to delist the Company's Common Stock from the NASDAQ Stock Market and trading in the Company's Common Stock on the NASDAQ Stock Market was discontinued effective at the open of trading on April 5, 2012. Effective April 5, 2012, the Company's Common Stock began trading on the OTCQB tier of OTC Markets.

The following table sets forth, for the periods indicated, the high and low sales price and the high and low bids, as applicable, per share of Common Stock, as reported by the OTC Markets from January 1, 2011 through December 31, 2012.

	Year Ended December 31, 2012	
	High	Low
First Quarter	$0.97	$0.50
Second Quarter	$0.75	$0.20
Third Quarter	$0.63	$0.21
Fourth Quarter	$0.44	$0.15

	Year Ended December 31, 2011	
	High	Low
First Quarter	$1.53	$1.11
Second Quarter	$1.25	$0.91
Third Quarter	$1.15	$0.62
Fourth Quarter	$0.96	$0.51

Authorized Capital

As of December 31, 2012, we were authorized to issue 50,000,000 shares of Common Stock, $.01 par value, and 1,000,000 shares of preferred stock, $.01 par value. Of the 1,000,000 shares of preferred stock, 20,000 shares were designated as Series A Junior Participating Preferred Stock, 313,960 shares as Series A Convertible Preferred Stock, 279,256 shares as Series B Convertible Preferred Stock, 88,098 shares as Series C Convertible Preferred Stock, 850 shares as Series D Convertible Preferred Stock, 500 shares as Series E Convertible Preferred Stock, 240,000 shares as Series G Convertible Preferred Stock, and 10,000 shares as Series H Convertible Preferred Stock.

As of December 31, 2012, there were 12,149,267 shares of Common Stock issued and outstanding. Similarly, at such time, there were no shares of Series A Junior Participating Preferred Stock; Series A Convertible Preferred Stock; Series B Convertible Preferred Stock; Series C Convertible Preferred Stock; Series E Convertible Preferred Stock; or Series H Convertible Preferred Stock issued and outstanding. As of December 31, 2012 there were 300 shares of Series D Convertible Preferred Stock issued and outstanding and convertible into 750,000 shares of Common Stock, and 145,320 shares of Series G Convertible Preferred Stock issued and outstanding convertible into 1,453,200 shares of Common Stock.

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Dividends

We have never declared or paid any cash dividends on Common Stock and do not plan to pay any cash dividends on Common Stock in the foreseeable future. The shares of Series C have all been converted into Common Shares, while the shares of Series D are entitled to payment prior to payment to the holders of Common Stock in the event of liquidation of the Company.

The Holders of our Series C were entitled to receive a cumulative dividend at the rate of 5% per annum of the purchase price paid for the Series C ($1.25 per share of Common Stock equivalent), payable semi-annually on June 30 and December 31, commencing on June 30, 2011. Dividends could have been paid in cash or in shares of Common Stock at our option, subject to certain conditions.

The Holder of our Series E Preferred Stock was entitled to a yearly dividend at a rate of 10.5% per year, subject to a credit risk and make-whole adjustment, and was payable in cash or shares of Common Stock at our election. Under certain conditions and subject to certain limitations, we could have required the Holder to convert their Series E Convertible Preferred Stock into Common Stock. The make-whole dividends were payable any time after the closing on April 9, 2012 at the option of the Holder; therefore, we recognized the full value of $262,500 as a current liability and charged this amount immediately to accumulated deficit. The Holder converted all 500 shares of Series E Preferred Stock in 2012.

As of December 31, 2012, dividends issued or to be issued for the years ended December 31, 2012 and 2011 are outlined in the table below.

Common shares issued For The Year Ended December 31,		
	2012	2011
Series A	-	163,808
Series B	96,966	-
Series C	64,621	-
Series D	-	-
Series E	622,837	-
Series G	-	-
	784,424	163,808

Common shares to be issued For The Year Ended December 31,		
	2012	2011
Series A	-	-
Series B	-	-
Series C	-	-
Series D	-	-
Series E	-	-
Series G	-	-
	-	-

Dividends paid in Common Stock or cash For The Year Ended December 31,		
	2012	2011
Series A	$ -	$ 188,380
Series B	69,647	65,543
Series C	10,609	-
Series D	-	-
Series E	359,430	-
Series G	-	-
	$ 439,686	$ 253,923

Dividends payable For The Year Ended December 31,		
	2012	2011
Series A	$ -	$ -
Series B	-	56,872
Series C	-	37,673
Series D	-	-
Series E	60,000	-
Series G	27,584	-
	$ 87,584	$ 94,545

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Recent Sales of Unregistered Securities

On February 6 and March 28, 2013, the Company entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with various individuals (each, a "Purchaser"), pursuant to which the Company sold an aggregate of 4,650 units for a purchase price of $400.00 per unit (the "Purchase Price"), or an aggregate Purchase Price of $1,859,700. This represents the first two tranches of a $2.0 million private placement (the "Private Placement"). One or more additional tranches in the Private Placement may close on or before April 30, 2013. Each unit purchased in the first two tranches ("Unit") consists of (i) one share of a newly created series of preferred stock, designated Series J Convertible Preferred Stock, par value $0.01 per share (the "Series J Convertible Preferred Stock"), convertible into 1,000 shares of the Company's Common Stock, par value $0.01 per share ("Common Stock") and (ii) a warrant to purchase 1,000 shares of Common Stock at an exercise price equal to $0.40 per share, with a term expiring three years from the respective closing date ("Warrant"). Of the $1,859,700 invested in the first two tranches of the Private Placement, $746,000 was received in cash and $1,113,700 was from the conversion of outstanding indebtedness and accrued board of directors' fees. The Purchasers in the first two tranches of the Private Placement consisted of certain existing and new investors in the Company as well as all of the members of the Company's Board of Directors.

Repurchases by Pressure BioSciences

We did not repurchase any of our equity securities during 2012.

ITEM 6. SELECTED FINANCIAL DATA.

Not Applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATION.

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, 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.

We have experienced negative cash flows from operations with respect to our PCT business since our inception. As of December 31, 2012, we did not have adequate working capital resources to satisfy our current liabilities. Based on our

current projections, including equity financing subsequent to December 31, 2012, we believe our current cash resources will enable us to extend our cash resources until May 2013.

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As a result, the audit report issued by our independent registered public accounting firm on our consolidated audited financial statements for the fiscal year ended December 31, 2012 contains an explanatory paragraph regarding our ability to continue as a going concern. The audit report issued by our independent registered public accounting firm for our financial statements for the fiscal year ended December 31, 2012 states that there is substantial doubt in our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets at December 31, 2012 to cover our operating and capital requirements for the next twelve-month period; and, if sufficient cash cannot be obtained, we would have to substantially alter or possibly discontinue operations. The accompanying financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The conditions described above could adversely affect our ability to obtain additional financing on favorable terms, if at all. Such factors may cause investors to have reservations about our long-term prospects and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not qualify its opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us.

Management has developed a plan to continue operations. This plan includes reducing expenses, streamlining operations, and obtaining capital through equity and/or debt financing. Our most recent financing, the first and second tranches of which closed on February 6 and March 28, 2013, respectively, and that is expected to close on or about April 30, 2013, is a private placement (the "Private Placement") that has resulted in net cash proceeds of $746,000 to the Company through March 28, 2013. The Private Placement terms and structure are as follows:

On February 6 and March 28, 2013, we entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with various individuals (each, a "Purchaser"), pursuant to which we sold an aggregate of 4,650 units for a purchase price of $400.00 per unit (the "Purchase Price"), or an aggregate Purchase Price of $1,859,700. This represents the first two tranches of the $2.0 million Private Placement. One or more additional tranches in the Private Placement may close on or before April 30, 2013. Each unit purchased in the first two tranches ("Unit") consists of (i) one share of a newly created series of preferred stock, designated Series J Convertible Preferred Stock, par value $0.01 per share (the "Series J Convertible Preferred Stock"), convertible into 1,000 shares of the Company's Common Stock, par value $0.01 per share ("Common Stock") and (ii) a warrant to purchase 1,000 shares of Common Stock at an exercise price equal to $0.40 per share, with a term expiring three years from the respective closing date ("Warrant"). Of the $1,859,700 invested in the first two tranches of the Private Placement, $746,000 was received in cash and $1,113,700 was from the conversion of outstanding indebtedness and accrued board of directors' fees. The Purchasers in the first two tranches of the Private Placement consisted of certain existing and new investors in the Company as well as all of the members of the Company's Board of Directors.

Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful. Additional financing may not be available to us on a timely basis, if at all, or on terms acceptable to us. In the event we are unable to raise sufficient funds on terms acceptable to us, we may be required to:

severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business. The accompanying financial statements do not include adjustments that may be required in the event of the disposal of assets or the discontinuation of the business;
obtain financing with terms that may have the effect of diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or
obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

We currently focus the majority of our resources in the area of biological sample preparation, referring to a wide range of activities that precede scientific analysis performed by scientists worldwide working in biological life sciences research. Within the broad field of biological sample preparation, we focus the majority of our product development efforts in three specific areas: mass spectrometry, forensics, and histology.

Biomarker Discovery - Mass Spectrometry. A biomarker is any substance (e.g., protein) that can be used as an indicator of the presence or absence of a particular disease-state or condition, and to measure the progression and effects of therapy. Biomarkers can help in the diagnosis, prognosis, therapy, prevention, surveillance, control, and cure of diseases and medical conditions. A number of laboratory instruments are used to help discover biomarkers; a leader among these is the mass spectrometer. The mass spectrometer is one of the laboratory instruments that is frequently used to help discover biomarkers.

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A mass spectrometer is a laboratory instrument used in the analysis of biological samples, primarily proteins, in life sciences research. According to a recently published market report by Transparency Market Research (www.transparencymarketresearch.com) "Spectrometry Market (Atomic, Molecular and Mass Spectrometry) - Global Scenario, Trends, Industry Analysis, Size, Share & Forecast 2011 – 2017," the global spectrometry market was worth $10.2 billion in 2011 and is expected to reach $15.2 billion in 2017, growing at a compounded annual growth rate of 6.9% from 2011 to 2017. In the overall global market, the North American market is expected to maintain its lead position in terms of revenue until 2017 and is expected to have approximately 36.2% of the market revenue share in 2017 followed by Europe. We believe PCT offers significant advantages in speed and quality compared with current techniques used in the preparation of samples for mass spectrometry analysis.

Forensics. The detection of DNA has become a part of the analysis of forensic samples by laboratories and criminal justice agencies worldwide in their efforts to identify the perpetrators of violent crimes and missing persons. Scientists from the University of North Texas and Florida International University have reported improvements in DNA yield from forensic samples e.g., bone and hair using PCT in the sample preparation process. We believe that that PCT may be capable of differentially extracting DNA from sperm and (female) epithelial cells in swabs collected from rape victims and stored in rape kits. We believe that there are many completed rape kits that remain untested for reasons such as cost, time, and quality of results. We further believe that the ability to differentially extract DNA from sperm and not epithelial cells could reduce the cost of such testing, while increasing quality, safety, and speed.

Histology. The most commonly used technique worldwide for the preservation of cancer and other tissues for subsequent pathology evaluation is formalin-fixation followed by paraffin-embedding. We believe that the quality and analysis of FFPE tissues is highly problematic, and that PCT offers significant advantages over current processing methods, including standardization, speed, biomolecule recovery, and safety.

We view federal agency grants to be an important part of our business plan. These types of grants allow us to bill the federal agency for work that we are planning to perform as part of the development and commercialization of our technology. We generally start by submitting initial grant requests that are in response to requests for proposals (“RFPs”) from the federal government through their Small Business Innovation Research (“SBIR”) program. Initial (“SBIR Phase I”) grants are meant to fund approved research projects for six months, and generally have budgets of approximately $100,000 to $150,000. Because our work in SBIR Phase I grants has been successful, we have applied, and may in the future apply for larger National Institutes of Health (“NIH”) SBIR Phase II grants. Such larger grants are typically for a two-year period and can offer as much as $1,000,000 to support significant research projects in areas we would otherwise expect to support with internal funds should SBIR Phase II grants not be awarded. To date, we have been awarded three NIH SBIR Phase I grants and one SBIR Phase II grant. The data on one of the NIH SBIR Phase I grants were the basis for the submission, and subsequent award, of the NIH SBIR Phase II grant awarded to us in the approximate amount of $850,000 in August 2008. This NIH SBIR Phase II grant was for work in the area of using PCT to extract protein biomarkers, sub-cellular molecular complexes, and organelles, with the expectation that these studies might ultimately lead to the release of a new, commercially available PCT-based system, with validated protocols, end-user kits, and other consumables intended for the extraction of clinically important protein biomarkers, sub-cellular molecular complexes, and organelles from human and animal tissues. All three of the NIH SBIR Phase I grants and the NIH SBIR Phase II grant have been completed.

In October 2011, we were awarded a contract of approximately $850,000 from the Department of Defense to help fund the development of a PCT-based system to improve the processing of pathogenic organisms, specifically viruses and bacteria. The contract funds studies until approximately September 2013.

We offer extended service contracts on our laboratory instrumentation to all of our customers. These service contracts allow a customer who purchases a Barocycler instrument to receive on-site scheduled preventative maintenance,

on-site repair and replacement of all worn or defective component parts, and telephone support, all at no incremental cost for the life of the service contract. We offer one-year and four-year extended service contracts to customers who purchase Barocycler instruments.

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RESULTS OF OPERATIONS

Year Ended December 31, 2012 as compared with December 31, 2011

Revenue

We had total revenue of $1,238,217 in the year ended December 31, 2012 as compared with $987,729 in the prior year.

PCT Products, Services, and Other. Revenue from the sale of PCT products and services was $809,308 in the year ended December 31, 2012 as compared with $767,765 in the year ended December 31, 2011. During 2012, we sold to new distributors in Europe and in the Asia Pacific region, and to new customers in the United States. We generated consumable sales of $85,493 for the year ended December 31, 2012 as compared with $102,209 during the similar period of the prior year, a decrease of $16,716, or 16%. Conversely, sales of PCT Sample Preparation Accessories increased to $93,712 in 2012 from $49,834 in 2011, an increase of $43,878, or 88%. The number of PCT sales and active leases decreased during 2012 as compared with 2011. The decrease in revenue from PCT sales and leases during 2012 was offset by increased sales of our SG3 Shredder System, sales of the more expensive and higher gross margin Barocycler HUB440 PCT System, and sales of PCT instrument accessories. PCT Instrument Accessories include our MicroTube Adapter Kit Work Stations, Elevated Temperature Kits, Data Acquisition and Control with Software, P-Jump Kit, Reaction Chambers, and EOPR Pressure Cells. Our new Austrian distributor for the SG3 Shredder System purchased 12 units during 2012.

Grant Revenue. During 2012, we recorded $428,909 of grant revenue as compared with $219,964 in 2011. We continue to work on a SBIR Phase II contract received from the Department of Defense, or DOD, to fund the development of a PCT-based system to improve the processing of pathogenic organisms. We completed all billable work by the end of April 2012 on the SBIR Phase I grant received from the National Institutes of Health, or NIH, to help fund the development of a high pressure-based system to improve the processing of cancer and other samples. Both the contract and the grant were awarded in the second half of 2011.

Cost of PCT Products and Services

The cost of PCT products and services was $416,415 for the year ended December 31, 2012, as compared with $342,865 in 2011. Our gross profit margin on PCT products and services was 48% for the year ended December 31, 2012 vs. 55% at December 31, 2011. The change is primarily due to a non-cash charge to an inventory reserve of $50,000. The relationship between the cost of PCT products and services and PCT revenue depends greatly on the mix of instruments we sell, the quantity of such instruments, and the mix of consumable products and instrument accessories that we sell in a given period.

Research and Development

Research and development expenditures were essentially unchanged at $965,623 for 2012 compared to $969,473 in 2011. Research and development expense included $30,034 and $39,375 of non-cash, stock-based compensation in 2012 and 2011, respectively. This decrease is due to expense adjustments for fully vested options included in the first half of 2011, which did not occur in the same period in 2012, offset by expense recorded in the current period for option re-pricing.

Selling and Marketing

Selling and marketing expenses were $714,635 in 2012 compared to $931,073 in 2011, a decrease of $216,438, or 23%. This decrease was primarily due to a reduction in headcount. Selling and marketing expense included $28,945 and $43,201 of non-cash, stock-based compensation expense in 2012 and 2011, respectively. This decrease is due to expense adjustments for fully vested options included in the first half of 2011, which did not occur in the same period in 2012, offset by expense recorded in the current period for option re-pricing.

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General and Administrative

General and administrative costs were $2,605,186 in the year ended December 31, 2012, as compared with $2,034,458 in 2011, an increase of $570,728 or 28%. During 2012 we wrote off approximately $263,000 in costs related to an anticipated public offering of stock that we did not complete. We also incurred $513,288 of additional investor related costs which were partially offset by a reduction in consulting costs of $189,000.

During the years ended December 31, 2012 and 2011, general and administrative expense included $74,212 and $39,398 of non-cash, stock-based compensation expense, respectively. This increase is primarily due to expense in the current period resulting from new grants of stock awarded to the Board of Directors and the Company's election to re-price employee stock options.

Operating Loss

Our operating loss was $3,463,642 for the year ended December 31, 2012 as compared with $3,290,140 for the prior year, an increase of $173,502 or 5%. The increased operating loss was due primarily to the additional general and administrative expenses resulting from the delisting by NASDAQ partially offset by the increase in revenues and gross margin and reduced selling and marketing expense.

Other income (expense), net

Interest Expense Net interest expense totaled $133,417 for the year ended December 31, 2012 as compared with interest expense of $138,071 for the year ended December 31, 2011. We amortized approximately $91,000 of imputed interest against the debt discount on short-term loans relating to warrants issued with the loans in 2011.

Change in fair value of warrant derivative liability

During the year ended December 31, 2012, we recorded non-cash income of $144,840 from 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 Series D registered direct offering. This decrease in fair value was primarily due to a decrease in the price per share of our Common Stock on December 31, 2012 as compared with the date of issuance of the warrants. During the year ended December 31, 2011, we recorded non-cash income of $430,423 for warrant revaluation due to a decrease in fair value of the warrant liability related to warrants issued in our Series C private placement and our Series D registered direct offering.

Income Taxes

We had an income tax benefit of $2,014 for the year ended December 31, 2012 and did not incur any tax benefit or provisions for the year ended December 31, 2011.

Net Loss

During the year ended December 31, 2012, we recorded a net loss applicable to common stockholders of $4,400,215 or $(0.43) per share, as compared with $5,107,661 or $(0.77) per share during our year ended December 31, 2011. The decrease in loss per share is due primarily to the increased number of shares of Common Stock outstanding from the sale of Common Stock in February 2012. See Note 2 of the accompanying Notes to Consolidated Financial Statements under the "Computation of Loss per Share" heading.

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LIQUIDITY AND FINANCIAL CONDITION

As of December 31, 2012, we did not have adequate working capital resources to satisfy our current liabilities. On February 6 and March 28, 2013, we entered into a Securities Purchase Agreement with various individuals pursuant to which the Company sold an aggregate of 4,650 units for a purchase price of $400.00 per unit or an aggregate Purchase Price of $1,859,700. This represents the first two tranches of a $2.0 million private placement. One or more additional tranches in the Private Placement may close on or before May 31, 2013. Each unit purchased in the first two tranches consists of (i) one share of a newly created series of preferred stock, designated Series J Convertible Preferred Stock, par value $0.01 per share convertible into 1,000 shares of the Company's Common Stock, par value $0.01 per share, and (ii) a warrant to purchase 1,000 shares of Common Stock at an exercise price equal to $0.40 per share, with a term expiring three years from the respective closing date. Of the $1,859,700 invested in the first two tranches of the Private Placement, $746,000 was received in cash and $1,113,700 was from the conversion of outstanding indebtedness and accrued board of directors' fees. The Purchasers in the first two tranches of the Private Placement consisted of certain existing and new investors in the Company as well as all of the members of the Company's Board of Directors. Based on our current projections, including equity financing subsequent to December 31, 2012, we believe our current cash resources will enable us to extend our cash resources until May 2013. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful. If we are not successful there is substantial doubt that we can continue as a going concern.

