

BIOTIME INC  
Form 10-K  
March 31, 2005

Table of Contents

**SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-K**

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

For the fiscal year ended December 31, 2004

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-12830

**BioTime, Inc.**

(Exact name of registrant as specified in its charter)

**California**  
(State or other jurisdiction of  
incorporation or organization)

**94-3127919**  
(I.R.S. Employer  
Identification No.)

**935 Pardee Street, Berkeley, California**  
(Address of principal executive offices)

**94710**  
(Zip Code)

Registrant's telephone number, including area code (510) 845-9535

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

Title of each class	Name of exchange on which registered
Common Shares, no par value	American Stock Exchange
Common Share Purchase Warrants	American Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark 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.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act).  
Yes  No

The approximate aggregate market value of voting common stock held by nonaffiliates of the registrant computed by reference to the price at which the common stock was last sold as of the last business day of the registrant's most recently completed second fiscal quarter was \$20,095,885. Shares held by each executive officer and director and by each person who beneficially owns more than 5% of the outstanding common shares have been excluded in that such persons may under certain circumstances be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

17,851,450

(Number of common shares outstanding as of March 4, 2005)

Documents Incorporated by Reference

None

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**TABLE OF CONTENTS**

**PART I**

Item 1. Description of Business

Item 2. Facilities.

Item 3. Legal Proceedings.

Item 4. Submission of Matters to a Vote of Security Holders.

**Part II**

Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.

Item 6. Selected Financial Data.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Item 8. Financial Statements and Supplementary Data

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Item 9A. Controls and Procedures.

**PART III**

Item 10. Directors and Executive Officers of the Registrant.

Item 11. Executive Compensation

Item 12. Security Ownership of Certain Beneficial Owners and Management

Item 13. Certain Relationships and Related Transactions

Item 14. Principal Accountant Fees and Services

**PART IV**

Item 15. Exhibits, Financial Statement Schedules.

**SIGNATURES**

Exhibit 23

EXHIBIT 31

EXHIBIT 32

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**Table of Contents**

PART I

*Statements made in this Form 10-K that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Words such as expects, may, will, anticipates, intends, plans, believes, seeks, estimates, and similar expressions forward-looking statements. See Risk Factors and Note 1 to Financial Statements.*

**Item 1. Description of Business**

**Overview**

BioTime, Inc. is engaged in the research and development of synthetic solutions that can be used as blood plasma volume expanders, blood replacement solutions during hypothermic (low temperature) surgery, and organ preservation solutions. Plasma volume expanders are used to treat blood loss in surgical or trauma patients until blood loss becomes so severe that a transfusion of packed red blood cells or other blood products is required. We are also developing a specially formulated hypothermic blood substitute solution that would have a similar function and would be used for the replacement of very large volumes of a patient's blood during cardiac surgery, neurosurgery and other surgeries that involve lowering the patient's body temperature to hypothermic levels.

Our first product, Hextend®, is a sterile, physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hypovolemia is a condition caused by low blood volume, often from blood loss during surgery or from injury. Hextend maintains circulatory system fluid volume and blood pressure and helps sustain vital organs during surgery. Hextend, approved for use in major surgery, is the only blood plasma volume expander that contains lactate, multiple electrolytes, glucose, and a medically approved form of starch called hetastarch. Hextend is designed to compete with and to replace products that have been used to maintain fluid volume and blood pressure during surgery. These competing products include albumin and other colloid solutions, and crystalloid solutions. Commercial sources of albumin are generally human blood. Other colloid solutions contain proteins or a starch that keep the fluid in the patient's circulatory system in order to maintain blood pressure. Crystalloid solutions generally contain salts and may also contain other electrolytes, and have certain disadvantages in maintaining a patient's circulatory system fluid volume and pressure. Health insurance reimbursements and HMO coverage now include the cost of Hextend used in surgical procedures.

We are also developing two other blood volume replacement products, PentaLyte® and HetaCool®, that, like Hextend, have been formulated to maintain the patient's tissue and organ function by sustaining the patient's fluid volume and physiological balance.

Hextend is being distributed in the United States and Canada by Hospira, Inc. under an exclusive license from us. During March 2003, we granted to CJ Corp. ( CJ ) an exclusive license to manufacture and sell Hextend and PentaLyte, in South Korea. CJ has obtained regulatory approval to manufacture and market Hextend, and has recently obtained Korean Health Insurance pricing, a step that was required to occur before sales could begin. CJ is also responsible for

**Table of Contents**

obtaining the regulatory approvals required to manufacture and market PentaLyte in South Korea, including conducting any clinical trials that may be required, and will bear all related costs and expenses. See [Licensing](#) for more information about the licenses granted to Hospira and CJ.

We have entered into an agreement with Summit Pharmaceuticals International Corporation ( [Summit](#) ) to develop Hextend and PentaLyte for the Japanese market. BioTime and Summit do not plan to manufacture and market Hextend and PentaLyte themselves. Instead, we will seek to license manufacturing and marketing rights to a third party such as a pharmaceutical company. See [Licensing](#) for more information about our agreement with Summit.

Various colloid and crystalloid products are being marketed by other companies for use in maintaining patient fluid volume in surgery and trauma care, but those solutions do not contain the unique comprehensive combination of electrolytes, glucose, lactate and hydroxyethyl starch found in Hextend, PentaLyte, and HetaCool. The use of competing solutions has been reported in some studies to correlate with patient morbidity, fluid accumulation in body tissues, impaired blood clotting, and a disturbance of the delicate chemical balances on which most of the body's chemical reactions depend. One of these competing products is 6% hetastarch in saline solution. The United States Food and Drug Administration (the [FDA](#) ) has recently required the manufacturers of 6% hetastarch in saline solutions to change their product labeling by adding a warning stating that those products are not recommended for use as a cardiac bypass prime solution, or while the patient is on cardiopulmonary bypass, or in the immediate period after the pump has been disconnected. We have not been required to add that warning to the labeling of Hextend.

Another competing product is albumin produced from human plasma. Albumin is currently more expensive than Hextend and is subject to supply shortages. An FDA warning has cautioned physicians about the risk of administering albumin to seriously ill patients.

We are beginning a Phase II clinical trial using PentaLyte in the treatment of hypovolemia in cardiac surgery. PentaLyte contains a lower molecular weight hydroxyethyl starch than Hextend, and is more quickly metabolized. PentaLyte is designed for use when short lasting volume expansion is desirable. Our ability to complete clinical studies of PentaLyte will depend on our cash resources and the costs involved, which are not presently determinable.

We are also continuing to develop solutions for low temperature surgery and trauma care. A number of physicians have reported using Hextend to treat hypovolemia under mild hypothermic conditions during cardiac surgery. Additional cardiac surgeries have been performed at deeper hypothermic temperatures. In one case, Hextend was used to treat hypovolemia in a cancer patient operated on under deep hypothermic conditions in which the heart was arrested. Once a sufficient amount of data from successful low temperature surgery has been compiled, we plan to seek permission to conduct trials using Hextend as a complete replacement for blood under near-freezing conditions. We currently plan to market Hextend for complete blood volume replacement at very low temperatures under the trademark [HetaCool](#) after FDA approval is obtained.

During April 2004, we were awarded a research grant by the National Heart, Lung, and Blood Institute division of the National Institutes of Health ( [NIH](#) ) for use in the development of

**Table of Contents**

HetaCool. The grant is being used to fund a project entitled "Resuscitating Blood-Substituted Hypothermic Dogs" at the Texas Heart Institute in Houston under the guidance of Dr. George V. Letsou. Dr. Letsou is Associate Professor of Surgery and Director of the Heart Failure Center at the University of Texas Medical School in Houston, Texas. We were granted \$149,994 for the project during 2004, and as of December 31, 2004, we have submitted a request for reimbursement for \$20,160. Subject to availability of funds and satisfactory progress on the project, we may be granted an additional \$149,996 during 2005.

In order to commence clinical trials for regulatory approval of new products (e.g., PentaLyte), or new therapeutic uses of Hextend, it will be necessary for us to prepare and file with the FDA an Investigational New Drug Application (IND) or an amendment to expand the present IND for additional clinical studies. Filings with foreign regulatory agencies will be required to commence clinical trials overseas. The cost of preparing regulatory filings and conducting clinical trials is not presently determinable, but could be substantial. It will be necessary for us to obtain additional funds in order to complete any clinical trials that we may conduct for our new products or for new uses of Hextend.

In addition to developing clinical trial programs, we plan to continue to provide funding for our laboratory testing programs at selected universities, medical schools and hospitals for the purpose of developing additional uses of Hextend, PentaLyte, HetaCool, and other new products, but the amount of research that will be conducted at those institutions will depend upon our financial status.

BioTime was incorporated under the laws of the State of California on November 30, 1990. Our principal office is located at 935 Pardee Street, Berkeley, California 94710. Our telephone number is (510) 845-9535.

Hextend,® PentaLyte,® and HetaCool® are registered trademarks of BioTime, Inc.

**Products for Surgery, Plasma Volume Replacement and Emergency Care**

*The Market for Plasma Volume Expanders*

We are developing Hextend, PentaLyte, HetaCool and other synthetic plasma expander solutions to treat acute blood loss that occurs as a result of trauma injuries and during many kinds of surgery. These products are synthetic, can be sterilized, and can be manufactured in large volumes. Hextend, PentaLyte, and HetaCool contain constituents that may maintain physiological balance when used to replace lost blood volume.

Hextend is also currently being used to treat hypovolemia subsequent to trauma or low blood pressure due to shock by emergency room physicians. After appropriate clinical testing and regulatory approval, it may be used by paramedics to treat acute blood loss in trauma victims being transported to the hospital. Hextend has also been purchased by the United States armed forces and may be used in cases of battlefield trauma.

**Table of Contents**

Approximately 10,000,000 surgeries take place in the United States each year, and blood transfusions are required in approximately 3,000,000 of those cases. Transfusions are also required to treat patients suffering severe blood loss due to traumatic injury. Many more surgical and trauma cases do not require blood transfusions but do involve significant bleeding that can place the patient at risk of suffering from shock caused by the loss of fluid volume (hypovolemia) and physiological balance. Whole blood and packed red cells generally cannot be administered to a patient until the patient's blood has been typed and sufficient units of compatible blood or red cells can be located. Periodic shortages of supply of donated human blood are not uncommon, and rare blood types are often difficult to locate. The use of human blood products also poses the risk of exposing the patient to blood-borne diseases such as AIDS and hepatitis.

Due to the risks and cost of using human blood products, even when a sufficient supply of compatible blood is available, physicians treating patients suffering blood loss are generally not permitted to transfuse red blood cells until the patient's level of red blood cells has fallen to a level known as the transfusion trigger. During the course of surgery, while blood volume is being lost, the patient is infused with plasma volume expanders to maintain adequate blood circulation. During the surgical procedure, red blood cells are not generally replaced until the patient has lost approximately 45% to 50% of his or her red blood cells, thus reaching the transfusion trigger at which point the transfusion of red blood cells may be required. After the transfusion of red blood cells, the patient may continue to experience blood volume loss, which will be replaced with plasma volume expanders. Even in those patients who do not require a transfusion, physicians routinely administer plasma volume expanders to maintain sufficient fluid volume to permit the available red blood cells to circulate throughout the body and to maintain the patient's physiological balance.

Several units of fluid replacement products are often administered during surgery. The number of units will vary depending upon the amount of blood loss and the kind of plasma volume expander administered. Crystalloid products must be used in larger volumes than colloid products such as Hextend.

*The Market for Products for Hypothermic Surgery*

In 2003, more than 400,000 coronary bypass and other open-heart surgeries were performed in the United States. Current estimates indicate that more than one million people over age 55 have pathological changes associated with the aortic arch. Open-heart procedures often require the use of cardio-pulmonary bypass equipment to do the work of the heart and lungs during the surgery. During open-heart surgery and surgical procedures for the treatment of certain cardiovascular conditions such as large aneurysms, cardiovascular abnormalities and damaged blood vessels in the brain, surgeons must temporarily interrupt the flow of blood through the body. Interruption of blood flow can be maintained only for short periods of time at normal body temperatures because many critical organs, particularly the brain, are quickly damaged by the resultant loss of oxygen. As a result, certain surgical procedures are performed at low temperatures because lower body temperature helps to minimize the chance of damage to the patient's organs by reducing the patient's metabolic rate, thereby decreasing the patient's needs during surgery for oxygen and nutrients that normally flow through the blood.



**Table of Contents**

Current technology limits the degree to which surgeons can lower a patient's temperature and the amount of time the patient can be maintained at a low body temperature because blood, even when diluted, cannot be circulated through the body at near-freezing temperatures. As a result, surgeons face severe time constraints in performing surgical procedures requiring blood flow interruption, and those time limitations prevent surgeons from correcting certain cardiovascular abnormalities.

Hypothermic techniques may also have an important use in treating trauma patients that have experienced severe blood loss. We are sponsoring a new project at the State University of New York Health Sciences Center in Brooklyn to study hypothermia and complete blood volume replacement with HetaCool in an animal model of civilian trauma.

*Hextend, PentaLyte and HetaCool*

Our first three blood volume replacement products, Hextend, PentaLyte, and HetaCool, have been formulated to maintain the patient's tissue and organ function by sustaining the patient's fluid volume and physiological balance. Hextend, PentaLyte, and HetaCool are composed of a hydroxyethyl starch, electrolytes, sugar and lactate in an aqueous base. Hextend and HetaCool use a high molecular weight hydroxyethyl starch (hetastarch) whereas PentaLyte uses a lower, molecular weight hydroxyethyl starch (pentastarch). The hetastarch is retained in the blood longer than the pentastarch, which may make Hextend and HetaCool the products of choice when a larger volume of plasma expander or blood replacement solution for low temperature surgery is needed, or where the patient's ability to restore his own blood proteins after surgery is compromised. PentaLyte, with pentastarch, would be eliminated from the blood faster than Hextend and HetaCool and might be used when less plasma expander is needed or where the patient is more capable of quickly restoring lost blood proteins. We have also tested HexaLyte, a new plasma volume expander that contains a low molecular weight hydroxyethyl starch and that would be eliminated from the body more rapidly than Hextend and HetaCool, but not as rapidly as PentaLyte. We believe that by testing and bringing these products to the market, we can increase our market share by providing the medical community with solutions to match patients' needs.

Certain clinical test results indicate that Hextend is effective at maintaining blood calcium levels when used to replace lost blood volume. Calcium can be a significant factor in regulating blood clotting and cardiac function. Clinical studies have also shown that Hextend maintains acid-base better than saline-based surgical fluids. We expect that PentaLyte will also be able to maintain blood calcium levels and acid-base balance based upon laboratory studies and the fact that the formulation of PentaLyte is similar to that of Hextend.

Albumin produced from human plasma is also used as plasma volume expander, but it is currently expensive and subject to supply shortages. Additionally, an FDA warning has cautioned physicians about the risk of administering albumin to seriously ill patients.

We have not attempted to synthesize oxygen-carrying molecules such as hemoglobin because the loss of fluid volume and physiological balance may contribute as much to shock as the loss of the oxygen-carrying component of the blood, and such products can, in our view, be potentially toxic

**Table of Contents**

and costly. Surgical and trauma patients are routinely given supplemental oxygen and retain a substantial portion of their own red blood cells. Whole blood or packed red blood cells are generally not transfused during surgery or in trauma care until several units of plasma volume expanders have been administered and the patient's blood cell count has fallen to the transfusion trigger. Therefore, the lack of oxygen-carrying molecules in BioTime solutions should not pose a significant contraindication to use.

However, our scientists have conducted laboratory animal experiments in which we have shown that Hextend can be successfully used in conjunction with a hemoglobin-based oxygen carrier solution approved for veterinary purposes to completely replace the animal's circulating blood volume without any subsequent transfusion and without the use of supplemental oxygen. By diluting these oxygen carrier solutions, Hextend may reduce the potential toxicity and costs associated with the use of those products. Once such solutions have received regulatory approval and become commercially available, this sort of protocol may prove valuable in markets in parts of the developing world where the blood supply is extremely unsafe. These applications may also be useful in combat where logistics make blood use impracticable.

**Hextend** is our proprietary hetastarch-based synthetic blood plasma volume expander, designed especially to treat hypovolemia in surgery where patients experience significant blood loss. An important goal of the Hextend development program was to produce a product that can be used in multi-liter volumes. The safety-related secondary endpoints targeted in the U.S. clinical study included those involving coagulation. We believe that the low incidence of adverse events related to blood clotting in the Hextend patients demonstrates that Hextend may be safely used in amounts exceeding 1.5 liters. An average of 1.6 liters of Hextend was used in the Phase III clinical trials, with an average of two liters for patients who received transfused blood products. Since then, more than 1.1 million units (500 ml bags) have been sold for commercial purposes, and the use of quantities of 7 to 8 liters per patient have been reported. There have been no serious adverse events directly related to the use of Hextend even when used in these large volumes.

Hextend is also being used in surgery with cardio-pulmonary bypass circuits. In order to perform heart surgery, the patient's heart must be stopped and a mechanical apparatus is used to oxygenate and circulate the blood. The cardio-pulmonary bypass apparatus requires a blood compatible fluid such as Hextend to commence and maintain the process of diverting the patient's blood from the heart and lungs to the mechanical oxygenator and pump. In a recent clinical trial, cardiac surgery patients treated with Hextend, maintained more normal kidney function, experienced less pain and nausea, showed no deep venous thrombosis, avoided dialysis, and had shorter delay times to first meal compared to those treated with other fluids.

**PentaLyte** is our proprietary pentastarch-based synthetic plasma expander, designed especially for use when a faster elimination of the starch component is desired and acceptable. Although Hextend can be used in these cases, some physicians appear to prefer a solution which can be metabolized faster and excreted earlier when the longer term protection provided by Hextend is not required. PentaLyte combines the physiologically balanced Hextend formulation with pentastarch that has a lower molecular weight and degree of substitution than the hetastarch used in Hextend. Plasma expanders containing pentastarch are currently widely used around the world. We

**Table of Contents**

have completed our PentaLyte Phase I clinical study and we are planning more advanced PentaLyte clinical trials. Our present plan is to seek approval of PentaLyte for use in the treatment of hypovolemia.

**HetaCool** is a modified formulation of Hextend. HetaCool is specifically designed for use at low temperatures. Surgeons are already using Hextend and a variety of other solutions to carry out certain limited procedures involving shorter term (up to nearly one hour) arrest of brain and heart function at temperatures between 15° and 25° C. However, we are not aware of any fluid currently used in medical practice or any medically approved protocol allowing operations that can completely replace all of a patient's blood at temperatures close to the ice point. We believe that very low temperature bloodless surgical techniques could be developed for open heart and minimally invasive closed chest cardiovascular surgeries, removal of tumors from and the repair of aneurysms in the brain, heart, and other areas, as well as in the treatment of trauma, toxicity and cancer.

We are in the process of preparing an amendment to our Hextend IND to conduct clinical trials using HetaCool as a solution to replace all of a patient's circulating blood volume during profound hypothermic (carried out at near-freezing temperatures) surgical procedures. The experimental protocol for the planned blood replacement clinical trial is being tested on animal subjects. HetaCool would be introduced into the patient's body during the cooling process. Once the patient's body temperature is nearly ice cold, and heart and brain function are temporarily arrested, the surgeon would perform the operation. During the surgery, HetaCool may be circulated throughout the body in place of blood, or the circulation may be arrested for a period of time if an interruption of fluid circulation is required. Upon completion of the surgery, the patient would be slowly warmed and blood would be transfused.

Cardiac surgeons are working to develop innovative procedures to repair damaged coronary arteries and heart valves. If optically guided surgical instruments can be inserted into the heart through blood vessels or small incisions, there may be no need to open the patient's chest cavity. We believe that HetaCool may be useful in these minimally invasive closed chest cardiac procedures because the solution is transparent; if it were used to completely replace blood at low temperatures it would permit surgeons to use their optically guided instruments inside the heart or blood vessels without having their view obstructed by blood. The use of BioTime solutions may also allow better control over stopping and starting the heart, as well as extending the time period of such surgeries.

HetaCool has been used to completely replace the blood volume of hamsters, dogs, pigs, and baboons at temperatures approaching freezing. Many of these animal subjects survived long term after hypothermic blood substitution with HetaCool. In these laboratory tests, the animals' blood was replaced by HetaCool and they were chilled for one to more than four hours with deep body temperatures between 1°C and 10°C. Hextend was used to partially replace blood during cancer surgery in which a patient's body temperature was lowered to 19°C and his heart was stopped for 27 minutes while the tumor was removed. The patient recovered without incident, and a case study of the procedure was published in the April 2002 issue of the *Canadian Journal of Anesthesia*.

We have launched a research program using HetaCool in animal models of trauma at the State University of New York Health Science Center in Brooklyn. Preliminary laboratory results there

## **Table of Contents**

have already supported the feasibility of using HetaCool to treat subjects following severe hemorrhage. The use of HetaCool at near-freezing temperatures also will be studied in animal models of cardiovascular surgery at the Texas Heart Institute in Houston. The project has been approved by the appropriate internal committees, and is awaiting the beginning of experimentation.

We are developing a new formulation that has allowed the revival of hamsters after as long as 6.5 hours of hypothermic blood substitution during which time the animals' heartbeat and circulation were stopped.

## **Organ Transplant Products**

### *The Market for Organ Preservation Solutions*

Organ transplant surgery is a growing field. Each year in the United States, approximately 5,000 donors donate organs, and approximately 5,000 people donate skin, bone and other tissues. As more surgeons have gained the necessary expertise, and surgical methods have been refined, the number of transplant procedures has increased, as has the percentage of successful transplants. Organ transplant surgeons and their patients face two major obstacles: the shortage of available organs from donors, and the limited amount of time that a transplantable organ can be kept viable between the time it is harvested from the donor and the time it is transplanted into the recipient.

The scarcity of transplantable organs makes them too precious to lose and increases the importance of effective preservation technology and products. Current organ removal and preservation technology generally requires multiple preservation solutions to remove and preserve effectively different groups of organs. The removal of one organ can impair the viability of other organs. Available technology does not permit surgeons to keep the remaining organs viable within the donor's body for a significant time after the first organ is removed. Currently, an organ available for transplant is flushed with an ice-cold solution during the removal process to deactivate the organ and preserve its tissues, and then the organ is transported on ice to the donee. The ice-cold solutions currently used, together with transportation on ice, keep the organ healthy for only a short period of time. For example, the storage time for hearts is limited to approximately six hours. Because of the short time span available for removal and transplant of an organ, potential organ donees may not receive the needed organs.

We are seeking to address this problem by developing a more effective organ preservation solution that will permit surgeons to harvest all transplantable organs from a single donor. We believe that preserving the viability of all transplantable organs and tissues simultaneously, at low temperatures, would extend by several hours the time span in which the organs can be preserved prior to transplant.

**Using HetaCool for Multi-Organ Preservation.** We are seeking to develop HetaCool for use as a single solution that can simultaneously preserve all of a single donor's organs. When used as an organ preservation solution, HetaCool would be perfused into the donor's body while the body is chilled, thereby eliminating an undesirable condition called warm ischemia, caused when an organ is warm while its blood supply is interrupted. The use of HetaCool in conjunction with the

## Table of Contents

chilling of the body should help to slow down the process of organ deterioration by a number of hours so that a surgeon can remove all organs for donation and transplant. We currently estimate that each such preservation procedure could require as much as 50 liters of HetaCool.

We believe that the ability to replace an animal's blood with HetaCool, to maintain the animal at near freezing temperatures for several hours, and then revive the animal, would demonstrate that the solution could be used for human multi-organ preservation. BioTime scientists have revived animals after more than six hours of cold blood-substitution, and have observed heart function in animals maintained cold and blood-substituted for more than eight hours. An objective of our research and development program is to extend the time span in which animal subjects can be maintained in a cold, blood-substituted state before revival or removal of organs for transplant purposes. Organ transplant procedures using animal subjects could then be conducted to test the effectiveness of Hextend as an organ preservative.

A successful transplant of a lung cooled inside the donor's body prior to transplant has recently been reported in Sweden. The patient who received the lung was reported to be doing well several months later. The success of that transplant, which did not involve the use of a BioTime product, involved the preservation and transplant of a single organ, but indicates that hypothermic techniques can be used to preserve organs in the donor prior to removal for transplant.

### *Long-term Tissue and Organ Banking*

The development of marketable products and technologies for the preservation of tissues and vital organs for weeks and months is a long-range goal of our research and development plan. To permit such long-term organ banking we are attempting to develop products and technologies that can protect tissues and organs from the damage that occurs when human tissues are subjected to subfreezing temperatures.

**HetaFreeze®** is one of a family of BioTime freeze-protective solutions that may ultimately allow the extension of time during which organs and tissues can be stored for future transplant or surgical grafting. In laboratory experiments, our proprietary freeze-protective compounds have already been used to preserve skin. Silver dollar-sized full thickness shaved skin samples have been removed after saturation with HetaFreeze solution, frozen at liquid nitrogen temperatures and stored for periods ranging from days to weeks. The grafts were then warmed and sewn onto the backs of host animals. Many of these grafts survived. In more recent experiments, rat femoral arteries were frozen to liquid nitrogen temperatures, later thawed and then transplanted into host rats. These grafts were proven to last up to four months. The work was published in the October 2002 issue of the *Annals of Plastic Surgery*.

In other laboratory experiments, our scientists have shown that animals can be revived to consciousness after partial freezing with their blood replaced by HetaFreeze. While this technology has not developed to an extent that allows long term survival of the laboratory subjects and their organs, a better understanding of the effects of partial freezing could allow for extended preservation times for vital organs, skin and blood vessels.

**Table of Contents**

**Other Potential Uses of BioTime Solutions**

Isolated regional perfusion of anti-cancer drugs has been used to treat melanoma of the limbs, and inoperable tumors of the liver. We believe that employing such a procedure while the patient is kept in ice-cold blood-substitution may allow high doses of toxic anti-cancer drugs to be directed at inoperable tumors within vital organs, which would selectively be warmed. Keeping the rest of the patient in a cold, blood-substituted state may reduce or eliminate the circulation of the toxic drugs to healthy tissues.

We consider such surgical techniques to be a longer-range goal of our research and development program for hypothermic surgery products. Use of this complex technology in the practice of oncology can occur only after ice-cold blood-substitution has advanced to an appropriate level of safety and effectiveness.

**Research and Development Strategy**

The greatest portion of our research and development efforts have been devoted to the development of Hextend, PentaLyte and HetaCool for conventional surgery, emergency care, low temperature surgery, and multi-organ preservation. A lesser portion of our research and development efforts have been devoted to developing solutions and protocols for storing organs and tissues at subfreezing temperatures. In the future we may explore other applications of our products and technologies, including cancer chemotherapy. As the first products achieve market entry, more effort will be expended to bring the next tier of products to maturity.

A major focus of our research and development effort has been on products and technology to significantly reduce or eliminate the need for blood products in surgery and trauma care. We have conducted preliminary studies using Hextend in a pressurized oxygen environment and found that Hextend can replace nearly all, or in some cases all, of the circulating blood of rats. Some of the rats were able to live long term without a subsequent transfusion, while others received their own blood back. In other cases, Hextend was used in large volumes in association with a hemoglobin-based oxygen carrier solution approved for veterinary use. When used in this way, rats were able to live long term after all their circulating blood was replaced at normal body temperature while breathing room air.

In still other experiments, rats were allowed to lose approximately half their circulating blood volume, and then allowed to develop and remain in respiratory arrest from 10-18 minutes. They were then resuscitated with Hextend and either ventilated with 100% oxygen, or in a hyperbaric oxygen chamber containing 100% oxygen at two atmospheres above normal pressure. Some of the rats recovered and lived long term after as long as 15 minutes of respiratory arrest. The hyperbaric chamber appeared to have improved the outcome in a number of cases.

These studies indicate that Hextend can potentially be used in a variety of protocols in which donor blood is difficult or impossible to use, such as on the battlefield, or in parts of the world where there is a shortage of disease-free blood.

## **Table of Contents**

Another major focus of our research and development effort has been on products and technology to extend the time animals can be kept cold and blood-substituted, and then revived without physical impairment. An integral part of that effort has been the development of techniques and procedures or protocols for use of our products. A substantial amount of data has been accumulated through animal tests, including the proper surgical techniques, drugs and anesthetics, the temperatures and pressures at which blood and blood replacement solutions should be removed, restored and circulated, solution volume, the temperature range, and times, for maintaining circulatory arrest, and the rate at which the subject should be rewarmed.

Experiments intended to test the efficacy of our low temperature blood replacement solutions and protocols for surgical applications involve replacing the animal's blood with our solution, maintaining the animal in a cold blood-substituted state for a period of time, and then attempting to revive the animal. Experiments for multi-organ preservation involve the maintenance of the animal subjects at cold temperatures for longer periods of time than would be required for many surgical applications, followed by transplant procedures to test the viability of one or more of the subject's vital organs.

We are conducting experiments at hospitals, medical schools, and university research facilities. These collaborative research programs are testing solutions and protocols developed in our laboratories and, in some cases, comparing the efficacy of our products with commercially available FDA-approved products manufactured by other companies. Collaborative gerontological research is being conducted at the University of California at Berkeley. We intend to continue to foster relations with research hospitals and medical schools for the purpose of conducting collaborative research projects because we believe that such projects will introduce our potential products to members of the medical profession and provide us with objective product evaluations from independent research physicians and surgeons.

We have also expanded our product development efforts by initiating an interventive gerontology program focused on the identification of specific factors central to aging of the brain. The program, which is being undertaken with the cooperation of the University of California at Berkeley, is focused on the development of medical and pharmacological strategies to treat senescence-related consequences, and is currently ongoing.

## **Licensing**

### *Hospira*

On April 23, 1997, we entered into a License Agreement with Abbott Laboratories under which we granted to Abbott an exclusive license to manufacture and sell Hextend in the United States and Canada for all therapeutic uses other than those involving hypothermic surgery where the patient's body temperature is lower than 12°C ( Hypothermic Use ), or replacement of substantially all of a patient's circulating blood volume ( Total Body Washout ). We retained all rights to manufacture, sell or license Hextend and other products in all other countries.

During 2004, Abbott spun-off of a substantial portion of its hospital products business into a

**Table of Contents**

new company called Hospira, Inc. Abbott has assigned to Hospira the license to manufacture and market Hextend.

Under the Hospira License Agreement, we may receive up to \$40,000,000 in license fees, of which \$2,500,000 has been paid to date for the grant of the license and the achievement of certain milestones. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend, at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Hospira's obligation to pay licensing fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country. The relevant patents begin to expire in 2019.

In addition to the license fees, Hospira will pay us a royalty on total annual net sales of Hextend. The royalty rate will be 5% plus an additional .22% for each \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. The royalty rate for each year will be applied on a total net sales basis. Hospira's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

We have the right to convert Hospira's exclusive license to a non-exclusive license or to terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, we would pay a termination fee in an amount ranging from the milestone payments made by Abbott to an amount equal to three times prior year net sales, depending upon when termination occurs. Hospira has agreed to manufacture Hextend for sale by us in the event that the exclusive license is terminated.