We believe we will need approximately $5 million in additional capital to fund our three-pronged operational plan, which was designed to help increase revenues by:

A. implementing a next-generation upgrade to our product line and offering a superior instrument with greater net margins;

B. gaining additional non-dilutive monies from governmental research and development applications, and/or engineering projects; and

C. hiring a small team of salespersons to target research facilities and academic institutions, and cultivate our current customer list of pharmaceutical, military and paramilitary organizations.

However, if we are unable to obtain such funds, through sales, the capital markets or other source of 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.

Net cash used in operating activities was $2,164,801 for the year ended December 31, 2012 as compared with $2,141,863 for the year ended December 31, 2011. Our accounts payable balance was $1,199,846 as of December 31, 2012, as compared with to $890,676 as of December 31, 2011, an increase of $309,170 for 2012. In 2011 accounts payable increased $763,849. Accounts payable continues to increase as we conserve cash for use in operating the business until we secure additional capital.

We did not make any investments in fixed assets during the year ended December 31, 2012 as compared with $2,642 in the prior year.

Net cash provided by financing activities for the year ended December 31, 2012 was $1,943,487, net of $196,818 in cash dividends paid on Convertible Preferred Stock, as compared with $1,814,431 in the prior year.

In 2012, we raised approximately:

A. $800,000 in aggregate gross proceeds from our February 7, 2012 private placement of units totaling 971,867 shares of restricted Common Stock and warrants to purchase 485,937 shares of restricted Common Stock. Of the $800,000 invested, $412,453 was received in cash of which $35,000 was used to pay investment banking fees, and $387,547 was from the conversion of outstanding principal and interest on convertible promissory notes issued by us in 2011.

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B. $500,000 in aggregate gross proceeds from our April 9, 2012 Series E registered direct offering with Ironridge Global IV Ltd. ("Ironridge"), pursuant to which we sold Ironridge an aggregate of 500 shares of our Series E Convertible Preferred Stock for a purchase price of $1,000 per share. Each share of Series E Convertible Preferred Stock was convertible into approximately 980 shares of our Common Stock. $147,065 of the proceeds was used to pay for investment banking fees.

C. $726,598 in aggregate gross proceeds from our July 6 and November 15, 2012 Series G private placement, pursuant to which we sold an aggregate of 145,320 units for a purchase price of $5.00 per unit. Each unit consists of one share of Series G Convertible Preferred Stock, convertible into 10 shares of our Common Stock and a three-year warrant to purchase 5 shares of our Common Stock at a per share exercise price of $0.50. Of the $726,598 invested in the Series G Private Placement $31,100 was received in cash and $695,498 was from the conversion of outstanding indebtedness and accrued board of directors fees. We incurred fees of $12,302 on this transaction.

Loans in the aggregate amount of approximately $1,394,000 were received from eight individuals, of which $45,000 was received from two directors of the Company. We will accrue interest of 6% on loans of $1,294,000 to six individuals but no interest given to the other two individuals. $481,000 of these loans were converted into our Series G Convertible Preferred Stock and $50,000 of these loans was paid back by December 31, 2012. The remaining balance of $863,000 was converted into Company Series J Convertible Preferred Stock on February 6, 2013. Warrants to purchase 50,000 shares of the Company's Common Stock were issued to two individuals in connection with these loans. The warrants have an exercise price equal to $0.50 per share, with a term expiring on August 21, 2015.

Our Common Stock is listed on the Over-the-Counter QB market under the ticker symbol PBIO.

COMMITMENTS AND CONTINGENCIES

Royalty Commitments

In 1996, we acquired our initial equity interest in BioSeq, Incorporated ("BioSeq"). At the time, BioSeq was developing our original pressure cycling technology. They acquired its pressure cycling technology from BioMolecular Assays, Inc. ("BMA") under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining, outstanding capital stock of BioSeq; and, consequently, the technology transfer and patent assignment agreement was amended to require us to pay BMA a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq acquired from BMA. Similarly, the Company is required to pay BMA 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminate in 2016. During the year ended December 31, 2012 and 2011, we incurred approximately $23,634 and $21,090, respectively, in royalty expense associated with our obligation to BMA.

In connection with our acquisition of BioSeq, we licensed certain limited rights to the original pressure cycling technology back to BMA. This license is non-exclusive and limits the use of the original pressure cycling technology by BMA solely for molecular applications in scientific research and development, and in scientific plant research and development. BMA is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BMA under the license. BMA must pay us these royalties until the expiration of the patents held by BioSeq in1998, which we anticipate will be 2016. We have not received any royalty payments from BMA under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute ("Battelle"). The licensed technology is described in the patent application filed by Battelle on July 31, 2008 (US serial number 12/183,219). This application includes subject matter related to a method and a system for improving the analysis of protein samples including, through an automated system, utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. Pursuant to the terms of the agreement, we paid Battelle a non-refundable initial fee of $35,000. In addition to royalty payments on net sales on “licensed products,” we are obligated to make minimum royalty payments for each year we retain the rights outlined in the patent license agreement; and, we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. The minimum annual royalty was $10,000 and $7,500 for the years ended 2012 for 2011, respectively.

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Target Discovery Inc.

In March 2010, we signed a strategic product licensing, manufacturing, co-marketing, and collaborative research and development agreement with Target Discovery Inc. (“TDI”). Under the terms of the agreement, we have been licensed by TDI to manufacture and sell a highly innovative line of chemicals used in the preparation of tissues for scientific analysis ("TDI reagents"). The TDI reagents were designed for use in combination with our pressure cycling technology. The respective companies believe that the combination of PCT and the TDI reagents can fill an existing need in life science research for an automated method for rapid extraction and recovery of intact, functional proteins associated with cell membranes in tissue samples. As of December 31, 2012, we owed TDI a royalty fee of approximately $1,200.

Severance and Change of Control Agreements

Mr. Schumacher and Drs. Ting, Lazarev and Lawrence, all executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer’s annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Each of these executive officers, other than Mr. Schumacher, is entitled to receive a change of control payment in an amount equal to one year of such executive officer’s annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of the Company. In the case of Mr. Schumacher, this payment would be equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage. The severance payment is meant to induce the executive to become an employee of the Company and to remain in the employ of the Company, in general, and particularly in the occurrence of a change in control.

Lease Commitments

We lease building space under non-cancelable leases in South Easton, MA and in the Venture Development Center at the University of Massachusetts in Boston. Rental costs are expensed as incurred. During 2012 and 2011 we incurred $117,600 and $132,648, respectively, in rent expense for the use of our corporate office and research and development facilities

Following is a schedule by years of future minimum rental payments required under operating leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2012:

Year Ended December 31, 2012	
2013	$123,600
2014	66,000
Thereafter	-
	$189,600

CRITICAL 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.

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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 impairment of assets, 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. 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.

Revenue Recognition

We recognize revenue in accordance with FASB ASC 605, Revenue Recognition. Revenue is recognized when realized or earned when all the following criteria have been met: persuasive evidence of an arrangement exists; delivery has occurred and risk of loss has passed to the customer; the seller's price to the buyer is fixed or determinable; and collectability is reasonably assured.

Our current instruments, the Barocycler NEP3229 and NEP2320, require a basic level of instrumentation expertise to set-up for initial operation. To support a favorable first experience for our customers, we send a highly trained technical representative to the customer site to install every Barocycler that we sell, lease, or rent through our domestic sales force. The installation process includes uncrating and setting up the instrument, followed by introductory user training. Product revenue related to current Barocycler instrumentation is recognized upon the completion of the installation and introductory training process of the instrumentation at the customer location, for domestic and foreign installations. Product revenue related to sales of PCT instrumentation to our foreign distributors is recognized upon shipment through a common carrier. We provide for the expected costs of warranty upon the recognition of revenue for the sales of our instrumentation. Our sales arrangements do not provide our customers with a right of return. Product revenue related to our consumable products such as PULSE Tubes, MicroTubes, and application specific kits is recorded upon shipment through a common carrier. Shipping costs are included in sales and marketing expense. Any shipping costs billed to customers are recognized as revenue.

In accordance with FASB ASC 840, Leases, we account for our lease agreements under the operating method. We record revenue over the life of the lease term and we record depreciation expense on a straight-line basis over the thirty-six month estimated useful life of the Barocycler instrument. The depreciation expense associated with assets under lease agreement is included in the "Cost of PCT products and services" line item in our accompanying consolidated statements of operations. Many of our lease and rental agreements allow the lessee to purchase the instrument at any point during the term of the agreement with partial or full credit for payments previously made. We pay all maintenance costs associated with the instrument during the term of the leases.

Revenue from government grants is recorded when expenses are incurred under the grant in accordance with the terms of the grant award.

Our transactions sometimes involve multiple elements i.e., products and services. Revenue under multiple element arrangements is recognized in accordance with FASB ASC 605-25 Multiple-Element Arrangements ("ASC 605"). When vendor specific objective evidence or third party evidence of selling price for deliverables in an arrangement cannot be determined, the Company develops a best estimate of the selling price to separate deliverables, and allocates arrangement consideration using the relative selling price method. Additionally, this guidance eliminates the residual

method of allocation. If an arrangement includes undelivered elements that are not essential to the functionality of the delivered elements, we defer the fair value of the undelivered elements with the residual revenue allocated to the delivered elements. Fair value is determined based upon the price charged when the element is sold separately. If there is not sufficient evidence of the fair value of the undelivered elements, no revenue is allocated to the delivered elements and the total consideration received is deferred until delivery of those elements for which objective and reliable evidence of the fair value is not available. We provide certain customers with extended service contracts with revenue recognized ratably over the life of the contract.

Intangible Assets

We have classified as intangible assets, costs associated with the fair value of certain assets of businesses acquired. Intangible assets relate to the remaining value of acquired patents associated with PCT. The cost of these acquired patents is amortized on a straight-line basis over sixteen years. We annually review our intangible assets for impairment. When impairment is indicated, any excess of carrying value over fair value is recorded as a loss. An impairment analysis of intangible assets as of December 31, 2012 concluded they were not impaired.

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Long-Lived Assets and Deferred Costs

In accordance with FASB ASC 360-10-05, Property, Plant, and Equipment, if indicators of impairment exist, we assess the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through the undiscounted future operating cash flows related to the long-lived assets. If impairment is indicated, we measure the amount of such impairment by comparing the carrying value of the asset to the fair value of the asset and record the impairment as a reduction in the carrying value of the related asset and a charge to operating results. While our current and historical operating losses and cash flow are indicators of impairment, we performed an impairment analysis at December 31, 2012 and determined that our long-lived assets were not impaired.

Warrant Derivative Liability

The warrants issued in connection with the Series C Convertible Preferred Stock private placement (the "Series C Warrants") and warrants issued in connection with the registered direct offering of Series D Convertible Preferred Stock (the "Series D Warrants") are measured at fair value and liability-classified because the Series C Warrants and Series D Warrants contained "down-round protection" and therefore, did not meet the scope exception for treatment as a derivative under ASC 815, Derivatives and Hedging, 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 the gross proceeds of $583,250 to the total warrants issued in the Series C private placement and $283,725 to the warrants issued in the Series D registered direct offering. 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 down-round protection for the Series D Warrants survives for the life of the Series D Warrants which ends in May 2017.

The down-round protection for the Series C Warrants expired 12 months subsequent to the issuance of the Series C Units and the Series C Warrants are no longer classified as a liability.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not Applicable

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Report of Independent Registered Public Accounting Firm

To the Board of Directors of
Pressure BioSciences, Inc. and Subsidiary:

We have audited the consolidated balance sheets of Pressure BioSciences, Inc. and Subsidiary (the "Company") as of December 31, 2012 and 2011 and the related consolidated statements of operations, changes in stockholders' deficit, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Pressure BioSciences, Inc. and Subsidiary as of December 31, 2012 and 2011 and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has had recurring net losses and continues to experience negative cash flows from operations. These conditions raise substantial doubt about its ability to continue as a going concern. Management's plans regarding those matters also are described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ MARCUM LLP

Boston, Massachusetts
May 13, 2013

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED BALANCE SHEETS
DECEMBER 31, 2012 AND 2011

ASSETS	2012	2011
CURRENT ASSETS		
Cash and cash equivalents	$1,461	$222,775
Accounts receivable, net of allowances of $0 at December 31, 2012 and $9,600 at December 31, 2011	216,265	269,237
Inventories, net of reserves of $50,000 and $0 at December 31, 2012 and December 31, 2011, respectively	923,362	1,069,013
Prepaid income taxes	7,381	4,739
Prepaid expenses and other current assets	83,435	143,591
Total current assets	1,231,904	1,709,355
PROPERTY AND EQUIPMENT, NET	30,282	89,171
OTHER ASSETS		
Deposits	6,472	6,472
Intangible assets, net	85,130	133,762
TOTAL ASSETS	$1,353,788	$1,938,760
LIABILITIES AND STOCKHOLDERS' DEFICIT		
CURRENT LIABILITIES		
Accounts payable	$1,199,846	$890,676
Accrued employee compensation	119,338	180,437
Accrued professional fees and other	267,936	247,738
Deferred revenue	46,466	36,669
Promissory note	75,000	150,000
Dividend liability	60,000	-
Related party debt	98,675	-
Convertible debt	863,004	394,912
Warrant derivative liability	160,812	436,553
Total current liabilities	2,891,077	2,336,985
LONG TERM LIABILITIES		
Deferred revenue	2,487	10,111
TOTAL LIABILITIES	2,893,564	2,347,096
COMMITMENTS AND CONTINGENCIES (Note 7)		
STOCKHOLDERS' DEFICIT		
Series C convertible preferred stock, $.01 par value; 88,098 shares authorized; 0 and 88,098 shares issued and outstanding on December 31, 2012 and on December 31, 2011, respectively (Liquidation value of $0)	-	881
Series D convertible preferred stock, $.01 par value; 850 shares authorized; 300 and 743 shares issued and outstanding on December 31, 2012 and December 31, 2011, respectively (Liquidation value of $300,000)	3	7
Series E convertible preferred stock $.01 par value; 500 shares authorized; 0 shares issued and outstanding on December 31, 2012, and December 31, 2011	-	-
	1,453	-

Series G convertible preferred stock, $.01 par value; 240,000 shares authorized; 145,320 and 0 shares issued and outstanding on December 31, 2012 and December 31, 2011, respectively		
Series H convertible preferred stock $.01 par value 10,000 shares authorized; 0 shares issued and outstanding on December 31, 2012 and 0 at December 31, 2011	-	-
Common Stock, $.01 par value; 50,000,000 and 20,000,000 shares authorized; 12,149,267 and 6,723,993 shares issued and outstanding on December 31, 2012 and December 31, 2011, respectively	121,493	67,240
Warrants to acquire preferred stock and Common Stock	3,015,996	2,203,101
Additional paid-in capital	15,940,818	13,823,875
Accumulated deficit	(20,619,539)	(16,503,440)
Total stockholders' deficit	(1.539.776)	(408,336)
TOTAL LIABILITIES AND STOCKHOLDERS' DEFICIT	$1,353,788	$1,938,760

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

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PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF OPERATIONS
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011

	For the Year Ended December 31,	
	2012	2011
Revenue:		
PCT products, services, other	$809,308	$767,765
Grant revenue	428,909	219,964
Total revenue	1,238,217	987,729
Costs and expenses:		
Cost of PCT products and services	416,415	342,865
Research and development	965,623	969,473
Selling and marketing	714,635	931,073
General and administrative	2,605,186	2,034,458
Total operating costs and expenses	4,701,859	4,277,869
Operating loss	(3,463,642)	(3,290,140)
Other income (expense):		
Interest (expense) income, net	(133,417)	(136,595)
Change in fair value of warrant derivative liability	144,840	430,423
Total other income (expense)	11,423	293,828
Loss before income taxes	(3,452,219)	(2,996,312)
Income tax benefit	2,014	-
Net loss	(3,450,205)	(2,996,312)
Accrued interest on convertible debt	-	18,896
Accrued and deemed dividends on convertible preferred stock	(950,010)	(2,130,245)
Net loss applicable to common shareholders	$(4,400,215)	$(5,107,661))
Net loss per share attributable to common stockholders - basic and diluted	$(0.43)	$(0.77)
Weighted average common shares outstanding used in basic and diluted net loss per share calculation	10,154,173	6,618,484

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

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PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011

	Series A Preferred Stock		Series B Preferred Stock		Series C Preferred Stock		Series D Preferred Stock		Series E Preferred Stock	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
BALANCE, January 1, 2011	262,135	$ 2,621	88,711	$ 887	-	$ -	-	$ -	-	$ -
Stock-based compensation	-	-	-	-	-	-	-	-	-	-
Stock option exercises	-	-	-	-	-	-	-	-	-	-
Issuance of convertible preferred stock	-	-			88,098	881	843	8	-	-
Issuance of common stock for services	-	-	-	-	-	-	-	-	-	-
Offering costs for issuance of preferred stock	-	-	-	-	-	-	-	-	-	-
Issuance of warrants in connection short-term loans	-	-	-	-	-	-	-	-	-	-
Issuance of stock in lieu of cash for Board of Director fees	-	-	-	-	-	-	-	-	-	-
Warrant modifications	-	-	-	-	-	-	-	-	-	-
Beneficial conversion of issued preferred stock	-	-	-	-	-	-	-	-	-	-
Conversion of preferred stock to common stock	(262,135)	(2,621)	(88,711)	(887)	-	-	(100)	(1)	-	-
Common stock paid-in-kind dividends earned	-	-	-	-	-	-	-	-	-	-
Series B dividend paid in cash	-	-	-	-	-	-	-	-	-	-
Issuance of common stock for dividends paid-in-kind	-	-	-	-	-	-	-	-	-	-

Net loss	-	-	-	-	-	-	-	-	-	-
BALANCE, December 31, 2011	-	$ -	-	$ -	88,098	$ 881	743	$ 7	-	$ -
Stock-based compensation	-	-	-	-	-	-	-	-	-	-
Issuance of Series E convertible preferred stock	-	-	-	-	-	-	-	-	500	5
Issuance of Series G convertible preferred stock	-	-	-	-	-	-	-	-	-	-
Fair value of common stock issued for services	-	-	-	-	-	-	-	-	-	-
Offering costs for issuance of preferred stock	-	-	-	-	-	-	-	-	-	-
Issuance of warrants in connection short-term loans	-	-	-	-	-	-	-	-	-	-
Issuance of warrants for services	-	-	-	-	-	-	-	-	-	-
Issuance of Series G preferred stock in lieu of cash for Board of Director fees	-	-	-	-	-	-	-	-	-	-
Warrant modifications	-	-	-	-	-	-	-	-	-	-
Conversion of preferred stock to common stock	-	-	-	-	(88,098)	(881)	(443)	(4)	(500)	(5)
Common stock paid-in-kind dividends earned	-	-	-	-	-	-	-	-	-	-
Series E dividend paid in cash	-	-	-	-	-	-	-	-	-	-
Issuance of common stock in private placement	-	-	-	-	-	-	-	-	-	-
Issuance of common stock for dividends paid-in-kind	-	-	-	-	-	-	-	-	-	-
Net loss	-	-	-	-	-	-	-	-	-	-
BALANCE, December 31, 2012	-	$ -	-	$ -	-	$ -	300	$ 3	-	$ -

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

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.PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT (CONTINUED)
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011

	Series G Preferred Stock		Common Stock		Stock	Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Shares	Amount	Warrants	Capital	Deficit	Deficit
BALANCE, January 1, 2011	-	-	2,711,750	$27,118	$1,248,909	$12,095,237	$(11,565,263)	$1,809,509
Stock-based compensation	-	-	-	-	-	121,974	-	121,974
Stock option exercises	-	-	41,103	411	-	43,569	-	43,980
Issuance of convertible preferred stock	-	-	-	-	-	1,076,359	-	1,077,247
Issuance of common stock for services	-	-	20,000	200	-	16,800	-	17,000
Offering costs for issuance of preferred stock	-	-	-	-	-	(794,012)	-	(794,012)
Issuance of warrants in connection short-term loans	-	-	-	-	249,348	-	-	249,348
Issuance of stock in lieu of cash for Board of Director fees	-	-	124,996	1,250	-	103,747	-	104,997
Warrant modifications	-	-	-	-	704,844	-	(704,844)	-
Beneficial conversion of issued preferred stock	-	-	-	-	-	1,006,574	(1,006,574)	-
Conversion of preferred stock to common stock	-	-	3,662,336	36,623	-	(33,114)	-	-
	-	-	-	-	-	-	(164,904)	(164,904)

Common stock paid-in-kind dividends earned								
Series B dividend paid in cash	-	-	-	-	-	-	(65,543)	(65,543)
Issuance of common stock for dividends paid-in-kind	-	-	163,808	1,638	-	186,741	-	188,379
Net loss	-	-					(2,996,312)	(2,996,312)
BALANCE, December 31, 2011	-	-	6,723,993	$67,240	$2,203,101	$13,823,875	$(16,503,440)	$(408,336)
Stock-based compensation	-	-	-	-	-	133,193	-	133,193
Issuance of Series E convertible preferred stock	-	-	-	-	-	499,995	-	500,000
Issuance of Series G convertible preferred stock	120,680	1,207	-	-	104,301	497,867	-	603,375
Fair value of common stock issued for services	-	-	1,125,000	11,250	-	343,297	-	354,547
Offering costs for issuance of preferred stock	-	-	-	-	-	(194,367)	-	(194,367)
Issuance of warrants in connection short-term loans	-	-	-	-	45,156	-	-	45,156
Issuance of warrants for services	-	-	-	-	11,883	-	-	11,883
Issuance of Series G preferred stock in lieu of cash for Board of	24,640	246	-	-	20,596	102,358	-	123,200

Director fees								
Warrant modifications	-	-	-	-	323,556	-	(190,891)	132,665
Conversion of preferred stock to common stock	-	-	2,723,540	27,235	-	(24,549)	-	-
Common stock paid-in-kind dividends earned	-	-	-	-	-	-	(278,184)	(278,184)
Series E dividend paid in cash	-	-	-	-	-	-	(196,819)	(196,819)
Issuance of common stock in private placement	-	-	971,867	9,719	307,403	482,878	-	800,000
Issuance of common stock for dividends paid-in-kind	-	-	604,867	6,049	-	276,271	-	284,116
Net loss	-	-	-	-	-	-	(3,450,205)	(3,450,205)
BALANCE, December 31, 2012	145,320	$1,453	12,149,267	$121,493	$3,015,996	$15,940,818	$(20,619,539)	$(1,539,776)

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

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PRESSURE BIOSCIENCES, INC. AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011

	For the Year Ended December 31,	
	2012	2011
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(3,450,205)	$(2,996,312)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	107,519	141,315
Accretion of interest and amortization of debt issue costs	91,315	108,876
Stock-based compensation expense	133,193	121,974
Amortization of third party fees paid in restricted common stock	489,605	-
Net change in inventory reserves	50,000	-
Borrowings on promissory note	-	150,000
Change in fair value of warrant derivative liability	(144,840)	(430,423)
Bad debt expense (recovery of bad debt expense)	(9,600)	9,600
Changes in operating assets and liabilities:		
Accounts receivable	84,988	(44,991)
Inventories	95,651	48,608
Accounts payable	309,170	763,849
Accrued employee compensation	(61,099)	8,186
Deferred revenue and other accrued expenses	119,403	(78,500)
Prepaid expenses and other current assets	20,099	55,955
Net cash used in operating activities	(2,164,801)	(2,141,863)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	-	(2,642)
Net cash used in investing activities	-	(2,642)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from stock option exercises	-	43,980
Decrease in restricted cash	-	20,014
Borrowings on convertible debt	1,394,000	412,000
Proceeds from related party debt	98,675	-
Repayment of convertible debt	(101,556)	-
Payment of dividends	(196,818)	-
Net proceeds from the issuance of common stock	377,453	-
Net proceeds from the issuance of preferred stock	371,733	1,338,437
Net cash provided by financing activities	1,943,487	1,814,431
Change in cash and cash equivalents	(221,314)	(330,074)
Cash and cash equivalents, beginning of period	222,775	552,849
Cash and cash equivalents, end of period	$1,461	$222,775
SUPPLEMENTAL INFORMATION:		

Income taxes paid	$1,900	$1,900
Income tax refund received	-	23,710
Issuance of common stock dividend on preferred stock	284,116	188,379
Issuance of preferred stock warrants to placement agent	-	94,313
Convertible debt exchanged for common stock	387,547	-
Debt and accrued interest exchanged for Series G preferred stock	586,873	-
Fair value of common stock issued for services	354,547	4,999
Issuance of Series G preferred stock for board fees	123,200	-
Issuance of common stock for deferred board fees	-	104,997
Warrant modifications	190,891	704,844
Beneficial conversion feature on convertible preferred stock	-	1,006,574

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

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(1) Business Overview, Liquidity and Management Plans

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, 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.

We have experienced negative cash flows from operations with respect to our pressure cycling technology business since our inception. As of December 31, 2012, we did not have adequate working capital resources to satisfy our current liabilities. Based on our current projections, including equity financing subsequent to December 31, 2012, we believe our current cash resources will enable us to extend our cash resources until May 2013.

As a result, the audit report issued by our independent registered public accounting firm on our audited financial statements for the fiscal year ended December 31, 2012 contains an explanatory paragraph regarding our ability to continue as a going concern due to the risk that we may not have sufficient cash and liquid assets at December 31, 2012 to cover our operating and capital requirements for the next twelve-month period; and if sufficient cash cannot be obtained, we would have to substantially alter, or possibly even discontinue, operations. The accompanying financial statements do not include any adjustments that might result from the outcome of this uncertainty.

The conditions described above could adversely affect our ability to obtain additional financing on favorable terms, if at all, and may cause investors to have reservations about our long-term prospects, and may adversely affect our relationships with customers. There can be no assurance that our auditing firm will not qualify its opinion in the future. If we cannot successfully continue as a going concern, our stockholders may lose their entire investment in us. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure you that our plans to address these matters in the future will be successful. If we are not successful there is substantial doubt that we can continue as a going concern.

Management has developed a plan to continue operations. This plan includes further reductions in expenses and obtaining equity or debt financing including our most recently completed financing in February and March 2013, our Series J financing round, in which we sold units consisting of convertible preferred shares of restricted Common Stock and warrants to purchase shares of Common Stock for net aggregate proceeds of approximately $1,859,700 of which approximately $1,113,700 was from the conversion of outstanding indebtedness and accrued board of directors' fees and $746,000 in cash. Although we have successfully completed equity financings and reduced expenses in the past, we cannot assure that our plans to address these matters in the future will be successful. Additional financing may not be available to us on a timely basis, if at all, or on terms acceptable to us. In the event we are unable to raise sufficient funds on terms acceptable to us, we may be required to:

severely limit or cease our operations or otherwise reduce planned expenditures and forego other business opportunities, which could harm our business. The accompanying financial statements do not include adjustments that may be required in the event of the disposal of assets or the discontinuation of the business;

obtain financing with terms that may have the effect of diluting or adversely affecting the holdings or the rights of the holders of our capital stock; or

obtain funds through arrangements with future collaboration partners or others that may require us to relinquish rights to some or all of our technologies or products.

Our Common Stock is listed on the Over-the-Counter exchange.

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(2) Summary of Significant Accounting Policies

i. 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.

ii. 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 impairment of assets, 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.

iii. Revenue Recognition

Revenue is recognized when realized or earned when all the following criteria have been met: persuasive evidence of an arrangement exists; delivery has occurred and risk of loss has passed to the customer; the seller’s price to the buyer is fixed or determinable; and collectability is reasonably assured.

Our current instruments, the Barocycler NEP3229 and NEP2320, require a basic level of instrumentation expertise to set-up for initial operation. To support a favorable first experience for our customers, we send a highly trained technical representative to the customer site to install every Barocycler that we sell, lease, or rent through our domestic sales force. The installation process includes uncrating and setting up the instrument, followed by introductory user training. Product revenue related to current Barocycler instrumentation is recognized upon the completion of the installation and introductory training process of the instrumentation at the customer location, for domestic installations. Product revenue related to sales of PCT instrumentation to our foreign distributors is recognized upon shipment through a common carrier. We provide for the expected costs of warranty upon the recognition of revenue for the sales of our instrumentation. Our sales arrangements do not provide our customers with a right of return. Product revenue related to the HUB440 and our consumable products such as PULSE Tubes, MicroTubes, and application specific kits is recorded upon shipment through a common carrier. Shipping costs are included in sales and marketing expense. Any shipping costs billed to customers are recognized as revenue.

We account for our lease agreements under the operating method. We record revenue over the life of the lease term and we record depreciation expense on a straight-line basis over the thirty-six month estimated useful life of the Barocycler instrument. The depreciation expense associated with assets under lease agreement is included in the “Cost of PCT products and services” line item in our consolidated statements of operations. Many of our lease and rental agreements allow the lessee to purchase the instrument at any point during the term of the agreement with partial or full credit for payments previously made. We pay all maintenance costs associated with the instrument during the term of the leases.

Revenue from government grants is recorded when expenses are incurred under the grant in accordance with the terms of the grant award.

Our transactions sometimes involve multiple elements (i.e., products and services). Revenue under multiple element arrangements is recognized in accordance with FASB ASC 605-25 Multiple-Element Arrangements ("ASC 605"). When vendor specific objective evidence or third party evidence of selling price for deliverables in an arrangement cannot be determined, the Company develops a best estimate of the selling price to separate deliverables and allocates arrangement consideration using the relative selling price method. If an arrangement includes undelivered elements that are not essential to the functionality of the delivered elements, we defer the fair value of the undelivered elements to such time as they are delivered. Fair value is determined based upon the price charged when the element is sold separately. If there is not sufficient evidence of the fair value of the undelivered elements the Company uses its best estimate of the value of those items and recognizes revenues based on the relative values of the delivered and undelivered items. We provide certain customers with extended service contracts with revenue recognized ratably over the life of the contract.

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iv. Cash and Cash Equivalents

Our policy is to invest available cash in short-term, investment grade interest-bearing obligations, including money market funds, and bank and corporate debt instruments. Securities purchased with initial maturities of three months or less are valued at cost plus accrued interest, which approximates fair value, and are classified as cash equivalents.

v. Research and Development

Research and development costs, which are comprised of costs incurred in performing research and development activities including wages and associated employee benefits, facilities, consumable products and overhead costs that are expensed as incurred. In support of our research and development activities we utilize our Barocycler instruments that are capitalized as fixed assets and depreciated over their expected useful life.

vi. Inventories

Inventories are valued at the lower of cost (average cost) or market (sales price). The cost of Barocyclers consists of the cost charged by the contract manufacturer. The cost of manufactured goods includes material, freight-in, direct labor, and applicable overhead. The composition of inventory as of December 31, 2012 and 2011 is as follows:

	December 31,	
	2012	2011
Raw materials	$ 183,655	$ 193,121
Finished goods	789,707	875,892
Inventory reserve	(50,000)	-
Total	$ 923,362	$ 1,069,013

vii. Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. For financial reporting purposes, depreciation is recognized using the straight-line method, allocating the cost of the assets over their estimated useful lives of three years for certain laboratory equipment, from three to five years for management information systems and office equipment, and three years for all PCT finished units classified as fixed assets.

viii. Intangible Assets

We have classified as intangible assets, costs associated with the fair value of acquired intellectual property. Intangible assets, including patents, are being amortized on a straight-line basis over sixteen years. We perform an annual review of our intangible assets for impairment. When impairment is indicated, any excess of carrying value over fair value is recorded as a loss. An impairment analysis of intangible assets was performed as of December 31, 2012. Based on this analysis, we have concluded that no impairment of intangible assets had occurred.

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ix. Long-Lived Assets and Deferred Costs

The Company's long-lived assets and other assets are reviewed for impairment in accordance with the guidance of the FASB ASC 360-10-05, Property, Plant, and Equipment, whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of an asset to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the asset. If such asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. Through December 31, 2012, the Company had not experienced impairment losses on its long-lived assets. While our current and historical operating losses and cash flow are indicators of impairment, we performed an impairment test at December 31, 2012 and determined that such long-lived assets were not impaired.

x. 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 and university labs.

The following table illustrates the level of concentration of the below two groups within revenue as a percentage of total revenues during the years ended December 31, 2012 and 2011:

	For the Year Ended December 31,			
	2012		2011	
Top Five Customers	50	%	37	%
Federal Agencies	41	%	26	%

The following table illustrates the level of concentration of the below two groups within accounts receivable as a percentage of total accounts receivable balance as of December 31, 2012 and 2011:

	For the Year Ended December 31,			
	2012		2011	
Top Five Customers	34	%	89	%
Federal Agencies	32	%	42	%

Product Supply

Source Scientific, LLC has been our sole contract manufacturer for all of our PCT instrumentation. Until we develop a broader network of manufacturers and subcontractors, obtaining alternative sources of supply or manufacturing services could involve significant delays and other costs and challenges, and may not be available to us on reasonable terms, if at all. The failure of a supplier or contract manufacturer to provide sufficient quantities, acceptable quality and timely products at an acceptable price, or an interruption of supplies from such a supplier could harm our business and prospects.

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xi. 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, warrants to acquire preferred stock convertible into Common Stock, 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. The following table illustrates our computation of loss per share for the years ended December 31, 2012 and 2011.

	For the Year Ended December 31,	
	2012	2011
Numerator:		
Net loss	$(3,450,205)	$(2,996,312)
Accrued interest on convertible debt, after tax	-	18,896
Accrued dividend for Preferred Stock paid in common stock	(278,184)	(164,904)
Deemed dividend on warrant modifications	(190,891)	(704,844)
Issuance of common stock for dividends paid in kind	(284,116)	-
Beneficial conversion feature for preferred stock	-	(1,006,574)
Series A Preferred dividends paid in common stock	-	(188,380)
Preferred dividends accrued and paid in cash	(196,819)	(65,543)
Net loss applicable to common shareholders	$(4,400,215)	$(5,107,661)
Denominator for basic and diluted loss per share:		
Weighted average common shares outstanding	10,154,173	6,618,484
Loss per common share - basic and diluted	$(0.43)	$(0.77)

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.

	For the Year Ended December 31,	
	2012	2011
Stock options	1,605,750	1,508,500
Convertible debt	-	412,000
Common stock warrants	6,687,099	4,775,501
Preferred stock warrants	-	-
Convertible preferred stock:		
Series A Convertible Preferred	-	-
Series B Convertible Preferred	-	-
Series C Convertible Preferred	-	880,980
Series D Convertible Preferred	750,000	1,143,077
Series E Convertible Preferred	-	-
Series G Convertible Preferred	1,453,200	-
	10,496,049	8,720,058

xii. Accounting for Income Taxes

We account for income taxes under the asset and liability method, which requires recognition of deferred tax assets, subject to valuation allowances, and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes. The Company considers many factors when assessing the likelihood of future realization of our deferred tax assets, including recent cumulative earnings experience by taxing jurisdiction, expectations of future taxable income or loss, the carry-forward periods available to us for tax reporting purposes, and other relevant factors. A valuation allowance is established if it is more likely than not that all or a portion of the net deferred tax assets will not be realized. If substantial changes in the company's ownership should occur, as defined in Section 382 of the Internal Revenue Code, there could be significant limitations on the amount of net loss carry forwards that could be used to offset future taxable income.

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xiii. Accounting for Stock-Based Compensation

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 equity 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, which generally is over three years.

Expected Term - The Company uses the simplified calculation of expected life, described in the FASB ASC 718, Compensation-Stock Compensation, 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 - As required by FASB ASC 718, Compensation-Stock Compensation, 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. We used this historical rate as our assumption in calculating future stock-based compensation expense.

The following table summarizes the assumptions we utilized for grants of stock options to the three sub-groups of our stock option recipients during the twelve months ended December 31, 2012 and 2011:

Assumptions	Non-Employee Board Members	CEO, other Officers and Employees
Expected life	2.0-5.0 (yrs)	6.0 (yrs)
Expected volatility	55.66%-101.54%	55.66%-124.89%
Risk-free interest rate	1.00%-4.94 %	0.50%-4.94 %
Forfeiture rate	0.00%-5.00 %	2.00%-5.00 %
Expected dividend yield	0.0 %	0.0 %

On August 15, 2012, the Board of Directors approved the immediate re-pricing of certain outstanding stock options (approximately 1,555,500 shares) held by current officers, employees and board members with outstanding stock options to $1.00 per share, a 200% premium to the closing market price on August 15, 2012 of $0.32, for original stock options with an exercise price above $1.00, to $0.60 per share, a 88% premium to the closing market price on August 15, 2012 of $0.32, for original stock options with an exercise price below $1.00 but above $0.60. The compensation value created by the re-pricing, as determined under the Black Scholes method, was approximately $62,000 and under current accounting rules results in a non cash expense in current and future periods, not to exceed

the vesting periods of the stock options.

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Assumptions for re-pricing of the options were:

Assumptions	Awards re-priced during the year ended December 31, 2012	
Expected life (in years)	6	
Weighted average expected volatility	124.9	%
Risk-free interest rate	0.7	%
Weighted average re-priced Black-Scholes calculated fair value	0.32	

We recognized stock-based compensation expense of $133,193 and $121,974 for the years ended December 31, 2012 and 2011, respectively. The following table summarizes the effect of this stock-based compensation expense within each of the line items within our accompanying Consolidated Statements of Operations:

	For the Year Ended December 31, 2012	2011
Research and development	$ 30,034	$ 39,375
Selling and marketing	28,944	43,201
General and administrative	74,215	39,398
Total stock-based compensation expense	$ 133,193	$ 121,974

During the years ended December 31, 2012 and 2011, the total fair value of stock options awarded was $116,816 and $135,403, respectively.

As of December 31, 2012, the total estimated fair value of unvested stock options to be amortized over their remaining vesting period was $101,938. The non-cash, stock based compensation expense associated with the vesting of these options will be $45,831 in 2013, $29,532 in 2014, $24,252 in 2015 and $2,323 in 2016.

xiv. 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. Short-term and long-term liabilities are primarily related to liabilities transferred under contractual arrangements with carrying values that approximate fair value.

xv. Advertising

Advertising costs are expensed as incurred. During 2012 we incurred $500 in advertising expense. We did not purchase any advertising, print or otherwise, in 2011.

xvi. Fair Value Measurements

The Company follows the guidance of FASB ASC Topic 820, “Fair Value Measurements and Disclosures” (“ASC 820”) as of June 30, 2012, 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 an entity to develop its own assumptions.

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 it does not have any financial assets measured at fair value and that its financial liabilities are currently all classified within Level 3 in the fair value hierarchy.

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The following tables set forth the Company's financial liabilities that were accounted for at fair value on a recurring basis as of December 31, 2012 and December 31, 2011. The assumptions used to determine fair value of the warrants are contained in the table in footnote (7) of the accompanying consolidated financial statements. The development of the unobservable inputs for Level 3 fair value measurements and fair value calculations are the responsibility of the Company's management.

	December 31, 2012	Fair value measurements at December 31, 2012 using: Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Series D Common Stock Purchase Warrants	$160,812	$-	$-	$ 160,812

	December 31, 2011	Fair value measurements at December 31, 2011 using: Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Series C Common Stock Purchase Warrants	$205,353	$-	$-	$ 205,353
Series D Common Stock Purchase Warrants	231,200	-	-	231,200
	$436,553	$-	$-	$ 436,553

	January 1, 2012	Change in Fair Value	Reclass to Equity	December 31, 2012
Series C Common Stock Purchase Warrants	$205,353	$(74,452)	$(130,901)	$-
Series D Common Stock Purchase Warrants	231,200	(70,388)	-	160,812
	$436,553	$(144,840)	$(130,901)	$160,812

	January 1, 2011	Change in Fair Value	December 31, 2011
Series C Common Stock Purchase Warrants	$-	$205,353	$205,353
Series D Common Stock Purchase Warrants	-	231,200	231,200
	$-	$436,553	$436,553

(3) Property and Equipment, net

Property and equipment as of December 31, 2012 and 2011 consisted of the following components:

	December 31, 2012	2011
Laboratory and manufacturing equipment	$ 172,560	$ 172,560
Office equipment	137,093	137,093
Leasehold improvements	8,117	8,117
PCT collaboration, demonstration and leased systems	461,858	461,858

Total property and equipment	779,628	779,628
Less accumulated depreciation	(749,346)	(690,457)
Net book value	$ 30,282	$ 89,171

Depreciation expense for the years ended December 31, 2012 and 2011 was $58,889 and $92,683, respectively.