Hospira has certain rights to acquire additional licenses to manufacture and sell our other plasma expander products in the United States and Canada. If Hospira exercises these rights to acquire a license to sell such products for uses other than Hypothermic Surgery or Total Body Washout, in addition to paying royalties, Hospira will be obligated to pay a license fee based upon our direct and indirect research, development and other costs allocable to the new product. If Hospira desires to acquire a license to sell any of our products for use in Hypothermic Surgery or Total Body Washout, the license fees and other terms of the license will be subject to negotiation between the parties. For the purpose of determining the applicable royalty rates, net sales of any such new products licensed by Hospira will be aggregated with sales of Hextend. If Hospira does not exercise its right to acquire a new product license, we may manufacture and sell the product ourselves or we may license others to do so.

Hospira is supplying us with batches of PentaLyte, and will perform characterization and stability studies, and other regulatory support needed for us to file an IND and conduct clinical studies. The foregoing description of the Hospira License Agreement is a summary only and is qualified in all respects by reference to the full text of that License Agreement.



**Table of Contents**

*CJ Corp.*

During March 2003, we granted to CJ an exclusive license to manufacture and sell Hextend and PentaLyte in South Korea (the CJ Agreement). Under the CJ Agreement, through December 31, 2004, CJ has paid us a license fee of \$800,000 in two installments, less Korean taxes of \$132,000 withheld. In connection with these installments, we have paid a total finder's fee of \$80,000 to an unrelated third party. CJ began marketing Hextend during the first quarter of 2005. CJ will pay us a royalty on sales of the licensed products. The initial royalty will be \$1.30 per 500 ml unit of product sold, but the royalty may increase up to a maximum of \$2.60 per 500 ml unit if the price approved by Korea's National Health Insurance increases in the future. CJ is also responsible for obtaining the regulatory approvals required to manufacture and market PentaLyte, including conducting any clinical trials that may be required, and will bear all related costs and expenses.

The foregoing description of the CJ Agreement is a summary only and is qualified in all respects by reference to the full text of the CJ Agreement.

*Summit*

During December 2004, we entered into an agreement with Summit to develop Hextend and PentaLyte for the Japanese market. Under the terms of the agreement, Summit will apply for regulatory approval to manufacture and market Hextend and PentaLyte in Japan for use at body temperatures above 12°C. Summit has begun by preparing a development plan for Hextend. Summit will fund all laboratory, preclinical and clinical testing and developmental activities regarding the products, and will pay all application filing and similar fees for purposes of obtaining and maintaining regulatory approvals in Japan. Summit will not be obligated to begin to seek regulatory approval for PentaLyte until BioTime completes its Phase II clinical trial of PentaLyte in the United States and makes the results available to Summit.

Under the Agreement, Summit has paid us \$300,000, and will pay us an additional \$450,000 by April 15, 2005, and an additional \$150,000 by October 31, 2005. A portion of the cash payments will be a partial reimbursement of BioTime's development costs of Hextend and a portion will be a partial reimbursement of BioTime's development costs of PentaLyte. Within ten days after we approve Summit's development plan for Hextend, we will pay Summit a one-time fee of \$130,000 for Summit's services in preparing the development plan.

BioTime and Summit do not plan to manufacture and market Hextend and PentaLyte themselves. Instead, we will seek to license manufacturing and marketing rights to a third party such as a pharmaceutical company. When Hextend and PentaLyte are licensed and sold in Japan, the revenues from licensing fees, royalties, and net sales, and any other payments made for co-development, manufacturing, or marketing rights, will be shared between BioTime and Summit as follows: 40% to us and 60% to Summit. Net sales means the gross revenues from the sale of a product, less rebates, discounts, returns, transportation costs, sales taxes and import/export duties.

We will pay to Summit 8% of all net royalties that we actually receive from the sale of PentaLyte in the United States, plus 8% of any license fees that we receive in consideration of

**Table of Contents**

granting a license to develop, manufacture and market PentaLyte in the United States. Net royalties means royalty payments received during a calendar year, minus the following costs and expenses incurred during such calendar year: (a) all taxes assessed (other than taxes determined with reference to our net income) and credits given or owed by us in connection with the receipt of royalties on the sale of PentaLyte in the United States, and (b) all fees and expenses payable by us to the United States Food and Drug Administration (directly or as a reimbursement of any licensee) with respect to PentaLyte. In the case of license fees received from Hospira based upon the combined sale of PentaLyte and Hextend, the portion of that license fee that will be deemed to be a paid on account of the sale of PentaLyte will be determined by multiplying the total license fee paid by a fraction, the numerator of which will be the total net sales of PentaLyte in the United States for the applicable period and the denominator of which shall be the total net sales of Hextend and PentaLyte in the United States for the same period.

Either BioTime or Summit may terminate the agreement as follows:

By giving to the other party 60 days prior written notice following the bankruptcy or the insolvency of the other party; or

Upon the breach of any material provision of the agreement by the other party if the breach is not cured within 60 days after written notice thereof to the party in default.

We may terminate the agreement upon 60 days prior written notice at any time following Summit's failure to use diligent efforts to achieve any one of the following milestones: (A) submitting to us for approval a development plan that is substantially complete in all material respects within six months after the signing of the agreement, (B) initiating and conducting to completion clinical studies needed for regulatory approval of either Hextend or PentaLyte in accordance with the timetable included in the development plan we approve; or (C) obtaining regulatory approval of either Hextend or PentaLyte after the clinical studies are complete.

Summit may terminate the agreement at any time upon 90 days prior written notice to us if they determine that they no longer wish to pursue obtaining regulatory approval of Hextend and PentaLyte.

If we become bankrupt or insolvent or breach a material provision of the agreement such that Summit would have the right to terminate the agreement, Summit may elect to keep the agreement in effect, and in lieu of any other remedy that they might have (1) if any of the cash installment payments are not yet payable, Summit will be exempted from making those payments, and (2) our 40% share of revenues will be reduced to 20%.

The foregoing description of the Summit agreement is a summary only and is qualified in all respects by reference to the full text of the Summit agreement.

## **Table of Contents**

### *Other Licensing Efforts*

We are discussing prospective licensing arrangements with other pharmaceutical companies that have expressed their interest in marketing our products abroad. In licensing arrangements that include marketing rights, the participating pharmaceutical company would be entitled to retain a large portion of the revenues from sales to end users and would pay us a royalty on net sales. There is no assurance that any such licensing arrangements can be made.

## **Manufacturing**

### *Manufacturing Arrangements*

Hospira manufactures Hextend for use in the North American market, and NPBI International, BV, a Netherlands company ( NPBI ), has manufactured lots of Hextend for our use in seeking regulatory approval in Europe. Hospira and NPBI have the facilities to manufacture Hextend and other BioTime products in commercial quantities. If Hospira chooses not to obtain a license to manufacture and market another BioTime product, and if NPBI declines to manufacture BioTime products on a commercial basis, other manufacturers will have to be found that would be willing to manufacture products for us or any licensee of our products.

CJ obtains starch for the manufacture of Hextend from Ajinomoto Corp., and then manufactures the final product itself for use in the Korean market.

### *Facilities Required*

Any products that are used in clinical trials for regulatory approval in the United States or abroad, or that are approved by the FDA or foreign regulatory authorities for marketing, have to be manufactured according to good manufacturing practices at a facility that has passed regulatory inspection. In addition, products that are approved for sale will have to be manufactured in commercial quantities, and with sufficient stability to withstand the distribution process, and in compliance with such domestic and foreign regulatory requirements as may be applicable. The active ingredients and component parts of the products must be medical grade or themselves manufactured according to FDA-acceptable good manufacturing practices.

We do not have facilities to manufacture our products in commercial quantities, or under good manufacturing practices. Acquiring a manufacturing facility would involve significant expenditure of time and money for design and construction of the facility, purchasing equipment, hiring and training a production staff, purchasing raw material and attaining an efficient level of production. Although we have not determined the cost of constructing production facilities that meet FDA requirements, we expect that the cost would be substantial, and that we would need to raise additional capital in the future for that purpose. To avoid the incurrence of those expenses and delays, we are relying on contract and licensing arrangements with established pharmaceutical companies for the production of our products, but there can be no assurance that satisfactory arrangements will be made for any new products that we may develop.

**Table of Contents**

*Raw Materials*

Although most ingredients in the products we are developing are readily obtainable from multiple sources, we know of only a few manufacturers of the hydroxyethyl starches that serve as the primary drug substance in Hextend, PentaLyte and HetaCool. Hospira and CJ presently have a source of supply of the hydroxyethyl starch used in Hextend, PentaLyte and HetaCool, and have agreed to maintain a supply sufficient to meet market demand for Hextend in the countries in which they market the product. We believe that we will be able to obtain a sufficient supply of starch for our needs in the foreseeable future, although we do not have supply agreements in place. If for any reason a sufficient supply of hydroxyethyl starch could not be obtained, we or a licensee would have to acquire a manufacturing facility and the technology to produce the hydroxyethyl starch according to good manufacturing practices. We would have to raise additional capital to participate in the development and acquisition of the necessary production technology and facilities.

If arrangements cannot be made for a source of supply of hydroxyethyl starch, we would have to reformulate our solutions to use one or more other starches that are more readily available. In order to reformulate our products, we would have to perform new laboratory testing to determine whether the alternative starches could be used in a safe and effective synthetic plasma volume expander, low temperature blood substitute or organ preservation solution. If needed, such testing would be costly to conduct and would delay our product development program, and there is no certainty that any such testing would demonstrate that an alternative ingredient, even if chemically similar to the one currently used, would be as safe or effective.

**Marketing**

Hextend is being distributed in the United States and Canada by Hospira and in South Korea by CJ under exclusive licenses from us. Because Hextend is a surgical product, sales efforts must be directed to physicians and hospitals. The Hextend marketing strategy is designed to reach its target customer base through sales calls and an advertising campaign focused on the use of a plasma-like substance to replace lost blood volume and the ability of Hextend to support vital physiological processes.

Hextend competes with other products used to treat or prevent hypovolemia, including albumin, generic 6% hetastarch solutions, and crystalloid solutions. The competing products have been commonly used in surgery and trauma care for many years, and in order to sell Hextend, physicians must be convinced to change their product loyalties. Although albumin is expensive, crystalloid solutions and generic 6% hetastarch solutions sell at low prices. In order to compete with other products, particularly those that sell at lower prices, Hextend will have to be recognized as providing medically significant advantages.

## **Table of Contents**

The FDA has required the manufacturers of 6% hetastarch in saline solutions to change their product labeling by adding a warning stating that those products are not recommended for use as a cardiac bypass prime solution, or while the patient is on cardiopulmonary bypass, or in the immediate period after the pump has been disconnected. We have not been required to add that warning to the labeling of Hextend. An article discussing this issue entitled "6% Hetastarch in Saline Linked To Excessive Bleeding in Bypass Surgery" appeared in the December 2002 edition of *Anesthesiology News*. We understand that a number of hospitals have switched from 6% hetastarch in saline to Hextend due to these concerns.

As part of the marketing program, a number of studies have been conducted that show the advantages of receiving Hextend and other BioTime products during surgery. As these studies are completed, the results are presented at medical conferences and articles written for publication in medical journals. We are also aware of independent studies using Hextend that are being conducted by physicians and hospitals who may publish their findings in medical journals or report their findings at medical conferences. The outcome of future medical studies and timing of the publication or presentation of the results could have an effect on Hextend sales.

## **Government Regulation**

The FDA and foreign regulatory authorities will regulate our proposed products as drugs, biologicals, or medical devices, depending upon such factors as the use to which the product will be put, the chemical composition and the interaction of the product on the human body. In the United States, products that are intended to be introduced into the body, such as blood substitute solutions for low temperature surgery and plasma expanders, will be regulated as drugs and will be reviewed by the FDA staff responsible for evaluating biologicals.

Our domestic human drug products will be subject to rigorous FDA review and approval procedures. After testing in animals, an Investigational New Drug Application (IND) must be filed with the FDA to obtain authorization for human testing. Extensive clinical testing, which is generally done in three phases, must then be undertaken at a hospital or medical center to demonstrate optimal use, safety and efficacy of each product in humans. Each clinical study is conducted under the auspices of an independent Institutional Review Board ( IRB ). The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. The time and expense required to perform this clinical testing can far exceed the time and expense of the research and development initially required to create the product. No action can be taken to market any therapeutic product in the United States until an appropriate New Drug Application ( NDA ) has been approved by the FDA. Even after initial FDA approval has been obtained, further studies may be required to provide additional data on safety or to gain approval for the use of a product as a treatment for clinical indications other than those initially targeted. In addition, use of these products during testing and after marketing could reveal side effects that could delay, impede or prevent FDA marketing approval, resulting in a FDA-ordered product recall, or in FDA-imposed limitations on permissible uses.

## **Table of Contents**

The FDA regulates the manufacturing process of pharmaceutical products, requiring that they be produced in compliance with good manufacturing practices. See Manufacturing. The FDA also regulates the content of advertisements used to market pharmaceutical products. Generally, claims made in advertisements concerning the safety and efficacy of a product, or any advantages of a product over another product, must be supported by clinical data filed as part of an NDA or an amendment to an NDA, and statements regarding the use of a product must be consistent with the FDA approved labeling and dosage information for that product.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Even if FDA approval has been obtained, approval of a product by comparable regulatory authorities of foreign countries must be obtained prior to the commencement of marketing the product in those countries. The time required to obtain such approval may be longer or shorter than that required for FDA approval.

## **Patents and Trade Secrets**

We currently hold 21 issued United States patents having composition and methods of use claims covering our proprietary solutions, including Hextend and PentaLyte. The most recent U.S. patents were issued during 2002. Some of our allowed claims in the United States, which include the composition and methods of use of Hextend and PentaLyte, are expected to remain in force until 2019. Forty patents covering certain of our solutions have also been issued in several of the countries of the European Union, Australia, Israel, Russia, Hong Kong, South Africa, Japan, China, Taiwan, Singapore and South Korea. Additional patent applications have been filed in the United States and numerous other countries for Hextend, PentaLyte and other solutions. Certain device patents describing our hyperbaric (high pressure oxygen) chamber, and proprietary microcannula (a surgical tool) have also been issued in the United States and overseas, both of which - although only used in research so far - have possible indications in clinical medicine.

There is no assurance that any additional patents will be issued. There is also the risk that any patents that we hold or later obtain could be challenged by third parties and declared invalid or infringing of third party claims. Further, the enforcement of patent rights often requires litigation against third party infringers, and such litigation can be costly to pursue.

In addition to patents, we rely on trade secrets, know-how and continuing technological advancement to maintain our competitive position. We have entered into intellectual property, invention and non-disclosure agreements with our employees and it is our practice to enter into confidentiality agreements with our consultants. There can be no assurance, however, that these measures will prevent the unauthorized disclosure or use of our trade secrets and know-how or that others may not independently develop similar trade secrets and know-how or obtain access to our trade secrets, know-how or proprietary technology.

**Table of Contents**

**Competition**

Our plasma volume expander solutions will compete with products currently used to treat or prevent hypovolemia, including albumin, other colloid solutions, and crystalloid solutions presently manufactured by established pharmaceutical companies, and with human blood products. Some of these products, in particular crystalloid solutions, are commonly used in surgery and trauma care and sell at low prices. In order to compete with other products, particularly those that sell at lower prices, our products will have to be recognized as providing medically significant advantages. Like Hextend, the competing products are being manufactured and marketed by established pharmaceutical companies that have large research facilities, technical staffs and financial and marketing resources. B.Braun presently markets Hespan, an artificial plasma volume expander containing 6% hetastarch in saline solution. Hospira and Baxter International manufacture and sell a generic equivalent of Hespan. As a result of the introduction of generic plasma expanders intended to compete with Hespan, competition in the plasma expander market has intensified and wholesale prices have declined. Hospira, which markets Hextend in the United States and Canada, is also the leading seller of generic 6% hetastarch in saline solution. Aventis Behring, LLC, Baxter International, and Alpha Therapeutics sell albumin, and Hospira, Baxter International and B.Braun sell crystalloid solutions.