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(4) Intangible Assets, net

Intangible assets as of December 31, 2012 reflect the purchase price attributable to patents in connection with the 1998 acquisition of BioSeq, Inc. and the PCT business. Acquired PCT patents are being amortized to expense on a straight line basis at the rate of $48,632 per year over their estimated remaining useful lives of approximately 6 years. We performed a review of our intangible assets for impairment. When impairment is indicated, any excess of carrying value over fair value is recorded as a loss. An impairment analysis of intangible assets was performed as of December 31, 2012. We have concluded that there is no impairment of intangible assets. Intangible assets at December 31, 2012 and 2011 consisted of the following:

	December 31,	
	2012	2011
PCT Patents	$ 778,156	$ 778,156
Less accumulated amortization	(693,026)	(644,394)
Net book value	$ 85,130	$ 133,762

Amortization expense for each of the years ended December 31, 2012 and 2011 was $48,632 and is expected to be $48,632 during 2013 and $36,498 in 2014, at which time the assets will be fully amortized.

(5) Retirement Plan

We provide all of our employees with the opportunity to participate in our retirement savings plan. Our retirement savings plan has been qualified under Section 401(k) of the Internal Revenue Code. Eligible employees are permitted to contribute to the plan through payroll deductions within statutory limitations and subject to any limitations included in the plan. During 2012 and 2011 we contributed $12,458 and $13,156, respectively, in the form of discretionary Company-matching contributions.

(6) Income Taxes

The components of the benefit for income taxes are as follows:

We recorded a $2,014 income tax benefit for the year ended December 31, 2012. There were no current benefits and no deferred provisions for federal and state taxes for the year ended December 31, 2011.

Significant items making up the deferred tax assets and deferred tax liabilities as of December 31, 2012 and December 31, 2011 are as follows:

	December 31,	
Current deferred taxes	2012	2011
Inventories	$19,723	$-
Accounts Receivable allowance	-	3,787
Other accruals	45,053	47,631
Less: valuation allowance	(64,776)	(51,418)
Total current deferred tax assets	$-	$-
Long term deferred taxes:		
Accelerated tax depreciation	$32,686	$29,524
Non-cash, stock-based compensation, nonqualified	388,506	387,676
Goodwill and intangibles	(33,580)	(52,763)
Operating loss carry forwards and tax credits	7,643,661	6,519,386

Less: valuation allowance	(8,031,273)	(6,883,823)
Total long term deferred tax assets (liabilities), net	-	-
Total net deferred tax liabilities	$-	$-

A valuation allowance is established if it is more likely than not that all or a portion of the deferred tax asset will not be realized. Accordingly, a valuation allowance was established in 2012 and 2011 for the full amount of our deferred tax assets due to the uncertainty of realization. We believe based on our projection of future taxable operating income for the foreseeable future, it is more likely than not that we will not be able to realize the benefit of the deferred tax asset at December 31, 2012.

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We have net operating loss carry-forwards for federal income tax purposes of $14,200,748 as of December 31, 2012. Included in these numbers are loss carry-forwards that were obtained through the acquisition of BioSeq, Inc. and are subject to Section 382 NOL limitations. These net operating loss carry-forwards expire at various dates from 2013 through 2032.

We had net operating loss carry-forwards for state income tax purposes of approximately $18,430,173 at December 31, 2012. These net operating loss carry-forwards expire at various dates from 2013 through 2032.

Our effective income tax (benefit) provision rate was different than the statutory federal income tax (benefit) provision rate as follows:

	For the Year Ended December 31,			
	2012		2011	
Federal tax (benefit) provision rate	34	%	34	%
Permanent differences	(1	) %	2	%
State tax expense	0	%	0	%
Refundable AMT and R&D tax credit	0	%	0	%
Net operating loss carry back	0	%	0	%
Valuation allowance	(33	) %	(36	) %
Effective income tax (benefit) provision rate from continuing operations	0	%	0	%

(7) Commitments and Contingencies

Operating Leases

Our corporate office is currently located at 14 Norfolk Avenue, South Easton, Massachusetts 02375. We are currently paying approximately $4,800 per month for our corporate office. On January 16, 2013 the lease was amended to extend the expiration date to December 31, 2013 at the rate of $4,800 per month.

Effective January 1, 2010, we entered into a three-year lease agreement with the University of Massachusetts in Boston, pursuant to which we are leasing laboratory and office space on campus at the university for research and development activities. We paid $5,000 per month for the use of these facilities. On September 26, 2012, the lease was amended to extend the expiration date to December 31, 2014 at a rate of $5,500 per month.

Following is a schedule by years of future minimum rental payments required under operating leases with initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2012:

	Year ending December 31:
2013	$ 123,600
2014	66,000
Thereafter	-
Total minimum payments required	$ 189,600

Royalty Commitments

BioMolecular Assays, Inc.

In 1996, we acquired our initial equity interest in BioSeq, Inc., which at the time was developing our original pressure cycling technology. BioSeq, Inc. acquired its pressure cycling technology from BioMolecular Assays, Inc. under a technology transfer and patent assignment agreement. In 1998, we purchased all of the remaining outstanding capital stock of BioSeq, Inc., and at such time, the technology transfer and patent assignment agreement was amended to require us to pay BioMolecular Assays, Inc. a 5% royalty on our sales of products or services that incorporate or utilize the original pressure cycling technology that BioSeq, Inc. acquired from BioMolecular Assays, Inc. We are also required to pay BioMolecular Assays, Inc. 5% of the proceeds from any sale, transfer or license of all or any portion of the original pressure cycling technology. These payment obligations terminate in 2016. During the fiscal years ended December 31, 2012 and 2011, we incurred $23,635 and $21,090 in royalties, respectively.

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In connection with our acquisition of BioSeq, Inc., we licensed certain limited rights to the original pressure cycling technology back to BioMolecular Assays, Inc. This license is non-exclusive and limits the use of the original pressure cycling technology by BioMolecular Assays, Inc. solely for molecular applications in scientific research and development and in scientific plant research and development. BioMolecular Assays, Inc. is required to pay us a royalty equal to 20% of any license or other fees and royalties, but not including research support and similar payments, it receives in connection with any sale, assignment, license or other transfer of any rights granted to BioMolecular Assays, Inc. under the license. BioMolecular Assays, Inc. must pay us these royalties until the expiration of the patents held by BioSeq, Inc. in 1998, which we anticipate will be 2016. We have not received any royalty payments from BioMolecular Assays, Inc. under this license.

Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute ("Battelle"). The licensed technology is described in the patent application filed by Battelle on July 31, 2008 (US serial number 12/183,219). This application includes subject matter related to a method and a system for improving the analysis of protein samples, including through an automated system utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. Pursuant to the terms of the agreement, we paid Battelle a non-refundable initial fee of $35,000. In addition to royalty payments on net sales on “licensed products”, we are obligated to make minimum royalty payments for each year that we retain the rights outlined in the patent license agreement and we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. The minimum annual royalty was $7,500 for 2011. Our only obligation for 2012 was a minimum royalty payment of $10,000.

Target Discovery Inc.

In March 2010, we signed a strategic product licensing, manufacturing, co-marketing, and collaborative research and development agreement with Target Discovery Inc. (“TDI”). Under the terms of the agreement, we have been licensed by TDI to manufacture and sell a highly innovative line of chemicals used in the preparation of tissues for scientific analysis ("TDI reagents"). The TDI reagents were designed for use in combination with our pressure cycling technology. The companies believe that the combination of PCT and the TDI reagents can fill an existing need in life science research for an automated method for rapid extraction and recovery of intact, functional proteins associated with cell membranes in tissue samples. We did not incur any royalty obligation under this agreement in 2012, we owed approximately $1,200 in royalty obligations under this agreement in 2011.

Severance and Change of Control Agreements

Each of Mr. Schumacher, and Drs. Ting, Lazarev, and Lawrence, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer’s annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Each of these executive officers, other than Mr. Schumacher, is entitled to receive a change of control payment in an amount equal to one year of such executive officer’s annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of the Company. In the case of Mr. Schumacher, this payment would be equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage. The severance payment is meant to induce the aforementioned executives to remain in the employ of the Company, in general; and particularly in the occurrence of a change in control, as a disincentive to

the control change.

Promissory Note

On November 4, 2011, the Company entered into an agreement with a former placement agent, pursuant to which the Company and the placement agent released each other of their respective obligations under a prior investment banking agreement. In connection with this agreement, the Company issued the placement agent a promissory note with an original principal amount of $150,000 and a maturity date of May 4, 2012. The promissory note was interest free until May 4, 2012. On November 15, 2012, $75,000 of principal and $16,125 of accrued and unpaid interest were converted into 18,225 shares of the Company's Series G Convertible Preferred Stock. The $75,000 principal balance remaining as of December 31, 2012 earns interest at a rate of 18% per year.

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Convertible Debt

During 2012, loans in the aggregate amount of approximately $1,394,000 were received from eight individuals, of which $45,000 was received from two directors of the Company. We accrue interest of 6% on $1,294,000 of the loans and interest of 0% on the remaining $100,000. $481,000 of the loans were converted into the Company's Series G Convertible Preferred Stock on November 15, 2012 and $50,000 of the loans had been repaid before December 31, 2012. The remaining loans, and the accrued and unpaid interest on these loans, were converted to the Company's Series J Convertible Preferred Shares in February 2013. Warrants to purchase 50,000 shares of the Company's Common Stock were issued to two individuals in connection with these loans. The warrants have an exercise price equal to $0.50 per share, with a term expiring on August 21, 2015.

Loans in the aggregate amount of $362,000 from four individuals were converted into Common Stock and warrants in the February 2012 private placement. We had paid $43,000 towards the outstanding balance in April 2012. Principal and interest of $13,139 was converted into preferred stock and warrants in the July 2012 private placement.

(8) Transactions with Related Persons

From time to time Mr. Richard T. Schumacher, the Company's President and CEO, makes loans to the Company to provide the Company with operating cash. The balance of these loans at December 31, 2012 was $98,675 and is recorded as related party debt in the accompanying consolidated balance sheet as of December 31, 2012.

On February 7, 2012, Mr. Schumacher invested $100,000 in our private placement in February 2012 for shares of restricted Common Stock and warrants to purchase shares of Common Stock at a purchase price of $0.9125 per share for 109,589 shares of restricted Common Stock and a Warrant to purchase 54,795 shares of Common Stock at an exercise price of $0.85 per share.

On July 6, 2012, Mr. Schumacher invested $30,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 6,000 shares of convertible Preferred Stock (convertible into 60,000 shares of Common Stock) and a Warrant to purchase 30,000 shares of Common Stock at an exercise price of $0.50 per share.

On October 19, 2012, the Board of Directors awarded Mr. Schumacher 100,000 shares of Common Stock valued at $40,000 for reimbursement of a penalty Mr. Schumacher incurred related to a loan he made to the Company that was not repaid by the Company upon the maturity date.

Mr. Wayne Fritzsche, a member of the board of directors from October 2003 to February 2013, received annual cash compensation of $60,000 during 2012 as an investor relations consultant to the Company. In connection with this engagement, Mr. Fritzsche did not serve on any Board committees from January 2012 to February 2013. As of December 31, 2012, Mr. Fritzsche no longer provided consulting services to the Company.

On February 7, 2012, Mr. Fritzsche invested $12,453 in our private placement in February 2012 for shares of restricted Common Stock and warrants to purchase shares of Common Stock at a purchase price of $0.8025 per share for 15,518 shares of restricted Common Stock and a Warrant to purchase 7,759 shares of Common Stock at an exercise price of $0.74 per share.

On July 6, 2012, Mr. Fritzsche invested $15,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 3,000 shares of convertible Preferred Stock (convertible into 30,000 shares of Common Stock) and a Warrant to purchase 15,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Jeffrey N. Peterson invested $23,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 4,600 shares of convertible Preferred Stock (convertible into 46,000 shares of Common Stock) and a Warrant to purchase 23,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Vito J. Mangiardi invested $20,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 4,000 shares of convertible Preferred Stock (convertible into 40,000 shares of Common Stock) and a Warrant to purchase 20,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Kevin A. Pollack invested $40,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 8,000 shares of convertible Preferred Stock (convertible into 80,000 shares of Common Stock) and a Warrant to purchase 40,000 shares of Common Stock at an exercise price of $0.50 per share.

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(9) 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")

As of December 31, 2012, there were no shares of Junior A, and Series A, B, C, E, and H issued and outstanding.

Series A Convertible Preferred Stock

On February 12, 2009, we completed a private placement, pursuant to which we sold an aggregate of 156,980 units (the "Series A Units") for a purchase price of $11.50 per unit (the "Series A Purchase Price"), resulting in gross proceeds to us of $1,805,270 (the "Series A Private Placement"). Each Series A Unit consisted of (i) one share of Series A Convertible Preferred Stock convertible into 10 shares of our Common Stock, (ii) a warrant to purchase one share of Series A Convertible Preferred Stock at an exercise price equal to $12.50 per share, with a term expiring 15 months after the date of closing ("15-Month Series A Preferred Stock Warrant"); and (iii) a warrant to purchase 10 shares of Common Stock at an exercise price equal to $2.00 per share, with a term expiring 30 months after the date of closing (the "30-Month Common Stock Warrants").

As a result of the issuance of Common Stock in connection with dividends paid on the Series A Preferred Stock and the Series B Preferred Stock, the exercise price of the 30-Month Common Stock Warrants has been adjusted from $2.00 to $1.72 in accordance with the terms of the 30-Month Common Stock Purchase Warrants.

On or about August 10, 2011, holders of 30-Month Common Stock Warrants to purchase 1,569,800 shares of Common Stock entered into an amendment to the 30-Month Common Stock Warrants which extended the expiration date of the warrants to August 11, 2012. On or about September 30, 2011, 30-Month Common Stock Warrants to purchase 1,556,750 shares of Common Stock were further amended to reduce the exercise price from $1.74 to $0.90 and to extend the term until August 12, 2016 and, with respect to affiliates, August 12, 2015. A 30-Month Common Stock Warrant to purchase 13,050 shares of Common Stock was not amended and was further adjusted by Common Stock dividends issued in October 2011 resulting in an effective exercise price of $1.72 per share, subject to future adjustment, with a term expiring on August 11, 2012.

Each share of Series A Convertible Preferred Stock received a cumulative dividend at the rate of 5% per annum of the Series A Purchase Price, payable semi-annually on June 30 and December 31, commencing on June 30, 2009 (with the first payment being pro-rated based on the number of days occurring between the date of issuance and June 30, 2009). The Company was permitted to pay dividends in cash or in shares of Common Stock at our option, subject to certain conditions.. The Board approved the final payment to Series A holders in the form of cCommon Stock for accrued dividends through September 30, 2011.

On or about September 30, 2011, all 47 holders of both the outstanding Series A Convertible Preferred Stock and Series A 30-Month Common Stock Purchase Warrants, issued in the Series A Convertible Preferred Stock financing completed by the Company in February 2009, voluntarily converted an aggregate of 247,187 shares of Series A Preferred Stock into 2,471,870 shares of the Company's Common Stock. The Company has no obligation or intention to issue any more shares of Series A Convertible Preferred Stock.

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Series B Convertible Preferred Stock

On November 18, 2009, we sold an aggregate of 62,039 units (the "Series B Units") for a purchase price of $18.80 per unit (the "Series B Purchase Price"), resulting in gross proceeds to us of $1,166,333. This was the first tranche of a $2.5 million private placement. The second tranche closed on March 18, 2010 for the sale of 26,672 Series B Units with gross proceeds of $501,434 (collectively the two tranches are referred to as the "Series B Private Placements"). Each Series B Unit consisted of (i) one share of Series B Convertible Preferred Stock convertible into 10 shares of our Common Stock and (ii) a warrant to purchase one share of Series B Convertible Preferred Stock at an exercise price equal to $23.80 per share for warrants issued in November 2009 and at an exercise price of $28.80 for warrants issued in March 2010, in each case with a term expiring on August 11, 2011 (the "Series B Warrant").

On or about August 10, 2011, holders of the Series B Warrants to purchase 887,110 shares of Common Stock entered into an amendment to the Series B Warrants which extended the expiration date of the Series B Warrants to August 11, 2012 and provided that they would be issuable for the equivalent number of shares of Common Stock at a proportionate exercise price. On or about September 30, 2011, Series B Warrants to purchase 887,110 shares of Common Stock were further amended to reduce the exercise price from $2.38 to $1.43, for Series B Warrants issued in November 2009, and from $2.88 to $1.75, for Series B Warrants issued in March 2010. Series B Warrants also extended the term of the Series B Warrants until August 12, 2016 and until August 12, 2015 with respect to affiliates. All of the Series B Warrants are no longer exercisable for shares of Series B Convertible Preferred Stock.

On or about September 30, 2011, all of the outstanding shares of Series B Convertible Preferred Stock were voluntarily converted into shares of Common Stock.

Each share of Series B Convertible Preferred Stock received a cumulative dividend at the rate of 5% per annum of the Series B Purchase Price, payable semi-annually on June 30 and December 31, commencing on December 31, 2009 (with the first payment being pro-rated based on the number of days occurring between the date of issuance and December 31, 2009). The Company was permitted to pay dividends in cash or in shares of Common Stock at our option, subject to certain conditions. The shares of Series B Convertible Preferred Stock were also entitled to a liquidation preference, such that in the event of any voluntary or involuntary liquidation, dissolution or winding up of our Company, the holders of Series B Convertible Preferred Stock would have been paid out of the assets of the Company available for distribution to our stockholders before any payment was paid to the holders of Common Stock, an amount per share equal to the Series B Purchase Price, plus accrued and unpaid dividends. The Series B Convertible Preferred Stock would have been treated on an equivalent basis with the holders of the Series A Convertible Preferred Stock and Series C Convertible Preferred Stock with respect to payments made in connection with a liquidation. The Board approved the method of payment in the form of Common Stock for the dividends payable with respect to December 31, 2009 and the June 30, 2010 (to the holders of Series B Convertible Preferred Stock issued in November 2009). The Board approved the method of payment in the form of cash for the dividends payable with respect to June 30, 2010 (to the holders of Series B Convertible Preferred Stock issued in March 2010), December 31, 2010 and for all dividends accrued through December 31, 2012.

Each share of Series B Convertible Preferred Stock was convertible into 10 shares of Common Stock at any time at the option of the holder, subject to adjustment for stock splits, stock dividends, recapitalizations and similar transactions (the "Series B Conversion Ratio"). Each share of Series B Convertible Preferred Stock would have been automatically converted into shares of Common Stock at the Series B Conversion Ratio then in effect: (i) if, after 12 months from the closing of the applicable tranche of the Series B Private Placement, the Common Stock traded on the OTC Market (or other primary trading market or exchange on which the Common Stock was then traded) at a price equal $5.64 for 20 out of 30 consecutive trading days with average daily trading volume of at least 10,000 shares; or (ii) upon a registered public offering by the Company at a per share price equal to $5.64, with aggregate gross proceeds to the Company of not less than $10 million. Unless waived under certain circumstances by the holder of the

Series B Convertible Preferred Stock, such holder's Series B Convertible Preferred Stock could not have been converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

Series B Warrants

The Series B Warrants issued in November 2009 originally had an exercise price equal to $23.80 and the Series B Warrants issued in March 2010 originally had an exercise price equal to $28.80, in each case with a term expiring on August 11, 2011. The Series B Warrants currently have an exercise price of $1.43 for Series B Warrants issued in November 2009, and $1.75 for Series B Warrants issued in March 2010, in each case with a term expiring on August 12, 2016 and, with respect to affiliates, August 12, 2015. The Series B Warrants are currently exercisable for shares of Common Stock. The Series B Warrants permit the holder to conduct a "cashless exercise" at any time the holder of the Series B Warrant is an "affiliate" (as defined in the Securities Purchase Agreement) of the Company.

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Series C Convertible Preferred Stock

On April 8, 2011 and April 12, 2011, we completed the first tranche of a private placement, pursuant to which we sold an aggregate of 55,048 units for a purchase price of $15.00 per unit, resulting in gross proceeds to us of $825,720 (the "Series C Private Placement"). This was the first tranche of the Series C Private Placement. In connection with the second tranche, the purchase price was reduced to $12.50 per unit and we issued an additional 11,011 units to the purchasers who participated in the first tranche, without any additional gross proceeds to us.

The second tranche closed on June 20, 2011 for the sale of 22,039 Series C Units (as defined below) for a purchase price of $12.50 per unit with gross proceeds of $275,485. Each unit ("Series C Unit") consisted of (i) one share of Series C Convertible Preferred Stock, $0.01 par value per share (the "Series C Convertible Preferred Stock") convertible into 10 shares of our Common Stock, (subject to adjustment for stock splits, stock dividends, recapitalization, etc.); and (ii) a three-year warrant to purchase 10 shares of our Common Stock at a per share exercise price equal to the sum of (i) the Common Stock equivalent of the Series C Purchase Price (ii) plus $0.88 (the "Series C Warrant"). The Series C Warrants are exercisable until the close of business on the third anniversary of the applicable closing date.

We engaged an investment banker (the "Investment Banker") to assist with the Series C Private Placement. The Company paid the Investment Banker a cash retainer fee of $50,000 and issued a warrant to the Investment Banker to purchase 100,000 shares of Common Stock at an exercise price of $3.00 per share. In connection with the Series C Private Placement, we paid the Investment Banker a fee of (i) approximately $66,000 cash, (ii) an expense allowance of approximately $16,500, (iii) a warrant to purchase 61,638 shares of Common Stock exercisable at a purchase price of $1.50, and (iv) a warrant to purchase 61,638 shares of Common Stock exercisable at a purchase price of $2.38.

The proceeds from the sale of each Series C Unit were allocated between the Series C Convertible Preferred Stock and the Series C Warrants based on the residual method. The estimated fair value of the Series C Warrants was determined using a binomial formula, resulting in an allocation of the gross proceeds of $583,250 to the total warrants issued. The allocation of the gross proceeds to the Series C Convertible Preferred Stock was $517,958. In accordance with the provisions of ASC 470-20, an additional adjustment between Additional Paid in Capital and Accumulated Deficit of $476,434 was recorded to reflect an implicit non-cash dividend related to the allocation of proceeds between the stock and warrants issued. The $476,434 represents the value of the adjustment to additional paid in capital related to the beneficial conversion feature of the Series C Convertible Preferred Stock. The value adjustment was calculated by subtracting the fair market value of the underlying Common Stock on April 7 and June 20 issuable upon conversion of the Series C Convertible Preferred Stock from the fair market value of the Series C Convertible Preferred Stock as determined when the Company performed a fair market value allocation of the proceeds to the Series C Convertible Preferred Stock and warrants. We used a binomial formula since the warrants have down-round protection and are recorded as a liability. See "Warrant Derivative Liability" section within this footnote.

Each share of Series C Convertible Preferred Stock will receive a cumulative dividend at the rate of 5% per annum of the respective tranche purchase price, payable semi-annually on June 30 and December 31, commencing on June 30, 2011 with the first payment being pro-rated based on the number of days occurring between the date of issuance and June 30, 2011. Dividends may be paid in cash or in shares of Common Stock at our option, subject to certain conditions. The shares of Series C Convertible Preferred Stock also are entitled to a liquidation preference, such that in the event of any voluntary or involuntary liquidation, dissolution or winding up of our Company, the holders of Series C Convertible Preferred Stock will be paid out of the assets of the Company available for distribution to our stockholders before any payment shall be paid to the holders of Common Stock, an amount per share equal to the Series C Purchase Price, plus accrued and unpaid dividends. Prior to the conversion of all of the outstanding shares of Series A Convertible Preferred Stock and Series B Convertible Preferred Stock, the Series C Convertible Preferred Stock was treated on an equivalent basis with the Series A Convertible Preferred Stock and Series C Preferred Stock with respect to payments made in connection with a liquidation. The Company elected to pay the dividend payable on

June 30, 2011 in cash.

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Each share of Series C Convertible Preferred Stock is convertible into 10 shares of Common Stock at any time at the option of the holder, subject to adjustment for stock splits, stock dividends, recapitalizations and similar transactions (the "Series C Conversion Ratio"). Each share of Series C Convertible Preferred Stock will automatically be converted into shares of Common Stock at the Series C Conversion Ratio then in effect: (i) if, after 12 months from the closing of the applicable tranche of the Series C Private Placement, the Common Stock trades on the OTC Market, or other primary trading market or exchange on which the Common Stock is then traded, at a price equal to three-tenths of the Series C Unit purchase price for 20 out of 30 consecutive trading days with average daily trading volume of at least 10,000 shares or (ii) upon a registered public offering by the Company at a per share price equal to at least three-tenths of the Series C Unit purchase price, with aggregate gross proceeds to the Company of not less than $10 million. Unless waived under certain circumstances by the holder of the Series C Convertible Preferred Stock, such holder's Series C Convertible Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

The holders of Series C Convertible Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company, or by written consent of stockholders in lieu of meeting, except that the holders of Series C Convertible Preferred Stock may vote separately as a class on any matters that would amend, alter or repeal any provision of our Restated Articles of Organization, as amended, in a manner that adversely affects the powers, preferences or rights of the Series C Convertible Preferred Stock and such holders may also vote on any matters required by law.

If we consummate an equity financing (other than the exercise of employee stock options under the Company's stock option plans, the Series C Private Placement or the exercise of any Series C Warrants, or the exercise or conversion of any currently outstanding Common Stock equivalents) within twelve months after the initial Closing and the gross proceeds to the Company from the sale of the Units are less than $4 million, then each holder of Series C Units may exchange all, but not less than all, of his, her or its Series C Units for the equity securities issued in such next financing and shall become subject to the terms and conditions of such next financing; provided that the exchange of the purchaser's Series C Units for next financing securities is permitted under the rules and regulations of the NASDAQ Trading Market then in effect. The number of next financing securities into which a purchaser's Series C Units may be exchanged shall be determined by dividing (a) the aggregate per unit purchase price at which the Series C Units being exchanged were issued, by (b) the price per next financing security at which such securities were issued in the next financing. The requisite holders of the Series C Units waived such right with respect to the Company's recently completed equity financing. At any time after February 12, 2014, upon 30 days written notice, we have the right to redeem the outstanding shares of Series C Convertible Preferred Stock at a price equal to the Series C Unit purchase price, plus all accrued and unpaid dividends thereon. The redemption price may be paid in two annual installments. All holders of Series C Convertible Preferred Stock will be treated on an equivalent basis with respect to payments made in connection with redemption.

Series C Warrants

The Series C Warrants have an exercise price equal to $2.13 with a term expiring on the third anniversary of the deal closing. The Series C Warrants permit the holder to conduct a "cashless exercise" at any time the holder of the Series C Warrant is an "affiliate" (as defined in the Securities Purchase Agreement) of the Company.

The Series C Warrant exercise price and/or number of shares issuable upon exercise of the Series C Warrant will be subject to adjustment for stock dividends, stock splits or similar capital reorganizations, as set forth in the Series C Warrants.

Subject to the terms and conditions of the Series C Warrants, the Company has the right to call for cancellation the Series C Warrants if the volume weighted average price of our Common Stock on the OTC Market (or other primary

trading market or exchange on which our Common Stock is then traded) equals or exceeds two times the per common share exercise price for either (i) 10 consecutive trading days or (ii) 15 out of 25 consecutive trading days.

On April 5, 2012, all 11 holders of outstanding Series C Convertible Preferred Stock and Series C Common Stock Purchase Warrants voluntarily converted an aggregate of 88,098 shares of Series C Preferred Stock into 1,372,247 shares of the Company's Common Stock, and Series C Warrants to purchase an aggregate of 880,980 shares of the Company'sCommon Stock to warrants to purchase 686,125 shares of Common Stock in the Company.

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Series D Convertible Preferred Stock

On November 11, 2011, we completed a registered direct offering, pursuant to which we sold an aggregate of 843 units for a purchase price of $1,000 per unit, resulting in gross proceeds to us of $843,000 (the "Series D Placement"). Each unit ("Series D Unit") consisted of (i) one share of Series D Convertible Preferred Stock, $0.01 par value per share (the "Series D Convertible Preferred Stock") convertible into 1,538.46 shares of our Common Stock, (subject to adjustment for stock splits, stock dividends, recapitalization, etc.) and (ii) one five-year warrant to purchase approximately 614 shares of our Common Stock at a per share exercise price of $0.81, subject to adjustment as provided in the Warrants ("Series D Warrant"). The Series D Warrants will be exercisable beginning on May 11, 2012 and until the close of business on the fifth anniversary of the initial exercise date.

We engaged an investment banker to assist with the Series D Placement. In connection with the Series D Placement, we paid the investment banker a fee of approximately $67,000 cash.

The proceeds from the sale of each Series D Unit were allocated between the Series D Convertible Preferred Stock and the Series D Warrants based on the residual method. The estimated fair value of the Series D Warrants was determined using a binomial formula, resulting in an allocation of the gross proceeds of $283,725 to the total warrants issued. The allocation of the gross proceeds to the Series D Convertible Preferred Stock was $559,275. In accordance with the provisions of ASC 470-20, an additional adjustment between Additional Paid in Capital and Accumulated Deficit of $530,140 was recorded to reflect an implicit non-cash dividend related to the allocation of proceeds between the stock and warrants issued. The $530,140 represents the value of the adjustment to additional paid in capital related to the beneficial conversion feature of the Series D Convertible Preferred Stock. The value adjustment was calculated by subtracting the fair market value of the underlying Common Stock on November 10, 2011 issuable upon conversion of the Series D Convertible Preferred Stock from the fair market value of the Series D Convertible Preferred Stock as determined when the Company performed a fair market value allocation of the proceeds to the Series D Convertible Preferred Stock and warrants. The warrants are recorded as a liability. See "Warrant Derivative Liability" below.

The Series D Convertible Preferred Stock will rank senior to the Company's Common Stock and Series C Convertible Preferred Stock with respect to payments made upon liquidation, winding up or dissolution. Upon any liquidation, dissolution or winding up of the Company, after payment of the Company's debts and liabilities, and before any payment is made to the holders of any junior securities, the holders of Series D Convertible Preferred Stock will first be entitled to be paid $1,000 per share subject to adjustment for accrued but unpaid dividends.

We may not pay any dividends on shares of Common Stock unless we also pay dividends on the Series D Convertible Preferred Stock in the same form and amount, on an as-if-converted basis, as dividends actually paid on shares of our Common Stock. Except for such dividends, no other dividends may be paid on the Series D Convertible Preferred Stock.

Each share of Series D Convertible Preferred Stock is convertible into 1,538.46 shares of Common Stock (based upon an initial conversion price of $0.65 per share) at any time at the option of the holder, subject to adjustment for stock splits, stock dividends, combinations, and similar recapitalization transactions (the "Series D Conversion Ratio"). Subject to certain exceptions, if the Company issues any shares of Common Stock or Common Stock equivalents at a per share price that is lower than the conversion price of the Series D Convertible Preferred Stock, the conversion price will be reduced to the per share price at which such shares of Common Stock or Common Stock equivalents are issued. Each share of Series D Convertible Preferred Stock will automatically be converted into shares of Common Stock at the Series D Conversion Ratio then in effect if, after six months from the closing of the Series D Placement, the Common Stock trades on the OTC Market (or other primary trading market or exchange on which the Common Stock is then traded) at a price equal to at least 300% of the then effective Series D Convertible Preferred Stock

conversion price for 20 out of 30 consecutive trading days with each trading day having a volume of at least $50,000. Unless waived under certain circumstances by the holder of the Series D Convertible Preferred Stock, such holder's Series D Convertible Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our shares of Common Stock are converted or exchanged for securities, cash or other property, or we sell, lease, license or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of Common Stock, then following such event, the holders of the Series D Convertible Preferred Stock will be entitled to receive upon conversion of the Series D Convertible Preferred Stock the same kind and amount of securities, cash or property which the holders of the Series D Convertible Preferred Stock would have received had they converted the Series D Convertible Preferred Stock immediately prior to such fundamental transaction.

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The holders of Series D Convertible Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except that the holders of Series D Convertible Preferred Stock may vote separately as a class on any matters that would (i) amend, our Restated Articles of Organization, as amended, in a manner that adversely affects the rights of the Series D Convertible Preferred Stock, (ii) alter or change adversely the powers, preferences or rights of the Series D Convertible Preferred Stock or alter or amend the certificate of designation, (iii) authorize or create any class of shares ranking as to dividends, redemption or distribution of assets upon liquidation senior to, or otherwise pari passu with, the Series D Convertible Preferred Stock, or (iv) increase the number of authorized shares of Series D Convertible Preferred Stock.

If, within 12 months of the initial issuance of the Series D Convertible Preferred Stock, we issue any Common Stock, Common Stock equivalents, indebtedness or any combination thereof (a “Subsequent Financing”), the holders of Series D Convertible Preferred Stock will have the right to participate on a pro-rata basis in up to 50% of such Subsequent Financing.

During the year ended December 31, 2012, 443 shares of Series D Convertible Preferred Stock were converted to 681,538 shares of Common Stock.

Series D Warrants

The Series D Warrants have an exercise price equal to $0.81 per share of Common Stock. The Series D Warrants will be exercisable beginning on the six month anniversary of the date of issuance and expire five years from the initial exercise date. The Series D Warrants permit the holder to conduct a “cashless exercise” at any time a registration statement registering, or the prospectus contained therein is not available for, the issuance of the shares of Common Stock issuable upon exercise of the Series D Warrant, and under certain circumstances at the expiration of the Series D Warrants. The exercise price and/or number of shares of Common Stock issuable upon exercise of the Series D Warrants will be subject to adjustment for certain stock dividends, stock splits or similar capital reorganizations, as set forth in the Warrants. The exercise price is also subject to adjustment in the event that we issue any shares of Common Stock or Common Stock equivalents at a per share price that is lower than the exercise price for the Series D Warrants then in effect. Upon any such issuance, subject to certain exceptions, the exercise price will be reduced to the per share price at which such shares of Common Stock or Common Stock equivalents are issued. Unless waived under certain circumstance by the holder of a Warrant, such holder may not exercise the Warrant if upon such exercise the holder’s beneficial ownership of the Company’s Common Stock would exceed certain thresholds.

In the event we consummate a merger or consolidation with or into another person or other reorganization event in which our shares of Common Stock are converted or exchanged for securities, cash or other property, or we sell, lease, license or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of Common Stock, then following such event, the holders of the Series D Warrants will be entitled to receive upon exercise of the Series D Warrants the same kind and amount of securities, cash or property which the holders would have received had they exercised the Series D Warrants immediately prior to such fundamental transaction.

Series E Convertible Preferred Stock

On April 9, 2012, we completed a registered direct offering with Ironridge Global IV Ltd. (“Ironridge”), pursuant to which we sold an aggregate of 500 shares of our Series E Convertible Preferred Stock to Ironridge for a purchase price of $1,000 per share or an aggregate purchase price of $500,000 (“Series E Preferred Stock”). Each share of Series E Preferred Stock was convertible into approximately 980 shares of our Common Stock. The Series E Preferred Stock was entitled to a yearly dividend at a rate of 10.5% per year, subject to a credit risk and make-whole adjustment, and

was payable in cash or shares of Common Stock at our election. Under certain conditions and subject to certain limitations, we could have required Ironridge to convert their Series E Convertible Preferred Stock into Common Stock. In connection with this registered direct offering, our investment banker received a fee of $40,000. The make-whole dividends were payable any time after the closing on April 9, 2012 at the option of the holder; therefore, we recognized the full value of $262,500 as a current liability and charged this amount immediately to accumulated deficit. We adjusted the value as of September 30, 2012 based on the closing bid on September 28, 2012. We paid $128,402 of make-whole dividends in the Company's Common Stock and $67,500 in cash. Ironridge converted all 500 shares of Series E Preferred Stock into 490,196 common shares in 2012.

The Series E Preferred Stock ranked senior to the Company's Common Stock for so long as at least 250 shares of Series E Preferred Stock remained outstanding and pari passu thereafter and junior to the Series D Preferred Stock with respect to payments made upon liquidation, winding up or dissolution. Upon any liquidation, dissolution or winding up of the Company, after payment of the Company's debts and liabilities, and before any payment was made to the holders of any junior securities, the holders of Series E Convertible Preferred Stock were first entitled to be paid $1,000 per share subject to adjustment for accrued but unpaid dividends.

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We were not allowed to pay any dividends on shares of Common Stock so long as any shares of Series E Preferred Stock were outstanding.

Each share of Series E Preferred Stock was convertible into 980.39 shares of Common Stock (based upon an initial conversion price of $1.02 per share) at any time at the option of the holder, subject to adjustment for stock splits, stock dividends, combinations, and similar recapitalization transactions (the "Series E Conversion Ratio"). At our option, each share of Series E Preferred Stock could have been converted into shares of Common Stock at the Series E Conversion Ratio then in effect if, the Common Stock trades on the OTC Capital Market (or other primary trading market or exchange on which the Common Stock was then traded) at a price equal to at least $2.00 for 20 out of 25 consecutive trading days. Unless waived under certain circumstances by the holder of the Series E Preferred Stock, such holder's Series E Preferred Stock may not have been converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

Subject to the rights of the holders of Series D Preferred Stock, for so long as at least 250 shares of Series E Preferred Stock remained outstanding, upon any liquidation, dissolution or winding up of the Company, whether voluntary or involuntary (each a "Liquidation Event"), after payment or provision for payment of debts and other liabilities of the Company, the holders of Series E Preferred Stock would have been entitled to be paid out of the assets of the Company available for distribution to its stockholders an amount with respect to each share of Series E Preferred Stock equal to $1,000, plus any accrued but unpaid dividends thereon (the "Series E Liquidation Value"), before any distribution or payment would have been made to the holders of Common Stock. Subject to the rights of the holders of Series D Preferred Stock, at any time that fewer than 250 shares of Series E Preferred Stock remained outstanding, upon the occurrence of any Liquidation Event, after payment or provision for payment of debts and other liabilities of the Company, pari passu with any distribution or payment made to the holders of Common Stock by reason of their ownership thereof, the holders of Series E Preferred Stock would have been entitled to be paid out of the assets of the Company available for distribution to its stockholders the Series E Liquidation Value. For so long as at least 250 shares of Series E Preferred Stock remained outstanding, if, upon the occurrence of any Liquidation Event, the amounts payable with respect to the shares of Series E Preferred Stock are not paid in full, the holders of shares of Series E Preferred Stock would have shared equally and ratably with each other in any distribution of assets of the Company in proportion to the Series E Liquidation Value, if any, to which each such holder was entitled, before any distribution or payment shall have been made to holders of Common Stock. At any time that fewer than 250 shares of Series E Preferred Stock remained outstanding, if, upon the occurrence of any Liquidation Event, the amounts payable with respect to the shares of Series E Preferred Stock were not paid in full, the holders of shares of Series E Preferred Stock would have received the Series E Liquidation Value per share of Series E Preferred Stock on a proportionate and pari passu basis with the holders of Common Stock.

The holders of Series E Preferred Stock were not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except that the holders of Series E Preferred Stock may have voted separately as a class on any matters that would (i) amend our Restated Articles of Organization, as amended, in a manner that adversely affects the rights of the Series E Preferred Stock, (ii) alter or change adversely the powers, preferences or rights of the Series E Preferred Stock or alter or amend the certificate of designation, (iii) authorize or create any class of shares ranking as to dividends, redemption or distribution of assets upon liquidation senior to, or otherwise pari passu with, the Series E Preferred Stock, or (iv) increase the number of authorized shares of Series E Preferred Stock.

No shares of Series E Convertible Preferred Stock remained outstanding as of December 31, 2012.

Series G Convertible Preferred Stock

On July 6 and November 15, 2012, we completed a private placement, pursuant to which we sold an aggregate of 145,320 units for a purchase price of $5.00 per unit (the “Series G Purchase Price”), resulting in gross proceeds to us of $726,600 (the “Series G Private Placement”). Each unit (“Series G Unit”) consists of (i) one share of Series G Convertible Preferred Stock, $0.01 par value per share (the “Series G Preferred Stock”) convertible into 10 shares of our Common Stock, (subject to adjustment for stock splits, stock dividends, recapitalization, etc.) and (ii) a three-year warrant to purchase 5 shares of our Common Stock at a per share exercise price of $0.50 (the “Series G Warrant”). The Series G Warrants will be exercisable until the close of business on the third anniversary of the applicable closing date of the Series G Private Placement. Of the $726,600 invested in the Series G Private Placement, $31,100 was received in cash and $695,500 was from the conversion of outstanding indebtedness and accrued board of directors’ fees.