To compete with new and existing plasma expanders, we have developed products that contain constituents that may prevent or reduce the physiological imbalances, bleeding, fluid overload, edema, poor oxygenation, and organ failure that can occur when competing products are used. To compete with existing organ preservation solutions, we have developed solutions that can be used to preserve all organs simultaneously and for long periods of time.

A number of other companies are known to be developing hemoglobin and synthetic red blood cell substitutes and technologies. Our products have been developed for use either before red blood cells are needed or in conjunction with the use of red blood cells. In contrast, hemoglobin and other red blood cell substitute products are designed to remedy ischemia and similar conditions that may result from the loss of oxygen-carrying red blood cells. Those products would not necessarily compete with our products unless the oxygenating molecules were included in solutions that could replace fluid volume and prevent or reduce the physiological imbalances as effectively as our products. Generally, red blood cell substitutes are more expensive to produce and potentially more toxic than Hextend and PentaLyte.

The competition we face is likely to intensify further as new products and technologies reach the market. Superior new products are likely to sell for higher prices and generate higher profit margins once acceptance by the medical community is achieved. Those companies that are successful in introducing new products and technologies to the market first may gain significant economic advantages over their competitors in the establishment of a customer base and track record for the performance of their products and technologies. Such companies will also benefit from revenues from sales that could be used to strengthen their research and development, production, and marketing resources. All companies engaged in the medical products industry face the risk of obsolescence of their products and technologies as more advanced or cost effective products and technologies are developed by their competitors. As the industry matures, companies will compete based upon the performance and cost effectiveness of their products.

**Table of Contents**

**Employees**

As of December 31, 2004, we employed nine persons on a full-time basis and one person on a part-time basis. Four full-time employees hold Ph.D. Degrees in one or more fields of science.

**Risk Factors**

Some of the factors that could materially affect our operations and prospects are discussed below. There may be other factors that are not mentioned here or of which we are not presently aware that could also affect our operations.

*We May Not Succeed In Marketing Our Products Due to the Availability of Competing Products*

Our ability to generate operating revenue depends upon our success in developing and marketing our products. We may not succeed in marketing our products and we may not receive sufficient revenues from product sales to meet our operating expenses or to earn a profit. In this regard, sales of Hextend to date have not been sufficient to generate an amount of royalties or licensing fees sufficient to cover our operating expenses. Factors that affect the marketing of our products include the following:

Hextend and our other plasma expander products will compete with other products that are commonly used in surgery and trauma care and sell at lower prices.

In order to compete with other products, particularly those that sell at lower prices, our products will have to provide medically significant advantages.

Physicians and hospitals may be reluctant to try a new product due to the high degree of risk associated with the application of new technologies and products in the field of human medicine.

Competing products are being manufactured and marketed by established pharmaceutical companies. For example, B. Braun/McGaw presently markets Hespan, an artificial plasma volume expander, and Hospira and Baxter International, Inc. manufacture and sell a generic equivalent of Hespan.

There also is a risk that our competitors may succeed in developing safer or more effective products that could render our products and technologies obsolete or noncompetitive.

*We Will Spend a Substantial Amount of Our Capital on Research and Development But We Might Not Succeed in Developing Products and Technologies That Are Useful In Medicine.*

We are attempting to develop new medical products and technologies.

Many of our experimental products and technologies have not been applied in human medicine and have only been used in laboratory studies on animals. These new products and



**Table of Contents**

technologies might not prove to be safe and efficacious in the human medical applications for which they were developed.

The experimentation we are doing is costly, time consuming and uncertain as to its results.

If we are successful in developing a new technology or product, refinement of the new technology or product and definition of the practical applications and limitations of the technology or product may take years and require the expenditure of large sums of money. For example, we spent approximately \$5,000,000 on research and development of Hextend before commencing clinical trials on humans during October 1996. The cost of completing the Hextend clinical trials and preparing our FDA application was approximately \$3,000,000. These costs exclude corporate overhead included in general and administrative costs in our financial statements.

Future clinical trials of new products such as PentaLyte may take longer and may be more costly than our Hextend clinical trials. The FDA permitted us to proceed directly into a Phase III clinical trial of Hextend involving only 120 patients because the active ingredients in Hextend had already been approved for use by the FDA in other products. Because PentaLyte contains a starch that has not been approved by the FDA for use in a plasma volume expander, we have had to complete a Phase I clinical trial of PentaLyte, and we will have to complete a Phase II clinical trial in addition to a Phase III trial, that will involve more patients than our Hextend trials. We do not yet know the scope or cost of the clinical trials that the FDA will require for PentaLyte or the other products we are developing.

*We Have Incurred Operating Losses Since Inception and We Do Not Know If We Will Attain Profitability*

Our net losses for the fiscal years ended December 31, 2002, 2003 and 2004 were \$2,844,932, \$1,742,074, and \$3,085,324, respectively. Our ability to generate sufficient operating revenue to earn a profit depends upon our success in developing and marketing or licensing our products and technology for medical use.

*We Might Not Be Able To Raise Additional Capital Needed To Pay Our Operating Expenses*

We plan to continue to incur substantial research, product development, and regulatory expenses, and we will need to raise additional capital to pay operating expenses until we are able to generate sufficient revenues from product sales, royalties, and license fees. We have not received an amount of royalties and licensing fees from the sale of Hextend sufficient to cover our operating expenses. As of December 31, 2004, we had \$1,370,762 of cash and cash equivalents on hand. At our current rate of spending, our cash on hand, reimbursable product development fees receivable from Summit, and anticipated royalties from Hospira, will last approximately 15 months. The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete clinical trials required to obtain FDA and foreign regulatory approval of our products, depends upon the amount of money we have. We plan to spend at least \$1,000,000 on clinical trials of PentaLyte. The costs of clinical trials and future research work are not presently

**Table of Contents**

determinable due to many factors, including the inherent uncertainty of those costs and the uncertainty as to the timing, source, and amount of capital that will become available for those projects. We have already curtailed the pace of our product development efforts due to the limited amount of funds available, and we may have to postpone further laboratory and clinical studies, unless our cash resources increase through a growth in revenues or additional equity investment or borrowing. Although we will continue to seek licensing fees from pharmaceutical companies for licenses to manufacture and market our products abroad, it is likely that additional sales of equity or debt securities will be required to meet our short-term capital needs. Sales of additional equity securities could result in the dilution of the interests of present shareholders. We may not be able to raise a sufficient amount of additional funds to permit us to develop and market our products. Unless we are able to generate sufficient revenue or raise additional funds when needed, it is likely that we will be unable to continue our planned activities, even if we are making progress with our research and development projects.

*If We Are Unable To Enter Into Additional Licensing Or Manufacturing Arrangements, We May Have to Incur Significant Expense To Acquire Manufacturing Facilities And A Marketing Organization*

We presently do not have adequate facilities or resources to manufacture our products and the ingredients used in our products. We plan to enter into arrangements with pharmaceutical companies for the production and marketing of our products. We have granted Hospira an exclusive license to manufacture and market Hextend in the United States and Canada, and we have granted CJ an exclusive license to manufacture and market Hextend and PentaLyte in Korea. We have also entered into an agreement with Summit to develop Hextend and PentaLyte for the Japanese market. Hospira's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire (this will begin to occur in 2019) and any third party obtains certain regulatory approvals to market a generic equivalent product in that country. CJ will not be able to commence sales of Hextend or PentaLyte in Korea until they obtain pricing approval. CJ's obligation to pay royalties on sales of Hextend and PentaLyte, respectively, will expire when the patents protecting those products in Korea expire. Although a number of other pharmaceutical companies have expressed their interest in obtaining licenses to manufacture and market our products in other countries, we might not be successful in negotiating other licensing arrangements. If licensing or manufacturing arrangements cannot be made on acceptable terms, we will have to construct or acquire our own manufacturing facilities and establish our own marketing organization, which would entail significant expenditures of time and money.

*Our Business Could Be Adversely Affected If We Lose the Services Of The Key Personnel Upon Whom We Depend*

During 2003, we lost our Chairman and Chief Executive Officer, Paul Segall, who passed away in June. Following the passing of Dr. Segall, we formed the Office of the President, a three-person executive office comprised of the three remaining founders: Dr. Hal Sternberg, Dr. Harold Waitz, and Judith Segall. The Office of the President is charged with assuming those executive duties previously attended to by Dr. Segall. We believe that the Office of the President has provided a smooth management transition without entailing additional operating costs. So long as the Office of

## **Table of Contents**

the President meets our needs, we will defer appointing a new chief executive officer until our cash flow improves and we have sufficient capital to finance the additional executive compensation expenses. It is not possible to determine what impact, if any, this will have on our operations. Scientific concerns, such as product development and laboratory research, will continue to be addressed primarily by Dr. Sternberg, the Vice-President of Research, who worked very closely with Dr. Segall for many years on all matters of scientific importance and strategy.

The loss of the services of any of our other executive officers could have a material adverse effect on us. We do not presently have long-term employment agreements with any of our executive officers because our present financial situation precludes us from making long-term compensation commitments in amounts commensurate with prevailing salaries of executive officers of similar companies in the San Francisco Bay Area. This may also limit our ability to engage a new Chief Executive Officer.

### **Risks Related to Our Industry**

We will face certain risks arising from regulatory, legal, and economic factors that affect our business and the business of other pharmaceutical development companies. Because we are a small company with limited revenues and limited capital resources, we may be less able to bear the financial impact of these risks than larger companies that have substantial income and available capital.

#### *If We Do Not Receive FDA and Other Regulatory Approvals We Will Not Be Permitted To Sell Our Products*

The products that we develop cannot be sold until the FDA and corresponding foreign regulatory authorities approve the products for medical use. Hextend has been approved for use in the United States, Canada and Korea only. We are beginning a Phase II clinical trial of PentaLyte to demonstrate that PentaLyte can be used safely and effectively as a plasma volume expander in surgery.

The need to obtain regulatory approval to market a new product means that:

We will have to conduct expensive and time consuming clinical trials of new products. We plan to spend at least \$1,000,000 for Phase II clinical trials of PentaLyte. However, the full cost of completing a Phase II clinical trial and future Phase III clinical trials necessary to obtain FDA approval of PentaLyte cannot be presently determined and may exceed our financial resources.

We will incur the expense and delay inherent in seeking FDA and foreign regulatory approval of new products. For example, 12 months elapsed between the date we filed our application to market Hextend in the United States and the date on which our application was approved. Approximately 36 months elapsed between the date we filed our application for approval to market Hextend in Canada, and the date on which our application was approved, even though we did not have to conduct any additional clinical trials.

**Table of Contents**

A product that is approved may be subject to restrictions on use.

The FDA can recall or withdraw approval of a product if problems arise.

We will face similar regulatory issues in foreign countries.

*Our Patents May Not Protect Our Products From Competition*

We have patents in the United States, Canada, several of the European Union countries, Australia, Israel, Russia, South Africa, South Korea, Japan, Hong Kong, Taiwan, China, and Singapore, and have filed patent applications in other foreign countries, for certain products, including Hextend, HetaCool, and PentaLyte. We might not be able to obtain any additional patents, and any patents that we do obtain might not be comprehensive enough to provide us with meaningful patent protection. Also, there will always be a risk that our competitors might be able to successfully challenge the validity or enforceability of any patent issued to us. The costs required to uphold the validity and prevent infringement of any patent issued to us could be substantial, and we might not have the resources available to defend our patent rights.

*The Price and Sale of Our Products May Be Limited By Health Insurance Coverage And Government Regulation*

Success in selling our products may depend in part on the extent to which health insurance companies, HMOs, and government health administration authorities such as Medicare and Medicaid will pay for the cost of the products and related treatment. Presently, most health insurance plans and HMOs will pay for Hextend when it is used in a surgical procedure that is covered by the plan. However, until we actually introduce a new product into the medical market place we will not know with certainty whether adequate health insurance, HMO, and government coverage will be available to permit the product to be sold at a price high enough for us to generate a profit. In some foreign countries, pricing or profitability of health care products is subject to government control which may result in low prices for our products. In the United States, there have been a number of federal and state proposals to implement similar government controls, and new proposals are likely to be made in the future.

**Risks Pertaining to Our Common Shares**

Before purchasing BioTime common shares or warrants, investors should consider the price volatility of our shares and warrants and the fact that we do not pay dividends.

*Because We Are a Drug Development Company, The Price Of Our Stock May Rise And Fall Rapidly*

The market price of BioTime shares and warrants, like that of the shares of many biotechnology companies, has been highly volatile. The price of BioTime shares and warrants may rise rapidly in response to certain events, such as the commencement of clinical trials of an experimental new drug, even though the outcome of those trials and the likelihood of ultimate FDA approval remain

**Table of Contents**

uncertain. Similarly, prices of BioTime shares and warrants may fall rapidly in response to certain events such as unfavorable results of clinical trials or a delay or failure to obtain FDA approval. The failure of our earnings to meet analysts' expectations could result in a significant rapid decline in the market price of our common shares and warrants. In addition, the stock market has experienced and continues to experience extreme price and volume fluctuations which have affected the market price of the equity securities of many biotechnology companies and which have often been unrelated to the operating performance of these companies. Broad market fluctuations, as well as general economic and political conditions, may adversely affect the market price of the common shares and warrants.

*Because BioTime Currently Does Not Meet Certain Exchange Continued Listing Requirements the Shares and Warrants Could Be Delisted*

We are presently not in compliance with some of the American Stock Exchange (the AMEX) continued listing standards in that we have shareholders' equity of less than \$6,000,000 and have incurred losses during each of the last four years, which could lead the AMEX to delist BioTime shares and warrants. The AMEX has granted us an extension of time until April 2005 to regain compliance with the continued listing standards based upon a plan of compliance that we submitted. In order to comply with the continued listing standards, we need to have a total market capitalization (based upon the market price of our outstanding common shares) of at least \$50,000,000 (of which \$15,000,000 must be part of the public float) or we must have positive shareholders' equity of at least \$6,000,000 by April 2005. At December 31, 2004, we had shareholders' equity of \$344,770, and the operating losses that we will incur during the first quarter of 2005 will reduce our shareholders' equity. Failure to regain compliance with the continued listing standards by the end of the extension period could result in our common shares and warrants being delisted from the AMEX. We plan to use our best efforts to maintain the AMEX listing of our common shares, but if the common shares were to be delisted by the AMEX, the market value and liquidity for the common shares would be adversely affected and it could be more difficult for us to raise capital in the future. If the common shares were no longer traded on the AMEX, they could be traded in the over-the-counter market on an electronic bulletin board established for securities that do not meet the listing requirements of the Nasdaq stock market or the major national securities exchanges. Also, if our common shares were to be delisted by the AMEX, the warrants would be delisted as well.

*If the Common Shares and Warrants Are Delisted from the AMEX They Would Be Subject to the So-called Penny Stock Rules That Impose Restrictive Sales Practice Requirements*

If the common shares and warrants are delisted from the AMEX they would be subject to the so-called penny stock rules that impose restrictive sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors. An accredited investor generally is a person who has a net worth in excess of \$1,000,000 or individual annual income exceeding \$200,000, or joint annual income with a spouse exceeding \$300,000. For transactions covered by this rule, the broker-dealer must make a special suitability determination for the purchaser and must have received the purchaser's written consent to the transaction prior to sale.

**Table of Contents**

This means that delisting could affect the ability of shareholders to sell their common shares and warrants in the secondary market.

The Securities and Exchange Commission (the Commission) has adopted regulations that define a penny stock to be any equity security that has a market price of less than \$5.00 per share or an exercise price of less than \$5.00 per share, subject to certain exceptions. AMEX listed securities are exempt from the definition of penny stock. If a transaction involving a penny stock is not exempt from the Commission's rule, a broker-dealer must deliver a disclosure schedule relating to the penny stock market to the investor prior to a transaction. The broker-dealer also must disclose the commissions payable to both the broker-dealer and the registered representative, current quotations for the penny stock, and, if the broker-dealer is the sole market-maker, the broker-dealer must disclose this fact and the broker-dealer's presumed control over the market. Finally, monthly statements must be sent disclosing recent price information for the penny stock held in the customer's account and information on the limited market in penny stocks.