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Each share of Series G Preferred Stock will receive a cumulative dividend at the annual rate of (i) four percent (4%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of less than $100,000, (ii) six percent (6%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of at least $100,000 but less than $250,000, and (iii) twelve percent (12%) on those shares of Series G Preferred Stock purchased from the Company by an individual purchaser with an aggregate investment of at least $250,000. Dividends accruing on the Series G Preferred Stock shall accrue from day to day until, and shall be paid within fifteen (15) days of, the first anniversary of, the original issue date of the Series G Preferred Stock; provided, however, if any shares of the Company's Series E Preferred Stock are outstanding at such time, payment of the accrued dividends on the Series G Preferred Stock shall be deferred until no such shares of Series E Convertible Preferred Stock remain outstanding. The Company may pay accrued dividends on the Series G Preferred Stock in cash or in shares of its Common Stock equal to the volume weighted average price of the Common Stock as reported by the OTC QB Market for the ten (10) trading days immediately preceding the Series G's first anniversary.

At the election of the Company and upon required advanced notice, each share of Series G Preferred Stock will automatically be converted into shares of Common Stock at the Conversion Ratio then in effect: (i) if, after 6 months from the original issuance date of the Series G Preferred Stock , the Common Stock trades on the OTC QB Market (or other primary trading market or exchange on which the Common Stock is then traded) at a price equal to at least $0.75, for 7 out of 10 consecutive trading days with average daily trading volume of at least 10,000 shares, (ii) on or after the first anniversary of the original issuance date of the Series G Preferred Stock or (iii) upon completion of a firm-commitment underwritten registered public offering by the Company at a per share price equal to at least $0.75, with aggregate gross proceeds to the Company of not less than $2.5 million. Unless waived under certain circumstances by the holder of the Series G Preferred Stock, such holder's Series G Preferred Stock may not be converted if upon such conversion the holder's beneficial ownership would exceed certain thresholds.

The holders of Series G Preferred Stock are not entitled to vote on any matters presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company (or by written consent of stockholders in lieu of meeting), except as required by law.

Series G Warrants

The Series G Warrants issued in the Series G Private Placement have an exercise price equal to $0.50 per share, with a term expiring on July 6, 2015. The Series G Warrants also permit the holder to conduct a "cashless exercise" at any time the holder of the Series G Warrant is an affiliate of the Company. The exercise price and/or number of shares issuable upon exercise of the Series G Warrants will be subject to adjustment for stock dividends, stock splits or similar capital reorganizations, as set forth in the Series G Warrants.

Subject to the terms and conditions of the Series G Warrants, at any time commencing six months from the closing date the Company has the right to call for cancellation of the Series G Warrants if the volume weighted average price of its Common Stock on the OTC QB Market (or other primary trading market or exchange on which our Common Stock is then traded) equals or exceeds three times the per share exercise price of the Warrants for either (i) 10 consecutive trading days or (ii) 15 out of 25 consecutive trading days.

In connection with our sale of Series G Units, we agreed that for each share of Series G Preferred Stock purchased by an investor, the exercise price of one warrant to purchase one share of Common Stock, previously issued to the investor in prior offerings by the Company to purchase Common Stock of the Company held of record by such investor, shall be reduced to $0.60 per share and will remain at such reduced exercise price until the expiration date of the warrants.

In connection with the sale of Series G Units, we treated the reduction in exercise price as a warrant amendment and calculated the fair value of 1,495,022 warrants with the reduced exercise price of $0.60, as described above, using the Black-Scholes model with the below assumptions. The Company has determined that the fair value of the amended warrants increased as compared with the fair value of the original warrants immediately prior to amendment.

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In connection with the warrant amendments, we calculated the fair value of the warrants, as described above, using a Black-Scholes model with the below assumptions.

Assumptions	Series A	Series A (Affiliates)	Series B	Series C	Aug/Sep 2011 Notes	Feb 2012 PIPE
Contractual life, in years	4.1	3.1	3.1	5.1	2.1	4.6
Expected volatility	132.0 %	114.1 %	114.1 %	121.9 %	126.6 %	126.6 %
Risk-free interest rate	0.4 %	0.4 %	0.4 %	0.4 %	0.4 %	0.4 %
Exercise price	$0.60	$0.60	$0.60	$0.60	$0.60	$0.60
Fair value per warrant	$0.03	$0.03	$0.03	$0.03	$0.03	$0.03

We recorded an increased incremental value of $5,347 for the warrant amendment and treated the excess of fair value of the warrants as a deemed dividend.

Series H Convertible Preferred Stock

On December 28, 2012 the Company amended the Articles of Incorporation to authorize 10,000 shares of Series H Convertible Preferred Stock. On January 4, 2013, the Company reported that it had entered into a securities purchase and exchange agreement with an investor, pursuant to which the Company agreed to exchange an aggregate of 10,000 shares of a newly created series of preferred stock, designated Series H Convertible Preferred Stock, par value $0.01 per share (the “Series H Preferred Stock”) for 1,000,000 shares of the Company’s Common Stock, par value $0.01 per share of Common Stock held by the investor in a non-cash transaction. The investor originally purchased the Common Stock from the Company for $0.8025 per share. The exchange ratio was 100 shares of Common Stock per share of Series H Preferred Stock at a stated conversion price of $0.8025 per share.

Common Stock

Shareholders Purchase Rights Plan

On March 3, 2003, our Board of Directors adopted a shareholder purchase rights plan (“the Rights Plan”) and declared a distribution of one Right for each outstanding share of our Common Stock to shareholders of record at the close of business on March 21, 2003 (the “Rights”). Initially, the Rights will trade automatically with the Common Stock and separate Right Certificates will not be issued. The Rights Plan is designed to deter coercive or unfair takeover tactics and to ensure that all of our shareholders receive fair and equal treatment in the event of an unsolicited attempt to acquire the Company. The Rights Plan was not adopted in response to any effort to acquire the Company and the Board is not aware of any such effort. The Rights will expire on February 27, 2013 unless earlier redeemed or exchanged. Each Right entitles the registered holder, subject to the terms of a Rights Agreement, to purchase from the Company one one-thousandth of a share of the Company’s Series A Junior Participating Preferred Stock at a purchase price of $45.00 per one one-thousandth of a share, subject to adjustment. In general, the Rights will not be exercisable until a subsequent distribution date which will only occur if a person or group acquires beneficial ownership of 15% or more of our Common Stock or announces a tender or exchange offer that would result in such person or group owning 15% or more of the Common Stock. With respect to any person or group who currently beneficially owns 15% or more of our Common Stock, the Rights will not become exercisable unless and until such person or group acquires beneficial ownership of additional shares of Common Stock.

Subject to certain limited exceptions, if a person or group acquires beneficial ownership of 15% or more of our outstanding Common Stock or if a current 15% beneficial owner acquires additional shares of Common Stock, each holder of a Right (other than the 15% holder whose Rights become void once such holder reaches the 15% threshold)

will thereafter have a right to purchase, upon payment of the purchase price of the Right, that number of shares of our Common Stock which at the time of such transaction will have a market value equal to two times the purchase price of the Right In the event that, at any time after a person or group acquires 15% or more of our Common Stock, we are acquired in a merger or other business combination transaction or 50% or more of its consolidated assets or earning power are sold, each holder of a Right will thereafter have the right to purchase, upon payment of the purchase price of the Right, that number of shares of Common Stock of the acquiring company which at the time of such transaction will have a market value of two times the purchase price of the Right.

Our Board of Directors may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, at an exchange ratio of one share of Common Stock per Right (subject to adjustment). At any time prior to the time any person or group acquires 15% or more of our Common Stock, the Board of Directors may redeem the Rights in whole, but not in part, at a price of $0.001 per Right.

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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 December 31, 2012, options to acquire 1,572,750 shares were outstanding under the Plan with 227,250 shares available for future grant under the Plan.

As of December 31, 2012, options to acquire 33,000 shares are outstanding under the 1999 Non-qualified Stock Option Plan. No additional options may be granted under the 1999 Non-qualified Stock Option Plan.

All of the outstanding options had an exercise price that was above the Company's Common Stock share price on December 31, 2012.

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

	Stock Options		Warrants			
		Weighted Average price		Weighted Average price	Total	
	Shares	per share	Shares	per share	Shares	Exercisable
Balance outstanding, January 1, 2011	1,605,603	$2.49	2,681,350	$2.24	4,286,953	4,114,792
Granted	180,000	1.00	2,094,151	1.44	2,274,151	
Exercised	(41,103)	1.07	-	-	(41,103)	
Expired	(161,000)	2.78	-	-	(161,000)	
Forfeited	(75,000)	2.57	-	-	(75,000)	
Balance outstanding, December 31, 2011	1,508,500	$2.33	4,775,501	$1.35	6,284,001	6,112,335
Granted	1,896,250	0.81	2,909,068	0.62	4,805,318	
Exercised	-	-	-	-	-	
Expired	(130,000)	2.28	(116,490)	2.80	(246,490)	
Forfeited	(1,669,000)	2.09	(880,980)	2.13	(2,549,980)	
Balance outstanding, December 31, 2012	1,605,750	$0.80	6,687,099	$0.81	8,292,849	7,989,331

	Options Outstanding			Options Exercisable		
		Weighted Average			Weighted Average	
Range of Exercise Prices	Number of Options	Remaining Contractual Life (Years)	Exercise Price	Number of Options	Remaining Contractual Life (Years)	Exercise Price
$ 0.50 - $ 0.59	213,750	9.6	$ 0.50	136,563	9.6	$ 0.50
0.60 - 0.99	536,000	7.0	0.60	409,250	6.4	0.60
1.00 - 1.00	856,000	4.3	1.00	756,419	3.7	1.00
$ 0.50 - $ 1.00	1,605,750	5.9	$ 0.80	1,302,232	5.1	$ 0.82

There was $101,939 of total unrecognized compensation cost, net of estimated forfeitures, related to non-vested stock options granted as of December 31, 2012. This cost is expected to be recognized over a period of 3.1 years, and will

be adjusted for any future changes in estimated forfeitures.

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Sale of Common Stock

On February 7, 2012, we completed a private placement with 7 accredited investors, pursuant to which we sold an aggregate of 971,867 shares of Common Stock, $0.01 par value ("Shares"), resulting in gross proceeds to us of $800,000 (the "Private Placement"). The price per unit was $0.8025 for units consisting of 789,350 shares of Common Stock and warrants to purchase 394,677 shares of Common Stock, and was $0.9125 for units consisting of the remaining 182,517 shares of Common Stock and warrants to purchase 91,260 shares of Common Stock. Of the $800,000 invested in the private placement, $412,453 was received in cash and $387,547 was from the conversion of outstanding principal and interest on convertible promissory notes issued by us in 2011.

Each unit consists of one share of Common Stock and a warrant to purchase one-half share of Common Stock. The warrants are exercisable for a period of five years, commencing on August 7, 2012, at an exercise price of $0.74 per share for the purchasers of the 789,350 shares, and $0.85 per share for the purchasers of the 182,517 shares. The warrants permit the holder to conduct a "cashless exercise" at any time the holder is an affiliate. The exercise price and/or number of shares of Common Stock issuable upon exercise of the warrants will be subject to adjustment for certain stock dividends, stock splits or similar capital reorganizations.

In connection with the Private Placement, we paid our investment banker a fee of $35,000 for providing advisory services. We accounted for this fee as a reduction in the gross proceeds received from the Private Placement.

Common Stock Issuances

On January 31, 2012, we issued 100,000 shares of restricted Common Stock to an investor relations firm in payment of services to be rendered over one year. We recorded $72,000 for this issuance of which will be amortized over the year. On March 2, 2012, we issued 22,500 shares of restricted Common Stock to an investor relations firm for payment of services already rendered over the prior three months. We recorded $13,950 for this issuance as expense. On April 26, 2012, we issued 17,500 shares of restricted Common Stock to two investor relations firms for payment of services to be rendered over one month. We recorded $9,625 for this issuance as expense. On April 27, 2012, we issued 100,000 shares of restricted Common Stock to an investor relations firm for payment of services to be rendered over six months. We recorded $60,000 for this issuance as expense. On August 13, 2012, we issued 350,000 shares of restricted Common Stock to an investor relations firm for payment of services to be rendered over one year. We recorded $140,000 for this issuance of which $59,947was recorded as expense and $85,053 that will be amortized over the remaining months of service. On October 17, 2012 we issued 60,000 shares of restricted Common Stock to three investor relations firms for services rendered and recognized $24,000 as expense. On October 18, 2012 we issued 50,000 shares of restricted Common Stock to an investor relations firm for services rendered and recognized $20,000 as expense. On October 19, 2012 we issued 100,000 shares of restricted Common Stock to an investor relations firm for services rendered and recognized $20,000 as expense and $20,000 that will be amortized over the remaining months of service. On October 19, we issued 100,000 shares of stock to the Company's CEO to compensate him for unused personal time off and recognized expense of $40,000. On October 29, 2012 we issued 50,000 shares of restricted Common Stock to an investor relations firm and recognized $10,000 in expense and $10,000 that will be amortized over the remaining months of service. On November 1, 2012 we issued 175,000 shares of restricted Common Stock to two investor relations firms for services rendered and recognized expense of $40,000 and $30,000 that will be amortized over the remaining months of service. We valued the above stock issuances using the greater of the estimated fair value of the services received or the Company's stock price on date of issuance.

Warrant Derivative Liability

The Series C Warrants issued in connection with the Series C Convertible Preferred Stock private placement and the Series D Warrants issued in connection with the registered direct offering of Series D Convertible Preferred are

measured at fair value and liability-classified because the Series C Warrants are entitled to certain rights in subsequent financings and the Series D 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 the gross proceeds of $583,250 to the total warrants issued in the Series C private placement and $283,725 to the warrants issued in the Series D registered direct offering. 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 down-round protection for the Series C Warrants expired 12 months subsequent to the issuance of the Series C Units, and the down-round protection for the Series D Warrants survives for the life of the Series D Warrants which ends in May 2017.

On April 5, 2012, all 11 holders of outstanding Series C Convertible Preferred Stock and Series C Common Stock Purchase Warrants voluntarily converted an aggregate of 88,098 shares of Series C Preferred Stock into 1,372,247 shares of the Company’s Common Stock, and Series C Warrants to purchase an aggregate of 880,980 shares of the Company’s Common Stock to warrants to purchase 686,125 shares of Common Stock in the Company.

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The assumptions for the binomial pricing model are represented in the table below for the warrants issued in both tranches of the Series C private placement reflected on a per share Common Stock equivalent basis.

			Warrants revalued at:	
Assumptions	April 8, 2011	June 20, 2011	April 8, 2011	June 20, 2011
Expected life (in months)	36.0	36.0	28.0	30.0
Expected volatility	118.5 %	118.5 %	88.2 %	89.7 %
Risk-free interest rate	0.625 %	0.625 %	0.25 %	0.25 %
Exercise price	$2.13	$2.13	$2.13	$2.13
Fair value per warrant	$0.70	$0.62	$0.12	$0.14

The assumptions for the warrants issued to the investment banker show the range of values for both tranches. The investment banker received two sets of warrants in each tranche with half of the warrants assigned a different exercise price.

	Investment Banker Warrants			
	April 8, 2011		June 20, 2011	
Assumptions	$ 1.50	$ 2.38	$ 1.50	$ 2.38
Expected life (in months)	60.0	60.0	60.0	60.0
Expected volatility	99.1 %	99.1 %	99.9 %	99.9 %
Risk-free interest rate	1.500 %	1.500 %	1.500 %	1.500 %
Exercise price	$ 1.50	$ 2.38	$ 1.50	$ 2.38
Fair value per warrant	$ 0.83	$ 0.75	$ 0.74	$ 0.67

The assumptions for the binomial pricing model are represented in the table below for the warrants issued in the Series D private placement reflected on a per share Common Stock equivalent basis.

		Warrants revalued at December 31,	Warrants revalued at December 31,
Assumptions	November 10, 2011	2011	2012
Expected life (in months)	60.0	59.0	43.0
Expected volatility	104.5 %	106.2 %	146.4 %
Risk-free interest rate	0.875 %	0.875 %	0.437 %
Exercise price	$ 0.81	$ 0.81	$ 0.40
Fair value per warrant	$ 0.54	$ 0.44	$ 0.15

As of December 31, 2012, the value of the Series C and D Warrants has decreased to $160,812.

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(8) Subsequent Events

We performed a review of events subsequent to the balance sheet date through the date the financial statements were issued and determined, except as disclosed herein, that there were no other such events requiring recognition or disclosure in the financial statements.

On January 4, 2013, the Company reported that it had entered into a securities purchase and exchange agreement with an investor, pursuant to which the Company agreed to exchange an aggregate of 10,000 shares of a newly created series of preferred stock, designated Series H Convertible Preferred Stock, par value $0.01 per share (the "Series H Preferred Stock") for 1,000,000 shares of the Company's Common Stock, par value $0.01 per share of Common Stock held by the investor in a non-cash transaction. the investor originally purchased the Common Stock from the Company for $0.8025 per share. The exchange ratio was 100 shares of Common Stock per share of Series H Preferred Stock at a stated conversion price of $0.8025 per share.

On February 6 and March 28, 2013, the Company entered into a Securities Purchase Agreement with various individuals pursuant to which the Company sold an aggregate of 4,650 units for a purchase price of $400.00 per unit or an aggregate Purchase Price of $1,859,700. This represents the first two tranches of a $2.0 million private placement Each unit purchased in the first two tranches ("Unit") consists of (i) one share of a newly created series of preferred stock, designated Series J Convertible Preferred Stock, par value $0.01 per share convertible into 1,000 shares of the Company's Common Stock, par value $0.01 per share and (ii) a warrant to purchase 1,000 shares of Common Stock at an exercise price equal to $0.40 per share, with a term expiring three years from the respective closing date. Of the $1,859,700 invested in the first two tranches of the subsequent Private Placement, $746,000 was received in cash and $1,113,700 was from the conversion of outstanding indebtedness and accrued board of directors' fees. The Purchasers in the first two tranches of the Private Placement consisted of certain existing and new investors in the Company as well as all of the members of the Company's Board of Directors.

On February 8, 2013, Dr. Mickey Urdea was appointed to the Company's Board of Directors, to fill the vacancy created by the resignation of Mr. Wayne Fritzsche, a longtime Board member who resigned on Thursday, February 7, 2013 to pursue a full-time, management position with PBI. Dr. Urdea was appointed as a Class III Board member - his term of office will expire at the 2014 annual meeting of shareholders. In addition to his Board of Director's responsibilities, Dr. Urdea will develop and lead the Company's Scientific Advisory Board.

On April 10, 2013, the Company entered into a six-month, uncollateralized loan agreement ("Subsequent Note") for a principal sum of $275,000, of which $125,000 was advanced to the Company upon closing. The Subsequent Note includes an original issue discount of 10%, and an interest rate of 12%, but no interest will be due if the Subsequent Note is repaid on or before July 9, 2013.

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ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure 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 any 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 December 31, 2012, 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 as of December 31, 2012 due to limited resources for adequate personnel to prepare and file reports under the Securities Exchange Act of 1934 within the required periods, and material weaknesses in our internal control over financial reporting relating to our accounting for complex equity transactions as described below under the heading "Report of Management on Internal Control over Financial Reporting". Management plans to remediate this weakness by taking the actions described below.

Report of Management on Internal Control over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act, as a process designed by, or under the supervision of our principal executive and principal financial officers and effected by our board of directors, management and other personnel 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 and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and disposition of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

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Our internal control system is designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We have assessed the effectiveness of our internal control over financial reporting as of December 31, 2012. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework.

Based on this assessment, management believes that, as of December 31, 2012, the Company did not maintain effective internal control over financial reporting because of the effect of a material weakness in our internal control over financial reporting discussed below.

Public Company Accounting Oversight Board Auditing Standard No. 2 defines a material weakness as a significant deficiency, or combination of significant deficiencies, that results in there being a more than remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. Based upon this definition, our management concluded that, as of December 31, 2012, a material weakness existed in our internal control over financial reporting related to accounting for complex equity transactions.

Specifically, we identified material weaknesses in our internal control over financial reporting related to the following matters:

- 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 led to segregation of duties issues and resulted in audit adjustments to the annual consolidated financial statements and revisions to related disclosures, valuation of warrants and other equity transactions.

Our plan to remediate those material weaknesses is as follows:

Improve the effectiveness of the accounting group by continuing to augment our existing resources with additional consultants or employees to improve segregation procedures and to assist in the analysis and recording of complex accounting transactions. We plan to mitigate the segregation of duties issues by hiring an independent consultant once we generate significantly more revenue or raise significant additional working capital.

Improve segregation procedures by strengthening cross approval of various functions including quarterly internal audit procedures where appropriate.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the fourth quarter of 2012 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Directors

The following table sets forth information about the individuals who serve as our directors as of December 31, 2012.

Name	Age	Position	Board Committees	Term of office
Richard T. Schumacher	62	President, Chief Executive Officer, Treasurer, Clerk and Director		2014
Jeffrey N. Peterson	57	Chairman of the Board	Audit, Compensation, Nominating	2015
R. Wayne Fritzsche*	64	Director		2015
Vito J. Mangiardi	64	Director	Audit, Compensation, Nominating	2013
Kevin A. Pollack	42	Director	Audit, Compensation, Nominating	2013

*Mr. Fritzsche resigned from the Company's board of directors on February 7, 2013. Dr. Michael S. "Mickey" Urdea was appointed by the board on February 8, 2013 to fill the open board seat. Dr. Urdea's term of office will expire in 2014.

The following noteworthy experience, qualifications, attributes and skills for each Board member, together with the biographical information for each nominee described below, led to our conclusion that the person should serve as a director of PBI in light of our business and structure:

Mr. Richard T. Schumacher, the Company's founder, provides valuable operational, sales and marketing, financial, and management expertise and experience and has significant knowledge of the Company's technology and products. Prior to founding the company, Mr. Schumacher spent over 16 years working in the clinical research setting. In the more than 30 years since the Company's formation, Mr. Schumacher has served the Company in various roles, including President, Chief Executive Officer and Chairman.

Mr. Jeffrey N. Peterson, the Chairman of our Board, is the CEO of Target Discovery, Inc., a personalized medicine diagnostics company, and has broad executive, general management, multi-functional, multi-business, and international experience.

Mr. R. Wayne Fritzsche provides substantial experience and skills in financial, management and operational matters. Mr. Fritzsche is the founder and current president of FAI LLC, a consulting firm that provides strategic, financial, and scientific consulting to medical companies in the life sciences and healthcare industries.

Mr. Vito J. Mangiardi has broad executive, general management, multi-functional, multi-business, and international experience, specifically in the life sciences field.

Mr. Kevin A. Pollack provides a wealth of knowledge and experience in financial and administrative matters. Mr. Pollack recently served as managing director of Paragon Capital LP, a private investment firm, and serves as Chief Financial Officer of Lightlake Therapeutics Inc.

Dr. Michael S. “Mickey” Urdea offers significant scientific and technical experience from leading research and development programs in both small and large life sciences companies, and entrepreneurial experience from founding and leading successful personalized medicine and consulting companies in the biotechnology field,

Mr. Richard T. Schumacher, the founder of the Company, has served as a director of the Company since 1978. He has served as the Company’s CEO since April 16, 2004 and president since September 14, 2004. He previously served as CEO and chairman of the Board of the Company from 1992 to February 2003. From July 9, 2003 until April 14, 2004 he served as a consultant to the Company pursuant to a consulting agreement. He served as president of the Company from 1986 to August 1999. Mr. Schumacher served as the Director of Infectious Disease Services for Clinical Sciences Laboratory, a New England-based medical reference laboratory, from 1986 to 1988. From 1972 to 1985, Mr. Schumacher was employed by the Center for Blood Research, a nonprofit medical research institute associated with Harvard Medical School. Mr. Schumacher received a B.S. in Zoology from the University of New Hampshire.

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Mr. R. Wayne Fritzsche served as a director from October 2003 to February 2013 and our Chairman of the Board of Directors from October 2003 to July 2012. Mr. Fritzsche has served as a member of our Scientific Advisory Board since 1999. Mr. Fritzsche is the founder of FAI LLC, a consulting firm that provides strategic, financial, and scientific consulting to medical companies in the life sciences and healthcare industries, and has served as its president since 1991. He was a part of the founding group of The Immune Response Company (IMNR) along with Dr. Jonas Salk. From 2001 until 2004, Mr. Fritzsche has served as a board member of Opexa Pharmaceuticals, a multiple sclerosis and cell immunology therapy company, and Vascular Sciences, Inc., an extracorporeal, macular degeneration company. He also previously served as a board member of Intelligent Medical Imaging, Inc., an automated microscopic imaging company, from 1994 to 1997, Clarion Pharmaceuticals, a drug development company, from 1994 to 1996, Nobex Pharmaceuticals, Inc., a drug delivery firm, from 1996 to 2001, Cardio Command, Inc., a transesophageal cardiac monitoring and pacing firm, from 1999 to 2001, and Hesed BioMed, Inc. an antisense oligonucleotide and catalytic antibody company, from 2000 to 2002. Mr. Fritzsche is a founder of Transplan, Inc., an organ transplant device company whose primary focus is in heart transplant. Mr. Fritzsche holds a BA from Rowan University (formerly Glassboro State College), and an MBA from the University of San Diego.

Mr. Jeffrey N. Peterson has served as a director since July 2011 and as our board chairman since July 2012. Since 1999, he has served as the chief executive officer of Target Discovery, Inc. (“TDI”), a personalized medicine diagnostics (PMDx) company. Mr. Peterson also serves as Chairman of TDI’s majority-owned subsidiary, Veritomyx, Inc., which is completing development and commercialization of a tool in accurate peptide, protein and isoform identification and characterization. Prior to joining TDI, Mr. Peterson served as CEO of Sharpe, Peterson, Ocheltree & Associates, an international business development consulting firm assisting Fortune 500 and many smaller firms in business expansion and strategy, for three years prior to incorporating TDI. Prior to that, he spent 9 years in key management roles in Abbott Laboratories’ Diagnostics and International (Pharmaceuticals, Hospital Products, Nutritionals, and Consumer) businesses, last serving as CEO and General Manager of Abbott South Africa. Mr. Peterson’s experience prior to Abbott Laboratories included 11 years with General Electric’s Engineered Materials and Plastics businesses, spanning roles in strategic planning, business development, technology licensing, marketing and sales, operations, quality control and R&D. Mr. Peterson holds BSChE and MSChE (Chemical Engineering) degrees from MIT. He serves as Chair Emeritus of the BayBio Institute, a non-profit organization serving the life science community, and on the board of BayBio, a trade association for the life sciences industry in Northern California. He is a member of the Coalition for 21st Century Medicine, and of BIO’s Personalized Medicine & Diagnostics Group. Mr. Peterson has served on the board of directors SanGlobal Ed Corp. (d/b/a MyVerse), a teen and collegiate personal and professional development web and mobile resource site.

Mr. Vito J. Mangiardi has served as a director since July 2012. Mr. Mangiardi is a senior executive with experience as a President, CEO and COO in the Life Sciences and Bio Energy product and service sectors. He is a corporate strategist in General Management, Operations, Sales/Marketing, and Science. Mr. Mangiardi has held positions as a Research Chemist for Bio-Rad Laboratories, Inc.; Sales & Marketing Director for Baxter Travenol, Inc.; Executive VP and COO for Quintiles Transnational Corp.; President and CEO of Diagnostics Laboratories, Inc., Clingenix, Inc., and Bilcare, Inc.; and President of AAI Pharma, Inc. More recently he was the COO/Deputy Director of Operations and Production at the University of California Lawrence Berkeley National Laboratory Joint Genome Institute. Mangiardi earned a BS in Biology/Chemistry from Eastern Illinois University and two MBA degrees from Golden Gate University - in General Management and in Marketing. Mr. Mangiardi is listed as an inventor in eight patents and is a member of numerous professional organizations.

Mr. Kevin A. Pollack has served as a director since July 2012. Mr. Pollack serves as President of Short Hills Capital LLC, where he has provided a range of advisory services to investors, asset management firms, institutions, and companies. Previously, he worked in asset management at Paragon Capital, and as an investment banker at Banc of America Securities LLC, focusing on corporate finance and mergers and acquisitions. He started his career at Sidley Austin LLP (formerly Brown & Wood LLP) as a securities attorney focusing on corporate finance, and on mergers

and acquisitions. Mr. Pollack currently sits on the Board of Directors of Lightlake Therapeutics Inc., a developing biopharmaceutical company focused on building a platform of biopharmaceutical solutions to common addictions and related disorders, where he also serves as CFO, and on the Board of Directors of MagneGas Corporation, the developer of a technology that converts liquid waste into a hydrogen-based metal working fuel and natural gas alternative. Mr. Pollack graduated magna cum laude from The Wharton School of the University of Pennsylvania and received a dual JD/MBA from Vanderbilt University, where he graduated with Beta Gamma Sigma honors.

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As previously reported, on February 7, 2013, Mr. Fritzsche resigned as a director of the Company. Pursuant to a recommendation by the Nominating Committee of the Board of Directors, on February 8, 2013 the Board of Directors appointed Dr. Michael S. “Mickey” Urdea as a director to fill the vacancy created by Mr. Fritzsche’s resignation, effective as of February 8, 2013.

Dr. Michael S. “Mickey” Urdea founded and is a Managing Partner for Halteres Associates, a biotechnology consulting firm. He also founded and served as Chief Executive Officer of Tethys Bioscience, a proteomics-based diagnostics company involved in preventative personalized medicine. Additionally, Dr. Urdea is a founder and the Chairman of Catalysis Foundation for Health, an organization addressing gaps in global healthcare caused by inefficiencies in disease diagnosis and monitoring. He serves as an expert consultant to the life sciences industry and is on the scientific advisory boards and boards of directors of a number of biotechnology, diagnostics, venture capital and philanthropic organizations. Prior to his current business activities, Dr. Urdea founded the Nucleic Acid Diagnostics group at Chiron Corporation, and with colleagues, invented branched DNA molecules for amplification of signal in nucleic acid complexes. Application of this technology resulted in the first commercial products for quantification of human hepatitis B, hepatitis C, and human immunodeficiency viruses (HBV, HCV, and HIV, respectively). He then became business head of the Molecular Diagnostics group and Chief Scientific Officer at Bayer Diagnostics. He was also a member of the Bill and Melinda Gates Foundation Diagnostic Forum. Dr. Urdea is an author on nearly 200 peer-reviewed scientific publications, nearly 300 abstracts and international scientific presentations, and more than 100 issued and pending patents. He received his BS in Biology and Chemistry from Northern Arizona University in Flagstaff and his Ph.D in Biochemistry from Washington State University.

Executive Officers

The information under the heading “Executive Officers of the Registrant” in Item 1 of Part I of this Annual Report on Form 10-K is incorporated herein by this reference.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires the Company’s executive officers and directors, and persons who own more than 10% of the Company’s Common Stock, to file reports of ownership and changes in ownership on Forms 3, 4 and 5 with the SEC.

Based solely on the Company’s review of the copies of such Forms and written representations from certain reporting persons, the Company believes that all filings required to be made by the Company’s Section 16(a) reporting persons during the Company’s fiscal year ended December 31, 2012 were made on a timely basis, except one outside investor.

Code of Ethics

Pursuant to Section 406 of the Sarbanes-Oxley Act of 2002, we have adopted a Code of Ethics for senior financial officers that applies to our principal executive officer, principal financial officer, principal accounting officer, controller, and other persons performing similar functions. A copy of the code of ethics is posted on, and may be obtained free of charge from our Internet website at http://www.pressurebiosciences.com. If we make any amendments to this Code of Ethics or grant any waiver, including any implicit waiver, from a provision of this Code of Ethics to our principal executive officer, principal financial officer, principal accounting officer, controller, or other persons performing similar functions, we will disclose the nature of such amendment or waiver, the name of the person to whom the waiver was granted and the date of waiver in a Current Report on Form 8-K.

Audit Committee

The Audit Committee was established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934. Messrs. Pollack (chairman), Mangiardi and Peterson are currently the members of the Audit Committee.

The Board of Directors has determined that Mr. Pollack qualifies as an “audit committee financial expert” as defined in Item 407(d)(5) of Regulation S-K and is “independent” as defined by SEC and OTC Market rules.

The Audit Committee operates pursuant to a written charter (the “Audit Committee Charter”), a current copy of which is publicly available on the investor relations portion of the Company’s website at www.pressurebiosciences.com. Under the provisions of the Audit Committee Charter, the primary functions of the Audit Committee are to assist the Board of Directors with the oversight of (i) the Company’s financial reporting process, accounting functions, and internal controls, and (ii) the qualifications, independence, appointment, retention, compensation, and performance of the Company’s independent registered public accounting firm. The Audit Committee is also responsible for the establishment of “whistle-blowing” procedures, and the oversight of other compliance matters.

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ITEM 11. EXECUTIVE COMPENSATION

Executive Officer Compensation

General

Messrs. Peterson, Pollack and Mangiardi are currently the members of the Compensation Committee. The Compensation Committee operates pursuant to a written charter, a current copy of which is publicly available on the investor relations portion of our website at www.pressurebiosciences.com. The primary functions of the Compensation Committee include (i) reviewing and approving our executive compensation, (ii) reviewing the recommendations of the president and chief executive officer regarding the compensation of our executive officers, (iii) evaluating the performance of the president and chief executive officer, (iv) overseeing the administration and approval of grants of stock options and other equity awards under our equity incentive plans, and (v) recommending compensation for our board of directors and each committee thereof for review and approval by the board of directors.

The Compensation Committee may form and delegate authority to one or more subcommittees as it deems appropriate from time to time under the circumstances (including (a) a subcommittee consisting of a single member and (b) a subcommittee consisting of at least two members, each of whom qualifies as a “non-employee director,” as such term is defined from time to time in Rule 16b-3 promulgated under the Securities Exchange Act of 1934, and an “outside director,” as such term is defined from time to time in Section 162(m) of the Internal Revenue Code of 1986, as amended, and the rules and regulations there under).

Compensation Objectives

In light of the relatively early stage of commercialization of our products, we recognize the importance of attracting and retaining key employees with sufficient experience, skills, and qualifications in areas vital to our success, such as operations, finance, sales and marketing, research and development, engineering, and individuals who are committed to our short- and long-term goals. The Compensation Committee has designed our executive compensation programs with the intent of attracting, motivating, and retaining experienced executives and, subject to our limited financial resources, rewarding them for their contributions by offering them a competitive base salary, potential for annual cash incentive bonuses, and long-term equity-based incentives, typically in the form of stock options. The Compensation Committee strives to balance the need to retain key employees with financial prudence given our history of operating losses, limited financial resources and the early stage of our commercialization.

Executive Officers and Director Compensation Process

The Compensation Committee considers and determines executive compensation according to an annual objective setting and measurement cycle. Specifically, corporate goals for the year are initially developed by our executive officers and are then presented to our board of directors and Compensation Committee for review and approval. Individual goals are intended to focus on contributions that facilitate the achievement of the corporate goals. Individual goals are first proposed by each executive officer, other than the president and CEO, then discussed by the entire senior executive management team and ultimately compiled and prepared for submission to our board of directors and the Compensation Committee, by the president and chief executive officer. The Compensation Committee sets and approves the goals for the president and chief executive officer. Generally, corporate and individual goals are set during the first quarter of each calendar year. The objective setting process is coordinated with our annual financial planning and budgeting process so our board of directors and Compensation Committee can consider overall corporate and individual objectives in the context of budget constraints and cost control considerations. Annual salary increases, bonuses, and equity awards, such as stock option grants, if any, are tied to the achievement of these corporate and individual performance goals as well as our financial position and prospects.

Under the annual performance review program, the Compensation Committee evaluates individual performance against the goals for the recently completed year. The Compensation Committee's evaluation generally occurs in the first quarter of the following year. The evaluation of each executive (other than the president and chief executive officer) begins with a written self-assessment submitted by the executive to the president and chief executive officer. The president and chief executive officer then prepares a written evaluation based on the executive's self-assessment, the president and chief executive officer's evaluation, and input from others within the Company. This process leads to a recommendation by the president and chief executive officer for a salary increase, bonus, and equity award, if any, which is then considered by the Compensation Committee. In the case of the president and chief executive officer, the Compensation Committee conducts his performance evaluation and determines his compensation, including salary increase, bonus, and equity awards, if any. We generally expect, but are not required, to implement salary increases, bonuses, and equity awards, for all executive officers, if and to the extent granted, by April 1 of each year.

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Non-employee director compensation is set by our board of directors upon the recommendation of the Compensation Committee. In developing its recommendations, the Compensation Committee is guided by the following goals: compensation should be fair relative to the required services for directors of comparable companies in our industry and at our company's stage of development; compensation should align directors' interests with the long-term interest of stockholders; the structure of the compensation should be simple, transparent, and easy for stockholders to understand; and compensation should be consistent with the financial resources, prospects, and competitive outlook for the Company.

In evaluating executive officer and director compensation, the Compensation Committee considers the practices of companies of similar size, geographic location, and market focus. In order to develop reasonable benchmark data the Compensation Committee has referred to publicly available sources such as www.salary.com and the BioWorld Survey. While the Compensation Committee does not believe benchmarking is appropriate as a stand-alone tool for setting compensation due to the unique aspects of our business objectives and current stage of development, the Compensation Committee generally believes that gathering this compensation information is an important part of its compensation-related decision making process.

The Compensation Committee has the authority to hire and fire advisors and compensation consultants as needed and approve their fees. No advisors or compensation consultants were hired or fired in fiscal 2011.

The Compensation Committee is also authorized to delegate any of its responsibilities to subcommittees or individuals as it deems appropriate. The Compensation Committee did not delegate any of its responsibilities in fiscal 2012.

Summary Compensation Table

The Summary Compensation Table below sets forth the total compensation paid or earned for the fiscal years ended December 31, 2012 and 2011 for: (i) each individual serving as our chief executive officer ("CEO") or acting in a similar capacity during any part of fiscal 2012; and (ii) the other two most highly paid executive officers (collectively, the "Named Executive Officers") who were serving as executive officers at the end of fiscal 2012.

Name and Principal Position	Fiscal Year	Salary(1)	Option Awards(2)	All other Compensation(3)	Total
Richard T. Schumacher	2012	$ 286,190	$ 4,800	$ 100,692	$ 391,682
President, CEO	2011	286,371	11,835	30,434	328,640
Edmund Ting, Ph.D	2012	202,160	4,800	1,304	208,264
Senior Vice President of Engineering	2011	197,634	11,835	1,304	210,773
Alexander Lazarev, Ph.D	2012	175,103	4,800	7,501	187,404
Vice President of Research and Development	2011	171,600	11,835	7,501	190,936

(1) Salary refers to base salary compensation paid through our normal payroll process. No bonus was paid to any named executive officer for 2012 or 2011.

(2) Amounts shown do not reflect compensation received by the Named Executive Officers. Instead, the amounts shown are the aggregate grant date fair value as determined pursuant to FASB ASC 718, Compensation-Stock Compensation. Please refer to Note 2, xiii, "Accounting for Stock-Based Compensation" in the accompanying Notes to Consolidated Financial Statements for the fiscal year ended December 31, 2012, for the relevant assumptions used to

determine the valuation of stock option grants.

(3) “All Other Compensation” includes our Company match to the executives’ 401(k) contribution and premiums paid on life insurance for the executives. Both of these benefits are available to all of our employees. In the case of Mr. Schumacher, “All Other Compensation” also includes $8,379 in premiums we paid for a life insurance policy to which Mr. Schumacher’s wife is the beneficiary, $49,513 for unused earned time and $40,000 for reimbursement of a penalty Mr. Schumacher incurred related to a loan he made to the Company that was not repaid by the Company upon the maturity date. “All Other Compensation” for Dr. Lazarev includes $6,000 paid to Dr. Lazarev in lieu of his participation in the medical benefit plan offered by the Company.

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Outstanding Equity Awards at Fiscal Year End

The following table sets forth certain information regarding outstanding stock options awards for each of the Named Executive Officers as of December 31, 2012.