*Because We Do Not Pay Dividends, Our Stock May Not Be A Suitable Investment For Anyone Who Needs To Earn Dividend Income*

We do not pay cash dividends on our common shares. For the foreseeable future we anticipate that any earnings generated in our business will be used to finance the growth of BioTime and will not be paid out as dividends to our shareholders. This means that our stock may not be a suitable investment for anyone who needs to earn income from their investments.

*BioTime Warrants Cannot Be Exercised Unless a Registration Statement is in Effect Under Federal and State Securities Laws.*

A registration statement under the Securities Act of 1933, as amended, must be in effect in order for warrant holders to exercise their BioTime warrants. This means that we will have to periodically update our registration statement and prospectus by filing post-effective amendments or by filing our annual report on Form 10-K, our quarterly reports on Form 10-Q, and current reports on Form 8-K as required under the Securities Exchange Act of 1934, as amended. We intend to use our best efforts to keep our registration statement effective. However, if we are unable to do so for any reason, warrant holders would not be able to exercise their warrants, even if the market price of our common shares was then greater than the exercise price.

So long as our common shares are listed on the AMEX, they will be exempt from registration or qualification under state securities laws, but that exemption would be lost if the shares were to be delisted from the AMEX and not subsequently listed on the Nasdaq Stock Market or a regional securities exchange for which an exemption would apply under the various state laws. If our common shares are not exempt from state registration or qualification, most states will require us to obtain a permit, issued through an application for registration or qualification, and to maintain that permit in effect in order for warrant holders in the state to exercise their warrants.

**Table of Contents****Item 2. Facilities.**

We occupy our office and laboratory facility in Berkeley, California under a lease that will expire on March 31, 2005. We presently occupy approximately 8,890 square feet of space and pay rent in the amount of \$11,696 per month. The facility we occupy has been sold and we are currently considering options for a new location.

**Item 3. Legal Proceedings.**

We are not presently involved in any material litigation or proceedings, and to our knowledge no such litigation or proceedings are contemplated.

**Item 4. Submission of Matters to a Vote of Security Holders.**

BioTime held its annual meeting of shareholders on December 10, 2004. At the meeting, the shareholders elected directors and voted to approve an amendment to our 2002 Stock Option Plan and to ratify the appointment of BDO Seidman, LLP as our independent auditors.

The following table presents the results of the vote for the election of directors.

Director	Votes For	Votes Withheld
Milton H. Dresner	15,961,285	219,222
Katherine Gordon	15,952,703	227,804
Valeeta Gregg	15,974,851	205,656
Judith Segall	15,991,495	189,012
Hal Sternberg	15,996,615	183,892
Harold Waitz	15,996,665	183,842
Michael D. West	15,962,602	217,905

There were 7,393,396 votes for the approval of the amendment of our 2002 Stock Option Plan, 421,932 votes against, 19,076 abstentions, and 8,346,103 broker non-votes. The amendment increased by 1,000,000 the number of common shares available under the Plan.

There were 16,121,273 votes for the ratification of the appointment of BDO Seidman, LLP as our independent auditors, 37,995 votes against, and 21,239 abstentions.

**Table of Contents****Part II****Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.**

BioTime common shares have been trading on the American Stock Exchange since August 31, 1999, and traded on the Nasdaq National Market from April 28, 1998 to August 30, 1999, and on the Nasdaq SmallCap Market from March 5, 1992 through April 27, 1998. The closing price of our common shares on the AMEX on March 4, 2005 was \$1.26.

Our common share purchase warrants have been trading on the AMEX since January 26, 2004. The closing price of our warrants on the AMEX on March 4, 2005 was \$0.32.

The following table sets forth the range of high and low sale prices for the common shares for the fiscal years ended December 31, 2003 and 2004 based on transaction data as reported by the AMEX.

Quarter Ended	High	Low
March 31, 2003	\$ 1.80	\$ 1.25
June 30, 2003	2.99	1.52
September 30, 2003	2.05	1.29
December 31, 2003	1.79	1.30
March 31, 2004	2.66	1.34
June 30, 2004	2.10	1.50
September 30, 2004	1.71	1.00
December 31, 2004	1.64	0.83

As of March 16, 2005, there were 5,929 holders of the common shares and 626 holders of the warrants, based upon the position listings.

BioTime has paid no dividends on its common shares since its inception and does not plan to pay dividends on its common shares in the foreseeable future.

The following table shows certain information concerning the options and warrants outstanding and available for issuance under all of our compensation plans and agreements as of December 31, 2004.



**Table of Contents**

Plan Category	Number of Shares to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights	Weighted Average Exercise Price of the Outstanding Options, Warrants, and Rights	Number of Shares Remaining Available for Future Issuance Under Equity Compensation Plans
Equity Compensation Plans Approved by Shareholders	1,092,164	\$4.00	1,213,336
Equity Compensation Plans Not Approved By Shareholders	100,000	\$4.00	

**Item 6. Selected Financial Data.**

The selected financial data as of, and for the periods ended, December 31, 2004, 2003, 2002, 2001, and 2000 presented below have been derived from the audited financial statements of BioTime. The selected financial data should be read in conjunction with our financial statements and notes thereto and Management's Discussion and Analysis of Financial Condition and Results of Operations included elsewhere herein.

**Statement of Operations Data:**

	2004	2003	Year Ended December 31, 2002	2001	2000
<b>REVENUE:</b>					
License fee	\$ 78,700	\$ 42,187	\$	\$	\$
Royalty from product sales	589,517	514,235	352,641	151,917	52,492
Reimbursed regulatory fees			34,379		
Grant income	20,160				
Total revenue	688,377	556,422	387,020	151,917	52,492
<b>EXPENSES:</b>					
Research and development	(1,123,261)	(903,018)	(1,103,490)	(1,685,168)	(3,362,841)
General and administrative	(1,484,372)	(1,260,712)	(1,318,159)	(1,961,342)	(1,779,931)
Total expenses	(2,607,633)	(2,163,730)	(2,421,649)	(3,646,510)	(5,142,772)
<b>INTEREST EXPENSE AND OTHER INCOME:</b>					
Interest expense	(1,148,888)	(1,090,612)	(830,952)	(278,576)	
Other income	32,338	1,038,366	20,649	114,344	165,256

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Total interest expense and other income	(1,116,550)	(52,246)	(810,303)	(164,232)	165,256
Foreign Income Tax Expense	(49,518)	(82,520)			

**Table of Contents**

	2004	2003	Year Ended December 31, 2002	2001	2000
NET LOSS	\$ (3,085,324)	\$ (1,742,074)	\$ (2,844,932)	\$ (3,658,825)	\$ (4,925,024)
BASIC AND DILUTED LOSS PER SHARE <sup>1</sup>	\$ (0.18)	\$ (0.12)	\$ (0.22)	\$ (0.30)	\$ (0.43)
COMMON AND EQUIVALENT SHARES USED IN COMPUTING PER SHARE AMOUNTS: BASIC AND DILUTED <sup>1</sup>	17,453,509	14,256,841	12,979,694	12,133,487	11,587,768

<sup>1</sup> The weighted average shares used in computing basic and diluted loss per share have been adjusted to give retroactive effect to shares issued in the rights offering completed on January 21, 2004.

**Balance Sheet Data:**

	December 31, 2004	December 31, 2003	December 31, 2002	December 31, 2001	December 31, 2000
Cash, cash equivalents and short term investments	\$ 1,370,762	\$ 717,184	\$ 1,284,432	\$ 1,652,748	\$ 1,318,338
Working capital	1,217,731	(2,087,234)	883,695	1,452,832	1,081,237
Total assets	1,521,589	1,071,545	1,496,081	1,941,375	1,677,484
Debentures, net of current portion and discount			2,168,804	1,731,122	
Shareholders' equity (deficit)	344,770	(2,430,551)	(1,171,146)	(99,094)	1,317,735

**Table of Contents**

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.**

**Overview**

Since its inception in November 1990, BioTime has been engaged primarily in research and development activities, which have culminated in the commercial launch of Hextend, our lead product, and a clinical trial of PentaLyte. Our operating revenues have been generated primarily from licensing fees and royalties on the sale of Hextend. Our ability to generate substantial operating revenue depends upon our success in developing and marketing or licensing our plasma volume expanders and organ preservation solutions and technology for medical use.

Most of our research and development efforts have been devoted to our first three blood volume replacement products: Hextend, PentaLyte, and HetaCool. By testing and bringing all three products to the market, we can increase our market share by providing the medical community with solutions to match patients' needs. By developing technology for the use of HetaCool in low temperature surgery, trauma care, and organ transplant surgery, we may also create new market segments for our product line.

Our first product, Hextend, is a physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hospira has an exclusive license to sell Hextend in the United States and Canada, and also has a right to obtain licenses to manufacture and sell other BioTime products. CJ has an exclusive license to manufacture and market Hextend in South Korea.

Under our License Agreement, Hospira will report sales of Hextend and pay us the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as we do not have sufficient sales history to accurately predict quarterly sales.

Royalties on sales that occurred during the fourth quarter of 2003 through the third quarter of 2004 are reflected in our financial statements for the year ended December 31, 2004. Revenues from the Hospira License Agreement for the year ended December 31, 2004 were \$589,517.

Royalties of \$165,321 on sales that occurred during the fourth quarter of 2004 will be reflected in our financial statements for the first quarter of 2005.

**Table of Contents**

The following graph illustrates the increase in our annual revenues from royalties and license fees for the years indicated. For the years 2000, 2001 and 2002, revenues consist of payments received under the Hospira License Agreement. For 2003 and 2004, revenues include payments received under the Hospira License Agreement and license fees from CJ Corp. that were recognized in 2003 and 2004.

We received \$589,517 in royalties from Hospira in 2004 based on Hextend sales. This represents an increase of 57% from \$375,337 in royalties on Hextend sales in 2003. During 2003, we received \$514,235 in total revenues from Abbott Laboratories, Hospira's former parent, which included the \$375,337 in royalties on sales, and \$138,897 of additional royalties due at that time to preserve certain rights under their license.

Hextend has become the standard plasma volume expander at a number of prominent teaching hospitals and leading medical centers. We believe that as Hextend use proliferates within the leading US hospitals, other smaller hospitals will follow their lead and accelerate sales growth.

We are commencing a Phase II clinical trial of PentaLyte in which PentaLyte will be used to treat hypovolemia in surgery. Our ability to commence and complete additional clinical studies of

**Table of Contents**

PentaLyte depends on our cash resources and the costs involved, which are not presently determinable. Clinical trials of PentaLyte in the United States may take longer and may be more costly than the Hextend clinical trials, which cost approximately \$3,000,000. The FDA permitted us to proceed directly into a Phase III clinical trial of Hextend involving only 120 patients because the active ingredients in Hextend had already been approved for use in plasma expanders by the FDA in other products. Because PentaLyte contains a starch (pentastarch) that has not been approved by the FDA for use in a plasma volume expander (although pentastarch is approved in the US for use in certain intravenous solutions used to collect certain blood cell fractions), we had to complete a Phase I clinical trial of PentaLyte, and we will have to complete a Phase II clinical trial in addition to a Phase III trial that will involve more patients than the Hextend trials. We estimate that a Phase II trial could be undertaken for approximately \$1,000,000, but we do not know yet the actual scope or cost of the clinical trials that the FDA will require for PentaLyte or the other products we are developing.

Plasma volume expanders containing pentastarch have been approved for use in certain foreign countries including Canada and those of the European Union and Japan. The regulatory agencies in those countries may be more willing to accept applications for regulatory approval of PentaLyte based upon clinical trials smaller in scope than those that may be required by the FDA. This would permit us to bring PentaLyte to market overseas more quickly than in the United States, provided that suitable licensing arrangements can be made with multinational or foreign pharmaceutical companies to obtain financing for clinical trials and manufacturing and marketing arrangements.

We are also continuing to develop solutions for low temperature surgery. Once a sufficient amount of data from successful low temperature surgery has been compiled, we plan to seek permission to use Hextend as a complete replacement for blood under near-freezing conditions. We currently plan to market Hextend for complete blood volume replacement at very low temperatures under the registered trademark HetaCool® after FDA approval is obtained.

In February 2001, we launched a research program using HetaCool in animal models of trauma at the State University of New York Health Science Center in Brooklyn. Preliminary laboratory results there have already supported the feasibility of using HetaCool to treat subjects following severe hemorrhage. The use of HetaCool at near-freezing temperatures also is being studied in animal models of cardiovascular surgery at the Texas Heart Institute in Houston. The project has been approved by the appropriate internal committees, and experimentation has begun.

These costs do not include the cost of developing Hextend, upon which HetaCool is based. Our scientists believe the HetaCool program has the potential to produce a product that could be used in very high fluid volumes (50 liters or more per procedure if HetaCool were used as an multi-organ donor preservation solution or to temporarily replace substantially all of the patient's circulating blood volume) in cardiovascular surgery, trauma treatment, and organ transplantation. However, the cost and time to complete the development of HetaCool, including clinical trials, cannot presently be determined.

Until such time as we are able to complete the development of PentaLyte and HetaCool and enter into commercial license agreements for those products and foreign commercial license

## **Table of Contents**

agreements for Hextend, we will depend upon royalties from the sale of Hextend by Hospira and CJ as our principal source of revenues.

Hospira has an option to obtain a license to market PentaLyte and HetaCool in the United States and Canada, and we would receive additional license fees if those options are exercised, in addition to royalties on subsequent sales of those products. We are discussing potential manufacturing, distributing, and marketing agreements with certain pharmaceutical companies for our products in other parts of the world.

The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete clinical trials required to obtain FDA and foreign regulatory approval of products, depends upon the amount of money we have. Future research and clinical study costs are not presently determinable due to many factors, including the inherent uncertainty of these costs and the uncertainty as to timing, source, and amount of capital that will become available for these projects. We have already curtailed the pace of our product development efforts due to the limited amount of funds available, and we may have to postpone further laboratory and clinical studies, unless our cash resources increase through growth in revenues, the completion of licensing agreements, additional equity investment, borrowing or third party sponsorship.

Because our research and development expenses, clinical trial expenses, and production and marketing expenses will be charged against earnings for financial reporting purposes, management expects that there will be losses from operations from time to time during the near future.

Hextend®, PentaLyte®, and HetaCool® are registered trademarks of BioTime.

## **Results of Operations**

### *Year Ended December 31, 2004 and Year Ended December 31, 2003*

For the year ended December 31, 2004, we recognized \$589,517 of royalty revenues, compared with \$514,235 recognized for the year ended December 31, 2003. This increase in royalties is attributable to an increase in product sales by Hospira. Under our License Agreement, Hospira reports sales of Hextend and pays us the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as we do not have sufficient sales history to accurately predict quarterly sales. For example, royalties on sales made during the fourth quarter of 2004 will not be recognized until the first quarter of fiscal year 2005.

During 2004, we recognized \$78,700 of license fees from CJ. We were actually paid a total of \$300,000, less \$49,518 of Korean taxes withheld and a \$30,000 finder's fee to a third party, but since completion dates for certain milestones that the license fees from CJ are tied to remain uncertain, the license fee has been deferred, and will be recognized as revenue over the life of the contract, which has been estimated to be approximately eight years based on the current expected life of the governing patent covering our products in Korea. The license fees recognized from CJ in

**Table of Contents**

2004 increased from the previous year, during which we recognized \$42,187 of license fees. The difference is attributable to the fact that the overall amount of money paid to us by CJ increased by the above-mentioned \$300,000 in 2004, resulting in a significantly greater amount to be apportioned out over the life of the contract.