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable (1)	Option Exercise Price ($)	Option Expiration Date
Richard T. Schumacher	75,000	-	$1.00	6/17/2015
President, CEO	30,000	-	$1.00	3/30/2016
	70,000	-	$1.00	2/12/2017
	75,000	-	$0.60	3/12/2019
	4,688	10,312 (2)	$1.00	9/09/2021
		30,000 (2)	$0.60	3/13/2022
Edmund Y. Ting, Ph.D	60,000	-	$1.00	4/24/2016
Senior Vice President of Engineering	12,000	-	$1.00	9/25/2018
	42,000	-	$0.60	3/12/2019
	4,688	10,312 (2)	$1.00	9/09/2021
		17,500 (2)	$0.60	3/13/2022
Alexander V. Lazarev, Ph.D	50,000	-	$1.00	3/02/2016
Vice President of Research & Development	10,000	-	$1.00	9/25/2018
	35,000	-	$0.60	3/12/2019
	4,688	10,312 (2)	$1.00	9/9/2021
		15,000 (2)	$0.60	3/13/2022

(1) All unvested stock options listed in this column were granted to the Named Executive Officer pursuant to our 2005 Equity Incentive Plan. All options expire ten years after the date of grant. Unvested stock options become fully vested and exercisable upon a change of control of our company.

(2) Options to purchase shares of Common Stock were granted on March 13, 2012 to each of the Named Executive Officers, of which 25% of the stock options will vest on the first anniversary of the date of grant while the remainder will vest monthly over the remaining three year vesting period.

Retirement Plan

All employees, including the named executive officers, may participate in our 401(k) Plan. Under the 401(k) Plan, employees may elect to make before tax contributions of up to 60% of their base salary, subject to current Internal Revenue Service limits. The 401(k) Plan does not permit an investment in our Common Stock. We match employee contributions up to 50% of the first 2% of the employee's earnings. Our contribution is 100% vested immediately.

Severance Arrangements

Each of Mr. Schumacher, Dr. Ting, Dr. Lazarev, and Dr. Lawrence, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer's annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Change-in-Control Arrangements

Pursuant to severance agreements with each of Mr. Schumacher, Dr. Ting, Dr. Lazarev and Dr. Lawrence, each such executive officers, is entitled to receive a change of control payment in an amount equal to one year (other than Mr. Schumacher) of such executive officer's annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of a change of control of our company. In the case of Mr. Schumacher, his payment is equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage.

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Pursuant to our 2005 Equity Incentive Plan, any unvested stock options held by a named executive officer will become fully vested upon a change in control (as defined in the 2005 Equity Incentive Plan) of our company.

Director Compensation and Benefits

The following table sets forth certain information regarding compensation earned or paid to our directors during fiscal 2012.

Name	Fees Paid in Cash (1)	Fees Paid in Stock (1)	Option Awards (2)(3)	Total
Jeffrey N. Peterson (a,b)	-	$23,000	$10,850	$23,850
R. Wayne Fritzsche (a,b)	-	15,000	7,000	22,000
Vito J. Mangiardi (b)	-	20,000	14,000	34,000
Kevin A. Pollack (b)	-	20,000	14,000	34,000
J. Donald Payne (a)	-	5,000	-	5,000
Calvin A. Saravis, Ph.D (a)	-	200	-	200
Alan I. Goldberg (a)	-	7,500	-	7,500
Gregory G. Freitag (a)	-	5,000	-	7,500
Alan D. Rosenson (a)	-	7,500	-	7,500

Our non-employee directors receive the following compensation for service as a director:

(1) Each director earned a quarterly stipend of (a) $2,500 (previous board - members until June 2012) or (b) $5,000 (current board – members as of July 2012) for attending meetings of the full board of directors (whether telephonic or in-person) and attending committee meetings in 2012. However, all members of the previous and current board of directors elected to defer and accrue the cash payment of these fees until our financial performance improves as determined by the board of directors. We issued an aggregate of 20,640 shares of the Company’s Series G Convertible Preferred Stock in July 2012 to current and previous board members for payment of board fees owed. Amounts shown under the heading “Fees Paid in Stock” reflect compensation received by the directors grant date fair value of the stock issued in lieu of payment of director fees as determined by the Company’s closing stock price in July 6, 2012. Fees for current board members will be deferred and accrued. There is no limit to the number of board of directors or committee meetings that may be called.

(2) Amounts shown do not reflect compensation received by the directors. Instead, the amounts shown are the aggregate grant date fair value as determined pursuant to FASB ASC 718, Compensation-Stock Compensation. Please refer to Note 2, xiii, “Accounting for Stock-Based Compensation” in the accompanying Notes to the Consolidated Financial Statements for the fiscal year ended December 31, 2012, for the relevant assumptions used to determine the valuation of stock option grants.

(3) The following table shows the total number of outstanding stock options as of December 31, 2012 that have been issued as director compensation.

Name	Aggregate Number of Stock Options Outstanding

R. Wayne Fritzsche	147,500
Jeffrey N. Peterson	49,375
Vito J. Mangiardi	37,500
Kevin A. Pollack	37,500

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ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

Beneficial Ownership Information

The following table sets forth certain information as of January 31, 2013 concerning the beneficial ownership of Common Stock for: (i) each director and director nominee, (ii) each Named Executive Officer in the Summary Compensation Table under “Executive Compensation” above, (iii) all executive officers and directors as a group, and (iv) each person (including any “group” as that term is used in Section 13(d)(3) of the Exchange Act) known by us to be the beneficial owner of 5% or more of our Common Stock. The address for each of the persons below who are beneficial owners of 5% or more of our Common Stock is our corporate address at 14 Norfolk Avenue, South Easton, MA 02375.

Beneficial ownership has been determined in accordance with the rules of the SEC and is calculated based on 12,149,267 shares of our Common Stock issued and outstanding as of January 31, 2013. Shares of Common Stock subject to options, warrants, preferred stock or other securities convertible into Common Stock that are currently exercisable or convertible, or exercisable or convertible within 60 days of January 31, 2013, are deemed outstanding for computing the percentage of the person holding the option, warrant, preferred stock, or convertible security but are not deemed outstanding for computing the percentage of any other person.

Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of Common Stock that they beneficially own.

Name	Number of Shares of Common Stock Beneficially Owned	Percent of Class	
Richard T. Schumacher (1)	1,176,763	9.7	%
R. Wayne Fritzsche, MBA (2)	776,054	6.4	%
Jeffery N. Peterson, MBA (3)	171,351	1.4	%
Kevin A. Pollack, Esq. MBA (4)	207,500	1.7	%
Edmund Y. Ting, Ph.D (5)	138,252	1.1	%
Alexander V. Lazarev, Ph.D (6)	113,527	0.9	%
Vito J. Mangiardi, MBA (7)	97,500	0.8	%
All other officers	239,118	2.0	%
All Executive Officers and Directors as a Group (nine persons)	2,920,065	24.0	%

1) Includes (i) 255,000 shares of Common Stock issuable upon exercise of options; (ii) 451,359 shares of Common Stock issuable upon the exercise of warrants. Amount does not include 20,162 shares of Common Stock held by Mr. Schumacher’s minor son as his wife exercises all voting and investment control over such shares.

2) Includes (i) 147,500 shares of Common Stock issuable upon exercise of options, and (ii) 242,069 shares of Common Stock issuable upon exercise of warrants.

3) Includes (i) 49,375 shares of Common Stock issuable upon exercise of options, and (ii) 73,000 shares of Common Stock issuable upon exercise of warrants.

4) Includes (i) 37,500 shares of Common Stock issuable upon exercise of options, (ii) 50,000 shares of Common Stock issuable upon conversion of an outstanding convertible debenture, and (iii) 40,000 shares of Common Stock issuable upon the exercise of warrants.

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5) Includes (i) 119,000 shares of Common Stock issuable upon exercise of options, and (ii) 8,920 shares of Common Stock issuable upon the exercise of warrants.

6) Includes (i) 100,000 shares of Common Stock issuable upon exercise of options, and (ii) 6,705 shares of Common Stock issuable upon the exercise of warrants.

7) Includes (i) 37,500 shares of Common Stock issuable upon exercise of options, and (ii) 20,000 shares of Common Stock issuable upon the exercise of warrants.

Equity Compensation Plan Information

We maintain a number of equity compensation plans for employees, officers, directors and other entities and individuals whose efforts contribute to our success. The table below sets forth certain information as of our fiscal year ended December 31, 2012 regarding the shares of our Common Stock available for grant or granted under our equity compensation plans.

Plan Category	Number of securities to be issued upon exercise of outstanding options	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders(1)	1,605,750	$ 0.80	227,250

(1) Includes the following plans: 1999 Non-Qualified Stock Option Plan and 2005 Equity Incentive Plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS; AND DIRECTOR INDEPENDENCE.

Board Independence

Our board of directors has reviewed the qualifications of each of Messrs. Peterson, Mangiardi and Pollack, constituting more than a majority of our directors and has affirmatively determined that each individual is “independent” as such term is defined under the current listing standards of the OTC Markets. The board of directors has determined that none of these directors has a material relationship with us that would interfere with the exercise of independent judgment. In addition, each member of the Audit Committee is independent as required under Section 10A(m)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

Transactions with Related Persons

From time to time Mr. Richard T. Schumacher, the Company’s President and CEO, makes loans to the Company to provide the Company with operating cash. The balance of these loans at December 31, 2012 was $98,675 and is recorded as related party debt in the accompanying consolidated balance sheet as of December 31, 2012.

On February 7, 2012, Mr. Schumacher invested $100,000 in our private placement in February 2012 for shares of restricted Common Stock and warrants to purchase shares of Common Stock at a purchase price of $0.9125 per share

for 109,589 shares of restricted Common Stock and a Warrant to purchase 54,795 shares of Common Stock at an exercise price of $0.85 per share.

On July 6, 2012, Mr. Schumacher invested $30,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 6,000 shares of convertible Preferred Stock (convertible into 60,000 shares of Common Stock) and a Warrant to purchase 30,000 shares of Common Stock at an exercise price of $0.50 per share.

On October 19, 2012, the Board of Directors awarded Mr. Schumacher 100,000 shares of Common Stock valued at $40,000 for reimbursement of a penalty Mr. Schumacher incurred related to a loan he made to the Company that was not repaid by the Company upon the maturity date.

Mr. Wayne Fritzsche, a member of the board of directors from October 2003 to February 2013, received annual cash compensation of $60,000 during 2012 as an investor relations consultant to the Company. In connection with this engagement, Mr. Fritzsche did not serve on any Board committees from January 2012 to February 2013. As of December 31, 2012, Mr. Fritzsche no longer provided consulting services to the Company.

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On February 7, 2012, Mr. Fritzsche invested $12,453 in our private placement in February 2012 for shares of restricted Common Stock and warrants to purchase shares of Common Stock at a purchase price of $0.8025 per share for 15,518 shares of restricted Common Stock and a Warrant to purchase 7,759 shares of Common Stock at an exercise price of $0.74 per share.

On July 6, 2012, Mr. Fritzsche invested $15,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 3,000 shares of convertible Preferred Stock (convertible into 30,000 shares of Common Stock) and a Warrant to purchase 15,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Jeffrey N. Peterson invested $23,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 4,600 shares of convertible Preferred Stock (convertible into 46,000 shares of Common Stock) and a Warrant to purchase 23,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Vito J. Mangiardi invested $20,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 4,000 shares of convertible Preferred Stock (convertible into 40,000 shares of Common Stock) and a Warrant to purchase 20,000 shares of Common Stock at an exercise price of $0.50 per share.

On July 6, 2012, Mr. Kevin A. Pollack invested $40,000 in our Series G Private Placement of Convertible Preferred Stock and warrants to purchase shares of Common Stock at a purchase price of $0.50 per share for 8,000 shares of convertible Preferred Stock (convertible into 80,000 shares of Common Stock) and a Warrant to purchase 40,000 shares of Common Stock at an exercise price of $0.50 per share.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Independent Registered Public Accounting Fees

The following is a summary of the fees billed to the Company by Marcum LLP, the Company’s current independent registered public accounting firm, for the fiscal year ended December 31, 2012 and 2011:

	Fiscal 2012 Fees	Fiscal 2011 Fees
Audit Fees	$143,250	$105,570
Audit-Related Fees	60,500	51,500
Tax and Other Fees	-	-
	$203,750	$157,070

Audit Fees. Consists of aggregate fees billed for professional services rendered for the audit of the Company’s consolidated financial statements and review of the interim consolidated financial statements included in quarterly reports, as well as services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.

Audit-Related Fees. Consists of aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the Company’s consolidated financial statements and are not reported under “Audit Fees.” Fees billed by Marcum for 2012 were fees associated with a consent delivered in connection with the Company’s Registration Statement on Form S-3 and Registration Statement on Form S-1.

Audit Committee Policy on Pre-Approval of Services

The Audit Committee's policy is to pre-approve all audit and permissible non-audit services provided by the independent registered public accounting firm. These services may include audit services, audit-related services, tax services, and other services. Pre-approval is generally provided for up to one year. The Audit Committee may also pre-approve particular services on a case-by-case basis.

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PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

Exhibit No.		Reference
3.1	Restated Articles of Organization of the Company	A-3.1**
3.2	Articles of Amendment to Restated Articles of Organization of the Company	B-3.1**
3.3	Articles of Amendment to Restated Articles of Organization of the Company, as amended	O-3.1**
3.4	Articles of Amendment to Restated Articles of Organization of the Company, as amended	L-3.1**
3.5	Articles of Amendment to Restated Articles of Organization of the Company, as amended	P-3.1**
3.6	Articles of Amendment to Restated Articles of Organization of the Company, as amended	U-3.1**
3.7	Amended and Restated By-Laws of the Company	A-3.2**
3.8	Amendment to Amended and Restated By-Laws of the Company	C-3.3**
4.1	Specimen Certificate for Shares of the Company's Common Stock	D-4.1**
4.2	Description of Capital Stock (contained in the Amended and Restated Articles of Organization, as amended, of the Company filed as Exhibits 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 and 3.7)	A-3.1 & 3.2, B-31, O-31, L-31, P-31 and U.31**
4.3	Rights Agreement dated as of February 27, 2003 between the Company and Computershare Trust Company, Inc.	E-4**
4.4	Amendment No. 1 to Rights Agreement dated April 16, 2004 between the Company and Computershare Trust Company, Inc.	F-4**
4.5	Amendment No. 2 to Rights Agreement dated November 8, 2011 between the Company and Computershare Trust N.A.	U-4.2**
4.6	Securities Purchase Agreement dated November 21, 2007 between the Company and the purchasers named therein	G-4.9**
4.7	Registration Rights Agreement dated November 21, 2007 between the Company and the purchasers named therein	G-4.10**
4.8	Securities Purchase Agreement dated February 12, 2009 between the Company and the purchasers named therein	L-4.1**
4.9	Form of 15-Month Preferred Stock Warrant	L-4.3**
4.10	Form of 30-Month Common Stock Purchase Warrant	L-4.4**
4.11	Amendment No. 1 to 30-Month Common Stock Purchase Warrant	Q-4.2**
4.12	Amendment No. 2 to 30-Month Common Stock Purchase Warrant	S-4.1**
4.13	Registration Rights Agreement dated February 12, 2009 between the Company and the purchasers named therein	L-4.5**
4.14	Securities Purchase Agreement dated November 18, 2009 between the company and the purchasers named therein	O-4.1**
4.15	Registration Rights Agreement dated November 18, 2009 between the Company and the purchasers named therein	O-4.3**
4.16	Series B Preferred Stock Warrant	O-4.2**

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Exhibit No.		Reference
4.17	Amendment No. 1 to Series B Convertible Preferred Stock Purchase Warrant	Q-4.1**
4.18	Amendment No. 2 to Series B Convertible Preferred Stock Purchase Warrant	S-4.2**
4.19	Securities Purchase Agreement dated April 8, 2011 between the Company and the Purchasers Named Therein	P-4.1**
4.20	Registration Rights Agreement dated April 8, 2011 between the Company and the Purchasers Named Therein	P-4.3**
4.21	Amendment No. 1 to Securities Purchase Agreement dated June 21, 2011, amending Securities Purchase Agreement dated April 8, 2011 between the Company and the Purchasers Named Therein	R-4.1**
4.22	Form of Common Stock Purchase Warrant	P-4.2**
4.23	Form of Warrant Issued to Lenders	T-4.1**
4.24	Form of Promissory Note Issued to Lenders	T-4.2**
4.25	Form of Common Stock Purchase Warrant	U-4.1**
4.26	Form of Warrant	V-4.1**
10.1	1999 Non-Qualified Stock Option Plan*	H**
10.2	1999 Employee Stock Purchase Plan*	H**
10.3	2005 Equity Incentive Plan.*	I-99.1**
10.4	Amendment No. 1 to 2005 Equity Incentive Plan*	M-10.1**
10.5	Description of Compensation for Certain Directors*	N-10.7**
10.6	Severance Agreement between the registrant and Richard T. Schumacher*	N-10.6**
10.7	Form of Severance Agreement including list of officers to whom provided*	N-10.7**
10.8	Consent Agreement, dated May 29, 2007, by and among the registrant, PBI Source Scientific, Inc., Source Scientific, LLC, BIT Analytical Instruments, Inc., Richard W. Henson and Bruce A. Sargeant.	J-10.1**
10.9	Asset Purchase Agreement dated April 16, 2004 between the Company, BBI Biotech Research Laboratories, Inc. and SeraCare Life Sciences, Inc.	F-1**
10.10	Technology Transfer and Patent Assignment Agreement dated October 7, 1996, between Bioseq, Inc. and BioMolecular Assays, Inc.	N-10.11**
10.11	Amendment to Technology Transfer and Patent Assignment Agreement dated October 8, 1998 between Bioseq, Inc. and BioMolecular Assays, Inc.	N-10.12**
10.12	Nonexclusive License Agreement dated September 30, 1998 between Bioseq, Inc. and BioMolecular Assays, Inc.	N-10.13**
10.13	Agreement for Research Services dated February 1, 2006 by and between the registrant and the University of New Hampshire	K-10.1**
10.14	Placement Agency Agreement between the Placement agent and the Company, dated November 8, 2011	U-10.1**
10.15	Form of Securities Purchase Agreement	U-10.2**
10.16	Form of Escrow Agreement, as amended	U-10.3**
10.17	Form of Securities Purchase Agreement	V-3.1**
23.1	Consent of Independent Registered Public Accounting Firm (Marcum LLP)	Filed herewith
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	Filed herewith
32.1	Principal Executive Officer and 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	Filed herewith
101	Interactive Data File	Filed herewith

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*Management contract or compensatory plan or arrangement.
**Previously filed as follows.

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A	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-1 (Registration No. 333-10759) filed with the Commission on August 23, 1996.
B	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2004.
C	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2002.
D	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-KSB for the fiscal year ended December 31, 2004.
E	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission March 12, 2003.
F	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission April 16, 2004.
G	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-3 (Registration No. 333-148227) filed with the Commission on December 20, 2007.
H	We previously filed this exhibit as an appendix to the registrant's proxy statement filed June 14, 1999.
I	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Registration Statement on Form S-8 (Reg. No. 333-128594) filed with the Commission on September 26, 2005.
J	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on June 1, 2007.
K	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on February 7, 2006.
L	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on February 18, 2009.
M	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on September 29, 2008.
N	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Annual Report on Form 10-K filed with the Commission on March 27, 2008.
O	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on November 19, 2009.
P	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on April 12, 2011.
Q	We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on August

11, 2011.

R We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on June 21, 2011.

S We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on October 6, 2011.

T We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2011.

U We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on November 10, 2011.

V We previously filed this exhibit with the referenced exhibit number as an exhibit to the registrant's Current Report on Form 8-K filed with the Commission on February 9, 2012.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: May 13, 2013

Pressure BioSciences, Inc.

By: /s/ Richard T. Schumacher
Richard T. Schumacher
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacity and on the dates indicated.

Name	Capacity	Date
/s/ Richard T. Schumacher Richard T. Schumacher	President, Chief Executive Officer, Treasurer, Clerk and Director (Principal Executive Officer)	May 13, 2013
/s/ Conrad F. Mir. Conrad F. Mir	Chief Financial Officer (Principal Executive Officer)	May 13, 2013
/s/ Jeffrey N. Peterson Jeffrey N. Peterson	Chairman of the Board of Directors	May 13, 2013
/s/ Mickey Urdea Michael S.Urdea, Ph.D.	Director	May 13, 2013
/s/ Vito Mangiardi Vito J. Mangiardi	Director	May 13, 2013
/s/ Kevin Pollack Kevin A. Pollack	Director	May 13, 2013