During April 2004, we were awarded a research grant by the National Heart, Lung, and Blood Institute division of the National Institutes of Health ( NIH ) for use in the development of HetaCool. The grant is being used to fund a project entitled Resuscitating Blood-Substituted Hypothermic Dogs at the Texas Heart Institute in Houston under the guidance of Dr. George V. Letsou. Dr. Letsou is Associate Professor of Surgery and Director of the Heart Failure Center at the University of Texas Medical School in Houston, Texas. We were granted \$149,994 for the project during 2004, and as of December 31, 2004, we have submitted a request for reimbursement for \$20,160. Subject to availability of funds and satisfactory progress on the project, we may be granted an additional \$149,996 during 2005.

Research and development expenses increased to \$1,123,261 for the year ended December 31, 2004, from \$903,018 for the year ended December 31, 2003. The increase is chiefly attributable to an increase of \$127,919 in outside research for Phase II trials of PentaLyte. Also contributing to the overall increase in research and development costs were increases in research and development salaries and payroll taxes allocated to research and development of \$18,380, and an increase in fees paid to scientific consultants in the amount of \$72,100. Research and development expenses include laboratory study expenses, salaries, preparation of regulatory applications in the United States and Europe, manufacturing of solution for trials, and consultants fees.

General and administrative expenses increased to \$1,484,372 for the year ended December 31, 2004 from \$1,260,712 for the year ended December 31, 2003. The primary components of the increase were an increase in salaries allocated to general and administrative of \$84,980 due to hiring a new Vice-President of Business Development and Marketing, an increase in general and administrative consulting fees of \$98,756 due to our financial advisory services agreement with Greenbelt Corp., an increase in investor/public relations expenses of \$90,533 as we significantly increased our public relations efforts, an increase in printing costs of \$27,898, and an increase in patent and trademark expenses of \$9,701. These increases were offset to some extent by a decrease in expenses for our annual report and annual meeting of shareholders in the amount of \$29,386, a decrease in accounting costs of \$26,517, a decrease in expenses for outside services in the amount of \$12,023, and a decrease in travel and entertainment costs of \$25,984. General and administrative expenses include salaries allocated to general and administrative accounts, scientific consulting fees, expenditures for patent costs, trademark expenses, insurance costs allocated to general and administrative expenses, stock exchange-related costs, depreciation expense, shipping expenses, marketing costs, and other miscellaneous expenses.

Our interest expense increased by \$58,276 during 2004 because we recognized interest expense of approximately \$1.1 million when we retired our debenture debt in full in February 2004. This expense was offset by the fact that interest on the debentures was accrued for only one month in 2004 before the retirement of the debt, as compared with accrual for the entire twelve months in 2003.



**Table of Contents**

For the year ended December 31, 2004, Other Income decreased to \$32,338 from \$1,038,366 for the year ended December 31, 2003. Other Income for 2003 included a one-time payment of \$1,000,000 under a key man life insurance policy following the death of Chairman and CEO Paul Segall in 2003.

*Year Ended December 31, 2003 and Year Ended December 31, 2002*

For the year ended December 31, 2003, we recognized \$514,235 of royalty revenues, compared with \$352,641 recognized for the year ended December 31, 2002. This increase in royalties was attributable to an increase in product sales by Hospira and an increase in additional royalties to preserve certain rights.

During 2003, we recognized \$42,187 of license fees from CJ. We were actually paid a total of \$500,000, less \$80,000 of Korean taxes withheld and a \$50,000 finder's fee to a third party, but since completion dates for certain milestones that the license fees from CJ are tied to remain uncertain, the license fee has been deferred, and will be recognized as revenue over the life of the contract, which has been estimated to be approximately eight years based on the current expected life of the governing patent covering our products in Korea.

Research and development expenses decreased to \$903,018 for the year ended December 31, 2003, down from \$1,103,490 for the year ended December 31, 2002. The decrease was chiefly attributable to a significant decrease in research and development salaries and payroll taxes allocated to research and development of \$182,807 after a reallocation of resources from research and development to general and administrative, and a decrease in insurance costs allocated to research and development of \$24,314.

General and administrative expenses decreased slightly to \$1,260,712 for the year ended December 31, 2003 from \$1,318,159 for the year ended December 31, 2002. General and administrative expenses include salaries allocated to general and administrative accounts, scientific consulting fees, expenditures for patent costs, trademark expenses, insurance costs allocated to general and administrative expenses, stock exchange-related costs, depreciation expense, shipping expenses, and other miscellaneous expenses.

Our interest expense increased by \$259,660 during 2003 due to amortization of new costs incurred during 2003 associated with the warrants issued to certain of our debenture holders in exchange for the right to make scheduled interest payments in shares of BioTime stock. Ultimately, we did not exercise these rights.

For the year ended December 31, 2003, Other Income increased to \$1,038,366 from \$20,649 for the year ended December 31, 2002. The increase is attributable to \$1,000,000 of non-recurring insurance benefit received under a key man life insurance policy following the death of Chairman and CEO Paul Segall.

**Table of Contents**

*Taxes*

At December 31, 2004 we had a cumulative net operating loss carryforward of approximately \$42,476,000 for federal income tax purposes. Our effective tax rate differs from the statutory rate because we have recorded a 100% valuation allowance against our deferred tax assets, as we do not consider realization to be more likely than not.

**Liquidity and Capital Resources**

Since inception, we have primarily financed our operations through the sale of equity securities, licensing fees, and borrowings. During January 2004, we completed a subscription rights offer (the Rights Offer ) through which we raised gross proceeds of \$4,184,420 through the sale of 2,560,303 common shares and 1,280,073 warrants. This includes an additional \$600,000 that we raised following the completion of the Rights Offer by selling an additional 428,571 common shares and 214,284 warrants under a Standby Purchase Agreement to certain persons who acted as Guarantors of the Rights Offer. The common shares and warrants were sold as units for \$1.40 per unit. Each unit consisted of one common share and one-half of a warrant. Each full warrant will entitle the holder to purchase one common share for \$2.00 per share and will expire on January 14, 2007. We may redeem the warrants by paying \$.05 per warrant if the closing price of the common shares on the AMEX or any other national securities exchange or the Nasdaq Stock Market exceeds 200% of the exercise price of the warrants for any 20 consecutive trading days.

During February 2004, we eliminated \$3,350,000 of debenture indebtedness by using a portion of the proceeds of the Rights Offer to repay \$1,850,000 of debentures in cash, and by issuing a total of 1,071,428 common shares and 535,712 common share purchase warrants in exchange for \$1,500,000 of debentures held by certain persons who acted as Participating Debenture Holders under the Standby Purchase Agreement.

In consideration for their agreement to purchase up to \$2,250,000 of units if the subscription rights were not fully exercised, under the Standby Purchase Agreement we paid the Guarantors \$50,000 in cash and issued to them warrants to purchase 250,000 common shares, and we paid the Participating Debenture Holders \$100,000 in cash and issued to them warrants to purchase 500,000 common shares. The warrants issued to the Guarantors and Participating Debenture Holders have the same terms as the warrants we sold in the Rights Offer.

The major components of our net cash used in operations of approximately \$1.5 million in 2004 can be summarized as follows: we received approximately \$600,000 of royalty revenues from Hospira, we received \$300,000 from CJ, and we received \$300,000 from Summit, yielding a total influx of \$1.2 million in cash. Offsetting these amounts were total research and development expenditures of approximately \$1.1 million, administrative expenditures of approximately \$1.4 million, and approximately \$200,000 of interest paid to our debenture holders.

At our current rate of spending, our cash on hand, including \$1,370,762 we had on December 31, 2004, plus license fees receivable from Summit and anticipated royalties from Hospira, will last approximately 15 months.

## **Table of Contents**

We will need to obtain additional equity capital from time to time in the future, as long as the fees we receive from licensing our products to pharmaceutical companies, profits from sales of our products, and royalty revenues are not sufficient to fund our operations. Sales of additional equity securities could result in the dilution of the interests of present shareholders. The amount of license fees and royalties that may be earned through the licensing and sale of our products and technology, the timing of the receipt of license fee payments, and the future availability and terms of equity financing, are uncertain. The unavailability or inadequacy of financing or revenues to meet future capital needs could force us to modify, curtail, delay or suspend some or all aspects of our planned operations. To mitigate these factors, management has also initiated a cost-cutting plan. The principal components of this plan are reductions in the salaries of existing personnel and in discretionary general and administrative expenses such as public relations.

We have no contractual obligations as of December 31, 2004, with the exception of a fixed, non-cancellable operating lease on our office facilities in Berkeley, CA. Under this lease, we are committed to make payments of \$11,696 per month through May 31, 2005.

## **Critical Accounting Policies and Estimates**

Management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in conformity with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make judgments and estimates that affect the reported amounts of assets and liabilities, 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. We based our estimates on historical experience and on various other assumptions that we believed to be reasonable under the circumstances. Actual results may differ from such estimates under different assumptions or conditions. The following summarizes our critical accounting policies and significant estimates used in preparing our financial statements:

**Revenue recognition** - Royalty and license fee revenues consist of product royalty payments and fees under license agreements and are recognized when earned. Up-front nonrefundable fees where we have no continuing performance obligations are recognized as revenues when collection is reasonably assured. In situations where continuing performance obligations exist, up-front nonrefundable fees are deferred and amortized ratably over the performance period. If the performance period cannot be reasonably estimated, we amortize nonrefundable fees over the life of the contract until such time that the performance period can be more reasonably estimated. Milestones, if any, related to scientific or technical achievements are recognized in income when the milestone is accomplished if (a) substantive effort was required to achieve the milestone, (b) the amount of the milestone payment appears reasonably commensurate with the effort expended and (c) collection of the payment is reasonably assured.

We also defer costs, including finders' fees, which are directly related to license agreements for which revenue has been deferred. Deferred costs are charged to expense proportionally and over the same period that related deferred revenue is recognized as revenue. Deferred costs are net against deferred revenues in our balance sheet.

Grant income is recognized as revenue when earned.

**Table of Contents**

The application of our revenue recognition policy to significant agreements is discussed below.

Under the Hospira License Agreement, Abbott paid us \$2,500,000 of license fees between 1997 and 1999 based upon achievement of specified milestones. Such fees were recognized as revenue as the milestones were achieved. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Hospira's obligation to pay license fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

In addition to the license fees, Hospira will pay a royalty on annual net sales of Hextend. The royalty rate will be 5% plus an additional .22% for each increment of \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. Hospira's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales take place, as we do not have sufficient sales history to accurately predict quarterly sales. Revenues for the twelve months ending December 31, 2004 include royalties on sales made by Hospira and Abbott during the twelve months ended September 30, 2004. Royalties on sales made during the fourth quarter of 2004 will not be recognized by us until the first quarter of fiscal year 2005.

Under the Hospira License Agreement, we have the right to convert Hospira's exclusive license to a non-exclusive license or to terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, we would pay a termination fee in an amount ranging from the milestone payments made by Abbott to an amount equal to three times prior year net sales, depending upon when termination occurs. Management believes that the probability of payment of any termination fee is remote.

Under the CJ Agreement, CJ has paid us a total license fee of \$800,000 in two installments. The first installment of \$500,000, less \$80,000 of Korean taxes withheld, was paid during April 2003 and the second installment of \$300,000, less \$49,518 of Korean taxes withheld was paid during July, 2004. In connection with these installments, we have paid a total finder's fee of \$80,000 to an unrelated third party. We have not yet completed the development of PentaLyte, for which additional clinical trials in the United States are being planned. As the expected completion date is uncertain, the total license fee received through December 31, 2004 of \$800,000, net of the \$80,000 finder's fee, has been deferred and will be recognized as revenue over the life of the contract, which has been estimated to be approximately eight years based on the current expected life of the governing patent covering our products in Korea. In addition to the license fees, CJ will pay a royalty on sales of the licensed products. The initial royalty will be \$1.30 per 500 ml unit of product sold, but the royalty may increase up to a maximum of \$2.60 per 500 ml unit if the price approved by Korea's National Health Insurance increases in the future. CJ will

**Table of Contents**

be responsible for obtaining the regulatory approvals required to manufacture and market Hextend and PentaLyte, including conducting any clinical trials that may be required, and will bear all related costs and expenses.

Under the Summit Agreement, Summit has paid us \$300,000, and will pay us an additional \$450,000 by April 15, 2005, and an additional \$150,000 by October 31, 2005. A portion of the cash payments will be a partial reimbursement of BioTime's development costs of Hextend and a portion will be a partial reimbursement of BioTime's development costs of PentaLyte. Within ten days after we approve Summit's development plan for Hextend, we will pay Summit a one-time fee of \$130,000 for Summit's services in preparing the development plan. BioTime and Summit do not plan to manufacture and market Hextend and PentaLyte themselves. Instead, we will seek to license manufacturing and marketing rights to a third party such as a pharmaceutical company. When Hextend and PentaLyte are licensed and sold in Japan, the revenues from licensing fees, royalties, and net sales, and any other payments made for co-development, manufacturing, or marketing rights, will be shared between BioTime and Summit as follows: 40% to us and 60% to Summit. We will pay to Summit 8% of all net royalties that we actually receive from the sale of PentaLyte in the United States, plus 8% of any license fees that we receive in consideration of granting a license to develop, manufacture and market PentaLyte in the United States. As of December 31, 2004, revenue recognition of the payment of \$300,000 received from Summit has been deferred.

**Deferred Tax Asset Valuation Allowance** We record a valuation allowance to reduce our deferred tax assets when it is more likely than not, based upon currently available evidence and other factors, that we will not realize some portion of, or all of, the deferred tax assets. We base our determination of the need for a valuation allowance on an ongoing evaluation of current evidence including, among other things, estimates of future earnings and the expected timing of deferred tax asset reversals. We charge or credit adjustments to the valuation allowance to income tax expense in the period in which these determinations are made. If we determine that we would be able to realize any deferred tax assets in the future in excess of the net recorded amount, an adjustment to the deferred tax asset would increase income in the period this determination was made. Likewise, if we determine that we would not be able to realize all or part of our net deferred tax assets in the future, we would charge to operations an adjustment to the deferred tax asset in the period this determination was made.

**Recently issued accounting standards** In December 2004, the Financial Accounting Standards Board ( FASB ) issued SFAS No. 123R, Share-Based Payment, a revision and retitling of SFAS No. 123. SFAS No. 123(R) supersedes APB No. 25, and requires all share-based payments to employees, including grants of employee stock options, to be recognized in the financial statements based on their fair value. SFAS No. 123(R) is effective in the third quarter of 2005. We are evaluating the impact of the adoption of SFAS No. 123(R), but we do expect adoption to reduce our net earnings in 2005.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

We did not hold any market risk sensitive instruments as of December 31, 2004.

**Table of Contents**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Board of Directors and Shareholders  
BioTime, Inc.  
Berkeley, California

We have audited the accompanying balance sheets of BioTime, Inc. as of December 31, 2004 and 2003 and the related statements of operations, shareholders' equity (deficit), and cash flows for each of the three years in the period ended December 31, 2004. 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 Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the 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 financial statements, 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 financial statements referred to above present fairly, in all material respects, the financial position of BioTime, Inc. at December 31, 2004 and 2003, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2004, in conformity with accounting principles generally accepted in the United States of America.

/s/BDO SEIDMAN, LLP

San Francisco, California  
February 18, 2005

Table of ContentsItem 8. Financial Statements and Supplementary Data**BIOTIME, INC.****BALANCE SHEETS**

	December 31, 2004	December 31, 2003
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 1,370,762	\$ 717,184
Prepaid expenses and other current assets	122,225	289,865
Total current assets	1,492,987	1,007,049
EQUIPMENT, net of accumulated depreciation of \$568,557 and \$532,663	12,552	48,446
DEPOSITS AND OTHER ASSETS	16,050	16,050
<b>TOTAL ASSETS</b>	<b>\$ 1,521,589</b>	<b>\$ 1,071,545</b>
<b>LIABILITIES AND SHAREHOLDERS EQUITY (DEFICIT)</b>		
<b>CURRENT LIABILITIES</b>		
Accounts payable and accrued liabilities	\$ 275,256	\$ 408,891
Current portion of debentures, net of discount of \$664,608 in 2003		2,685,392
Total current liabilities	275,256	3,094,283
DEFERRED LICENSE REVENUE	901,563	407,813
<b>COMMITMENTS</b>		
<b>SHAREHOLDERS EQUITY (DEFICIT):</b>		
Common Shares, no par value, authorized 40,000,000 shares; issued and outstanding shares; 17,811,450 and 13,654,949	38,718,197	32,857,552
Contributed Capital	93,972	93,972
Accumulated deficit	(38,467,399)	(35,382,075)
Total shareholders equity (deficit)	344,770	(2,430,551)
<b>TOTAL LIABILITIES AND SHAREHOLDERS EQUITY (DEFICIT)</b>	<b>\$ 1,521,589</b>	<b>\$ 1,071,545</b>

See notes to financial statements.



**Table of Contents****BIOTIME, INC.****STATEMENTS OF OPERATIONS**

	2004	Year Ended December 31, 2003	2002
<b>REVENUE:</b>			
License fees	\$ 78,700	\$ 42,187	\$ 352,641
Royalty from product sales	589,517	514,235	352,641
Grant income	20,160		
Reimbursed regulatory fees			34,379
Total revenue	688,377	556,422	387,020
<b>EXPENSES:</b>			
Research and development	(1,123,261)	(903,018)	(1,103,490)
General and administrative	(1,484,372)	(1,260,712)	(1,318,159)
Total expenses	(2,607,633)	(2,163,730)	(2,421,649)
<b>INTEREST EXPENSE AND OTHER INCOME:</b>			
Interest expense	(1,148,888)	(1,090,612)	(830,952)
Other income	32,338	1,038,366	20,649
Total interest expense and other income	(1,116,550)	(52,246)	(810,303)
Foreign Taxes	(49,518)	(82,520)	
<b>NET LOSS</b>	<b>\$ (3,085,324)</b>	<b>\$ (1,742,074)</b>	<b>\$ (2,844,932)</b>
<b>BASIC AND DILUTED LOSS PER SHARE<sup>1</sup></b>	<b>\$ (0.18)</b>	<b>\$ (0.12)</b>	<b>\$ (0.22)</b>
<b>COMMON AND EQUIVALENT SHARES USED IN COMPUTING PER SHARE AMOUNTS:</b>			
<b>BASIC AND DILUTED<sup>1</sup></b>	<b>17,453,509</b>	<b>14,256,841</b>	<b>12,979,694</b>

See notes to financial statements.

<sup>1</sup> The weighted average shares used in computing basic and diluted loss per share have been adjusted to give retroactive effect to shares issued in the rights offer completed on January 21, 2004.

**Table of Contents****BIOTIME, INC.****STATEMENTS OF SHAREHOLDERS EQUITY (DEFICIT)**

	Common Shares		Contributed Capital	Accumulated Deficit	Total
	Number of Shares	Amount			
BALANCE AT JANUARY 1, 2002	11,627,316	\$ 30,602,003	\$ 93,972	\$ (30,795,069)	\$ (99,094)
Common Shares issued for services	10,000	30,000			30,000
Common shares issued for cash, net of placement fees of \$310,449	1,852,785	1,764,670			1,764,670
Issuance of warrants in connection with debt financing		60,390			60,390
Compensation benefits from revaluation of warrants		(82,180)			(82,180)
NET LOSS				(2,844,932)	(2,844,932)
BALANCE AT DECEMBER 31, 2002	13,490,101	32,374,883	93,972	(33,640,001)	(1,171,146)
Common Shares issued for services	100,000	155,000			155,000
Common shares issued for cash (exercise of warrants)	64,848	86,896			86,896
Options for services granted		12,760			12,760
Compensation benefits from revaluation of warrants		(11,716)			(11,716)
Warrants granted in exchange for PIK rights		239,729			239,729
NET LOSS				(1,742,074)	(1,742,074)
BALANCE AT DECEMBER 31, 2003	13,654,949	32,857,552	93,972	(35,382,075)	(2,430,551)
Common shares and warrants issued in Rights Offer, net of issuance cost of \$351,518	2,560,303	3,232,906			3,232,906
Common shares issued under Standby Purchase Agreement	428,571	600,000			600,000
Shares issued for retirement of debentures	1,071,428	1,842,176			1,842,176
Expense on re-pricing of warrants		6,135			6,135
Exercise of Options	16,199	18,307			18,307
Common Shares issued for services	80,000	122,800			122,800
Options granted for services		38,321			38,321
NET LOSS				(3,085,324)	(3,085,324)
	17,811,450	\$ 38,718,197	\$ 93,972	\$ (38,467,399)	\$ 344,770

BALANCE AT DECEMBER 31,  
2004

See Notes to Financial Statements.

**Table of Contents****BIOTIME, INC.****STATEMENTS OF CASH FLOWS**

	2004	Year Ended December 31, 2003	2002
<b>OPERATING ACTIVITIES:</b>			
Net loss	\$ (3,085,324)	\$ (1,742,074)	\$ (2,844,932)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	35,894	54,267	69,064
Amortization of debt discount	1,012,921	756,317	437,682
Issuance of common shares, options and warrants in exchange for services	146,270	151,344	134,695
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	(21,423)	(192,179)	11,745
Deposits and other assets		(4,800)	
Accounts payable and accrued liabilities	(118,784)	(84,832)	62,591
Deferred revenue	493,750	407,813	
Net cash used in operating activities	(1,536,696)	(654,144)	(2,129,155)
<b>INVESTING ACTIVITIES:</b>			
Purchase of equipment and furniture			(3,831)
Net cash used in investing activities			(3,831)
<b>FINANCING ACTIVITIES:</b>			
Payment of debt	(1,850,000)		
Borrowings under line of credit	4,184,420		2,075,119
Issuance of common shares for cash			2,075,119
Common shares placement costs	(162,453)		(310,449)
Net proceeds from exercise of common share options and warrants	18,307	86,896	
Net cash provided by financing activities	2,190,274	86,896	1,764,670
<b>NCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<b>653,578</b>	<b>(567,248)</b>	<b>(368,316)</b>
<b>CASH AND CASH EQUIVALENTS:</b>			
At beginning of period	717,184	1,284,432	1,652,748
At end of period	\$ 1,370,762	\$ 717,184	\$ 1,284,432
<b>NONCASH FINANCING AND INVESTING ACTIVITIES:</b>			
Issuance of Warrants for private placement costs	\$	\$ 239,729	\$ 163,583
	\$	\$	\$ 60,390

Issuance of Warrants related to debenture financing and line of credit agreement			
Conversion of debenture to common shares	\$ 1,500,000	\$	\$
Issuance of Warrants to Guarantors for participation in the Rights Offer	\$ 82,500	\$	\$

**Table of Contents**

		Year Ended December 31,	
	2004	2003	2002
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid for interest	\$ 175,552	\$ 335,000	\$ 323,452
Cash paid for income taxes	\$ 49,518	\$ 82,520	\$
See notes to financial statements.			(Concluded)

47

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**Table of Contents**

**BIOTIME, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**1. Organization**

*General* - BioTime, Inc. (the Company) was organized November 30, 1990 as a California corporation. The Company is a biomedical organization engaged in the development of synthetic plasma expanders, blood volume substitute solutions, and organ preservation solutions, for use in surgery, trauma care, organ transplant procedures, and other areas of medicine. The Company has in the past always been deemed a development stage enterprise, but has now moved beyond that designation due to several factors evident in 2004: significantly increasing revenues, another new manufacturing and distribution deal (with Summit Pharmaceuticals in Japan), regulatory approval for the Company's main product in Korea, a government research grant from the National Institute of Health, and commencement of Phase II trials for the company's second product, PentaLyte, thereby establishing the existence of a viable pipeline of products.

*Certain Significant Risks and Uncertainties* - The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include but are not limited to the following: the results of clinical trials of the Company's products; the Company's ability to obtain United States Food and Drug Administration and foreign regulatory approval to market its products; competition from products manufactured and sold or being developed by other companies; the price of and demand for Company products; the Company's ability to obtain additional financing and the terms of any such financing that may be obtained; the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products; the availability of ingredients used in the Company's products; and the availability of reimbursement for the cost of the Company's products (and related treatment) from government health administration authorities, private health coverage insurers and other organizations.

*Liquidity* - At December 31, 2004, BioTime had \$1,370,762 of cash on hand and working capital of \$1,217,731. At December 31, 2004 BioTime had a shareholder's equity of \$344,770 and an accumulated deficit of \$38,467,399. In January 2004, the Company completed a rights offering which raised gross proceeds of \$4,184,420 (See Note 4). The Company will continue to need additional capital and greater revenues to continue its current operations, to conduct clinical trials of PentaLyte, and to continue to conduct its product development and research programs. Sales of additional equity securities could result in the dilution of the interests of present shareholders. The Company is also continuing to seek new agreements with pharmaceutical companies to provide product and technology licensing fees and royalties. The availability and terms of equity financing and new license agreements are uncertain. The unavailability or inadequacy of additional financing or future revenues to meet capital needs could force the Company to modify, curtail, delay or suspend some or all aspects of its planned operations. To mitigate these factors, management has also initiated a cost-cutting plan. The principal components of this plan are reductions in the salaries of existing personnel and in discretionary general and administrative expenses such as public relations. As a result, management believes its existing cash is sufficient to allow the Company to operate through March 31, 2006.

**Table of Contents**

**2. Significant Accounting Policies**

*Financial Statement Estimates* - The preparation of financial statements in conformity with generally accepted accounting principles requires management to make 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. Actual results could differ from those estimates.

*Revenue recognition* - Royalty and license fee revenues consist of product royalty payments and fees under license agreements and are recognized when earned. Up-front nonrefundable fees where the Company has no continuing performance obligations are recognized as revenues when collection is reasonably assured. In situations where continuing performance obligations exist, up-front nonrefundable fees are deferred and amortized ratably over the performance period. If the performance period cannot be reasonably estimated, the Company amortizes nonrefundable fees over the life of the contract until such time that the performance period can be more reasonably estimated. Milestones, if any, related to scientific or technical achievements are recognized in income when the milestone is accomplished if (a) substantive effort was required to achieve the milestone, (b) the amount of the milestone payment appears reasonably commensurate with the effort expended and (c) collection of the payment is reasonably assured.

The Company also defers costs, including finders' fees, which are directly related to license agreements for which revenue has been deferred. Deferred costs are charged to expense proportionally and over the same period that related deferred revenue is recognized as revenue. Deferred costs are net against deferred revenues in the Company's balance sheet.

Grant income is recognized as revenue when earned.

*Cash and cash equivalents* - The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

*Concentration of credit risk* - Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company limits the amount of credit exposure of cash balances by maintaining its accounts in high credit quality financial institutions.

*Equipment* - Equipment is stated at cost. Equipment is being depreciated using the straight-line method over a period of thirty-six to eighty-four months.

*Patent costs* - Patent costs associated with obtaining patents on products being developed are expensed as research and development expenses when incurred. These costs totaled \$64,256, \$77,888, and \$196,580 for the years ended December 31, 2004, 2003, and 2002, respectively.

*Research and development* - Research and development costs are expensed when incurred and consist principally of salaries, payroll taxes, research and laboratory fees, hospital and consultant fees related to clinical trials, and the Company's PentaLyte solution for use in human clinical trials.



**Table of Contents**

*Income Taxes* - The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards ( SFAS ) No. 109, Accounting for Income Taxes, which prescribes the use of the asset and liability method whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized.

*Stock-based compensation* - The Company grants stock options for a fixed number of shares to employees with an exercise price equal to the fair value of the shares at the date of grant. The Company accounts for employee stock-based compensation in accordance with Accounting Principles Board Opinion ( APB ) No. 25, Accounting for Stock Issued to Employees. The Company accounts for stock-based awards to nonemployees in accordance with SFAS No. 123 Accounting for Stock-Based Compensation and Emerging Issues Task Force ( EITF ) Issue No. 96-18, Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods, or Services.

Had compensation cost for employee options granted in 2004, 2003, and 2002 under the Company's Option Plan been determined based on the fair value at the grant dates, as prescribed in SFAS No. 123, the Company's net loss and pro forma net loss per share would have been as follows:

	<b>Year Ended December 31,</b>		
	<b>2004</b>	<b>2003</b>	<b>2002</b>
Net Loss as reported	\$ (3,085,324)	\$ (1,742,074)	\$ (2,844,932)
Deduct: Stock-based compensation determined under the fair value method for all awards, net of tax effects	222,726	388,425	151,967
Pro forma net loss	\$ (3,308,050)	\$ (2,130,499)	\$ (2,966,899)
Basic and diluted net loss:			
Basic and diluted net loss per common share as reported:	\$ (0.18)	\$ (0.12)	\$ (0.22)
Pro forma basic and diluted loss per common share	\$ (0.19)	\$ (0.15)	\$ (0.23)

The fair value of each option grant is estimated using the Black-Scholes option-pricing model with the following assumptions during the applicable period:

**Table of Contents**

	<b>2004</b>	<b>2003</b>	<b>2002</b>
Average risk-free rate of return	2.71%-3.30%	1.95%-2.93%	2.95%-4.74%
Weighted average expected option life	4.97 years	4.8 years	5 years
Volatility rate	77.18%-83.55%	84.43%-84.57%	80.10%-82.25%
Dividend yield	0%	0%	0%

*Net Loss per share* - Basic net loss per share is computed by dividing net loss available to common stockholders by the weighted-average common shares outstanding for the period. Diluted net loss per share reflects the weighted-average common shares outstanding plus the potential effect of dilutive securities or contracts which are convertible to common shares such as options, warrants, convertible debt, and preferred stock (using the treasury stock method) and shares issuable in future periods, except in cases where the effect would be anti-dilutive. Diluted loss per share for the years ended December 31, 2004, 2003, and 2002 excludes any effect from 1,192,164 options and 3,153,191 warrants; 881,367 options and 226,595 warrants; and 838,033 options and 725,028 warrants, respectively, as their inclusion would be antidilutive.

In accordance with SFAS No. 128, *Earnings per Share*, the Company has adjusted its previously reported net loss per share for the year ended December 31, 2002 to give retroactive effect to shares issued in its January 21, 2004 rights offering (see Note 4). As the rights offering provided for stockholders to acquire shares of common stock at a price below fair value at the time of issuance, SFAS No. 128 requires that weighted average outstanding shares for all periods reported prior to the rights offering be retroactively adjusted for the dilutive effect of the rights offering. Accordingly, as a result of such retroactive adjustment, for the year ended December 31, 2002, the net loss per share decreased from \$(0.23) to \$(0.22), or \$0.01 per share.

*Comprehensive Loss* - SFAS No. 130, *Reporting Comprehensive Income*, establishes standards for reporting and displaying comprehensive income and its components (revenues, expenses, gains, and losses) in a full set of general-purpose financial statements. Comprehensive loss was the same as net loss for all periods presented.

*Fair value of financial instruments* - The carrying amount of the Company's financial instruments, consisting of cash, accounts receivable, and short-term payables, approximates their fair value due to their short-term maturity.

*Segment information* - The Company operates in the single segment of producing aqueous based synthetic solutions used in medical applications.

*Reclassification* - Certain prior year amounts have been reclassified to conform to the current year presentation.

*Recently issued accounting standards* - In December 2004, the Financial Accounting Standards Board ( FASB ) issued SFAS No. 123R, *Share-Based Payment*, a revision and retitling of SFAS No. 123. SFAS No. 123(R) supersedes APB No. 25, and requires all share-based payments to employees, including grants of employee stock options, to be recognized in the financial statements based on their fair value. SFAS No. 123(R) is effective in the third quarter of 2005. The Company is

**Table of Contents**

evaluating the impact of the adoption of SFAS No. 123(R), but does expect adoption to reduce its net earnings in 2005.

**3. Lines of Credit and Debentures**

The exercise price and number of common shares issuable upon the exercise of the warrants described below issued to Alfred D. Kingsley and the holders of the Company's debentures have been adjusted pursuant to the anti-dilution provisions of the respective warrant agreements to give retroactive effect to the Company's Rights Offer completed in January 2004.

In August 2001, the Company issued \$3,350,000 of debentures to an investor group. Interest on the debentures was payable at an annual rate of 10% and was payable semi-annually. Investors who purchased the debentures also received warrants to purchase a total of 525,688 common shares at an exercise price of \$6.37. The warrants expired on August 1, 2004. The fair value of \$1,596,124 allocated to the warrants was amortized using the interest method. As described below, the Company paid off the debenture indebtedness in full in February 2004.

During April 2003, holders of \$2,750,000 of principal amount of the debentures granted BioTime a pay in kind right allowing (but not requiring) BioTime to make interest payments in common shares instead of cash for the interest payments due during August 2003 and February 2004 (the PIK Right). BioTime retained the right to pay the interest due in cash.

Each debenture holder who agreed to grant BioTime the PIK Right received a three-year warrant entitling the holder to purchase BioTime common shares for \$1.47 per share. The number of shares covered by the warrants is the amount of debenture interest due in August 2003 and February 2004 divided by the \$1.47 exercise price. Warrants to purchase common shares were issued to participating debenture holders, including Alfred Kingsley. Mr. Kingsley agreed with BioTime that if BioTime had exercised the PIK right, he would have provided BioTime with the cash required to pay the interest due on any debentures held by persons who did not grant BioTime the PIK Right. In consideration of his agreement to do so, BioTime issued to Mr. Kingsley a warrant for 40,799 additional common shares, which is the amount of warrants that would have been issued had the debenture holders who did not grant BioTime the PIK Right, instead agreed to do so. Including this warrant, the participating debenture holders were granted warrants to purchase a total of 226,595 common shares.

The warrants granted in connection with the PIK rights will expire in three years and will not be exercisable thereafter. The warrants will be redeemable by BioTime at \$0.05 per warrant share if the closing price of the common shares on the American Stock Exchange exceeds 200% of the exercise price for 20 consecutive trading days.

The total fair value of the warrants of \$239,729 was determined using the Black-Scholes option pricing model with the following assumptions: contractual life of 3 years; risk-free interest rate of 2.0%; volatility of 79.87%; and no dividends during the expected term. The unamortized portion of the discount related to the debentures plus the fair value of the new warrants results in the new discount of \$1,280,965 as of the date the PIK Rights were issued. The Company accreted this new

**Table of Contents**

discount to interest expense over the remaining term of the debentures using the effective interest rate method.

In August 2003 and February 2004, BioTime paid cash for interest due to debenture holders and did not issue stock. The debentures were subsequently retired in February 2004, and the PIK rights were never utilized.

During February 2004, the Company eliminated its \$3,350,000 of debenture indebtedness by using a portion of the proceeds of its recently completed Rights Offer (see Note 4) to repay \$1,850,000 of debentures in cash, and by issuing a total of 1,071,428 common shares and 535,712 common share purchase warrants in exchange for \$1,500,000 of debentures held by certain persons who acted as Participating Debenture Holders under the Standby Purchase Agreement described in Note 4. As the fair value of the consideration of \$3,781,786 given to the debenture holders exceeded the carrying value of the debentures, BioTime recognized interest expense of \$1,106,392 relative to the cost incurred on the extinguishment of the debentures. The components of this charge are as follows: (1) a \$664,608 charge for unamortized discount of the warrants issued to the debenture holders at the time they acquired the debentures; (2) a \$265,000 charge for fees of \$100,000 of cash and 500,000 common share purchase warrants, bearing the same terms as those sold in the Rights Offer described in Note 4 and determined to have a fair market value of \$0.33 per warrant based on the AMEX closing price of \$0.33 on February 4, 2004, received by the Participating Debenture Holders under the Standby Purchase Agreement; and (3) a \$176,786 charge for the excess of the fair value of the 1,071,428 common shares and 535,712 warrants over the \$1,500,000 face value of debentures exchanged. The common shares and warrants were valued at the AMEX closing prices on February 4, 2004. BioTime now has no long-term debt.

**4. Shareholders Equity (Deficit)**

During January 2004, BioTime completed a subscription rights offer (the Rights Offer ) through which the Company raised gross proceeds of \$4,184,420 through the sale of 2,560,303 common shares and 1,280,073 warrants. This includes an additional \$600,000 that we raised following the completion of the Rights Offer by selling an additional 428,571 common shares and 214,284 warrants under a Standby Purchase Agreement to certain persons who acted as Guarantors of the Rights Offer. The common shares and warrants were sold as units for \$1.40 per unit. Each unit consisted of one common share and one-half of a warrant. Each full warrant entitles the holder to purchase one common share for \$2.00 per share and will expire on January 14, 2007. BioTime may redeem the warrants by paying \$.05 per warrant if the closing price of the common shares on the AMEX or any other national securities exchange or the Nasdaq Stock Market exceeds 200% of the exercise price of the warrants for any 20 consecutive trading days.

In consideration for their agreement to purchase up to \$2,250,000 of units if the subscription rights were not fully exercised, under the Standby Purchase Agreement, the Company paid the Guarantors \$50,000 in cash and issued to them warrants to purchase 250,000 common shares, which were accounted for as costs of the equity financing. Total cash costs for the Rights Offer, which were recorded as a reduction of the proceeds received were \$351,518. Also, the Company paid the Participating Debenture Holders \$100,000 in cash and issued to them warrants to purchase 500,000

**Table of Contents**

common shares, which were included in the computation of the cost on extinguishments of the debentures (See Note 3). The warrants issued to the Guarantors and Participating Debenture Holders have the same terms as the warrants the Company sold in the Rights Offer.

Additionally, the Company issued a total of 1,071,428 common shares and 535,712 common share purchase warrants in exchange for \$1,500,000 of debentures held by the Participating Debenture Holders (See Note 3).

The Rights Offer triggered the anti-dilution provisions contained in various warrant agreements previously issued by the Company. The resulting change in the exercise prices of the warrants was small and did not significantly change the fair market value of the warrants. Under these anti-dilution provisions, the number of shares issuable upon the exercise of the warrants increased by a total of 15,169 shares. The Company recognized a total charge to interest expense of \$6,135 relative to the adjustments of the exercise prices and the number of shares issuable upon the exercise of the warrants.

During April 1998, the Company entered into a financial advisory services agreement with Greenbelt, a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also shareholders of the Company. The Company agreed to indemnify Greenbelt and its officers, affiliates, employees, agents, assignees, and controlling person from any liabilities arising out of or in connection with actions taken on BioTime's behalf under the agreement. The agreement has been renewed each year. The Company agreed to pay Greenbelt \$60,000 in cash and to issue 100,000 common shares for the twelve months ending March 31, 2003, and \$90,000 in cash and 80,000 common shares for the twelve months ending March 31, 2004, and \$90,000 in cash and 60,000 common shares for the twelve months ending March 31, 2005. Of the final period's fees, \$22,500 in cash was paid following the renewal of the agreement, \$45,000 in cash was paid in the first quarter of 2005, 40,000 common shares were issued on January 2, 2005, and the balance of the cash is due to be paid, and the balance of the shares is due to be issued, on March 31, 2005.

Activity related to the Greenbelt agreement is presented in the table below:

	Balance included in Accounts Payable at January 1	Add: Cash- based expense accrued	Add: Stock- based expense accrued	Less: Cash payments	Less: Value of stock- based payments	Balance included in Accounts Payable at December 31,
2004	\$ 105,300	\$ 90,000	\$ 107,950	\$ (67,500)	\$ (122,800)	\$ 112,950
2003	\$ 131,250	\$ 82,500	\$ 121,550	\$ (75,000)	\$ (155,000)	\$ 105,300

On August 12, 2002, BioTime completed a private placement of 1,852,785 common shares for \$2,075,119 (\$1,764,670 net proceeds after cash placement fees of \$310,449) through Ladenburg Thalmann & Co. Inc. The Company has registered these shares for sale under the Securities Act of 1933, as amended. In connection with the offering, and in addition to the placement fees referred to

**Table of Contents**

above, the Company granted to Ladenburg Thalmann & Co. Inc., warrants to purchase 129,695 common shares at an exercise price of \$1.34 per share. The warrants are fully vested and non-forfeitable, and expire on August 11, 2007.

In May 2004, the Company issued to an outside consultant an option to purchase 200,000 common shares. The option vested over a two-year period. In November 2004, the Company cancelled the option and re-issued the same consultant a fully vested option to purchase 100,000 common shares, along with the right to collect \$5,000 per month in fees for each month in which services are rendered. Expense of \$30,046 for this option was recorded in general and administrative expense for the year ended December 31, 2004. The final fair value of this option was determined using the Black-Scholes options pricing model with the following assumptions: contractual life of 2.5 years; risk free interest rate of 3.30%; volatility of 82.09%; and no dividends during the expected life.

At December 31, 2004, 3,153,191 warrants to purchase common stock with a weighted average exercise price of \$2.07 and a weighted average remaining contractual life of 1.98 years were outstanding.

**5. Stock Option Plans**

During 1992, the Board of Directors of the Company adopted the 1992 Stock Option Plan (the 1992 Plan ). Options granted under the 1992 Plan expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Option Committee. As of December 31, 2004, options to purchase 305,500 shares had been granted and were outstanding at exercise prices ranging from \$1.55 to \$11.75 under the 1992 Plan. At December 31, 2004, no options were available for future grants under the 1992 Plan.

Of the options granted to consultants, options to purchase 60,000 common shares, granted to consultants in 1999, vested upon achievement of certain milestones. At December 31, 2004, all of these options had vested. During 2004, the Company recorded an expense of \$8,276 as a result of remeasurement of such options. The expense recognized on these options during the twelve months ended December 31, 2004 was recorded as a research and development expense.

During September 2002, the Company's board of directors adopted, and on October 28, 2002, the shareholders approved, a new stock option plan (the 2002 Plan ). The Plan was amended during December 2004 to increase the number of shares available for the issuance of options. Under the 2002 Plan, the Company has reserved 2,000,000 common shares for issuance under options granted to eligible persons. No options may be granted under the 2002 Plan more than ten years after the date the 2002 Plan was adopted by the Board of Directors, and no options granted under the 2002 Plan may be exercised after the expiration of ten years from the date of grant. Under the 2002 Plan, options to purchase common shares may be granted to employees, directors and certain consultants at prices not less than the fair market value at date of grant for incentive stock options and not less than 85% of fair market value for other stock options. These options expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Option Committee. The 2002 Plan also permits

**Table of Contents**

the Company to sell common shares to employees subject to vesting provisions under restricted stock agreements that entitle the Company to repurchase unvested shares at the employee's cost upon the occurrence of specified events, such as termination of employment. The Company may permit employees or consultants, but not executive officers or directors, who purchase stock under restricted stock purchase agreements to pay for their shares by delivering a promissory note that is secured by a pledge of their shares. At its annual meeting in December 2004, shareholders voted to increase the number of shares available under the plan by 1,000,000 shares. Under the 2002 Plan, as of December 31, 2004, the Company had granted to certain employees, consultants, and directors, options to purchase a total of 786,664 common shares at exercise prices ranging from \$1.00 to \$4.00 per share; and had 1,213,336 options available for future grants. Option activity under the Plans is as follows:

	<b>Number of Shares</b>	<b>Weighted Average Exercise Price</b>
Outstanding, January 1, 2002	485,701	\$ 8.78
Granted (weighted average fair value of \$0.59 share)	523,332	3.78
Exercised	(0)	(0)
Forfeited/expired	(174,000)	(11.38)
Outstanding, December 31, 2002	835,033	5.38
Granted (weighted average fair value of \$0.92 share)	98,000	1.62
Exercised	0	0
Forfeited/expired	(10,000)	12.85
Outstanding, December 31, 2003	923,033	4.91
Granted (weighted average fair value of \$0.96 share)	363,332	1.99
Exercised	(16,201)	1.13
Forfeited/expired	(178,000)	5.25
Outstanding, December 31, 2004	1,092,164	\$ 4.00

**Table of Contents**

Additional information regarding options outstanding as of December 31, 2004 is as follows:

Range of Exercise Prices	Number Outstanding	Options Outstanding		Options Exercisable	
		Weighted Avg. Remaining Contractual Life (yrs)	Weighted Avg. Exercise Price	Number Exercisable	Weighted Avg. Exercise Price
\$1.00-3.00	526,664	3.84	\$ 2.00	399,164	\$ 2.00
4.00-6.00	430,000	2.54	4.35	430,000	4.35
7.25-9.00	56,000	0.83	8.03	56,000	8.03
11.50-13.00	79,500	3.27	11.69	79,500	11.69
\$1.00-\$13.00	1,092,164	3.14	\$ 4.00	964,664	\$ 4.20

**6. Commitments**

The Company occupies its office and laboratory facility in Berkeley, California under a lease that will expire on March 31, 2005. The Company presently occupies approximately 8,890 square feet of space with a monthly rent of \$11,696. Rent expense totaled \$140,352, \$139,329, and \$136,035 for the years ended December 31, 2004, 2003, and 2002, respectively. The facility the Company occupies has been sold and the Company is currently considering options for a new location. The Company will make \$35,088 in payments under this lease in 2005.

*Indemnification* Under the Company's bylaws, the Company has agreed to indemnify its officers and directors for certain events or occurrences arising as a result of the officer or director serving in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The maximum potential amount of future payments that the Company could be required to make under the indemnification provisions contained in the Company's bylaws is unlimited. However, the Company has a directors and officers liability insurance policy that limits its exposure and enables it to recover a portion of any future amounts paid. As a result of the insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal and no liabilities were recorded for these agreements as of December 31, 2004.

Under the License Agreement and the CJ Agreement, the Company will indemnify Abbott, Hospira, and/or CJ for any cost or expense resulting from any third party claim or lawsuit arising from alleged patent infringement, as defined, by Abbott, Hospira, or CJ relating to actions covered by the License Agreement or the CJ Agreement, respectively. Management believes that the possibility of payments under the indemnification clauses is remote. Therefore, the Company has not recorded a provision for potential claims as of December 31, 2004. The Company enters into indemnification provisions under (i) agreements with other companies in the ordinary course of business, typically with business partners, licensees, contractors, hospitals at which clinical studies are conducted, and landlords, and (ii) agreements with investors, underwriters, investment bankers, and financial advisers. Under these provisions, the Company generally agrees to indemnify and hold harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of the Company's activities or, in some cases, as a result of the indemnified party's activities under the agreement. These indemnification provisions often include indemnifications relating to representations made by the Company with regard to intellectual property rights. These indemnification provisions



generally survive termination of the underlying agreement. In some cases, the Company has obtained liability insurance providing coverage that limits its exposure for

**Table of Contents**

indemnified matters. The maximum potential amount of future payments that the Company could be required to make under these indemnification provisions is unlimited. The Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, the Company believes the estimated fair value of these agreements is minimal. Accordingly, the Company has no liabilities recorded for these agreements as of December 31, 2004.

**7. Income Taxes**

The primary components of the net deferred tax asset are:

	Year Ended December 31, 2004	Year Ended December 31, 2003
Deferred tax asset:		
Net operating loss carryforwards	\$ 15,170,000	\$ 14,775,000
Research & development and other credits	1,641,000	1,509,000
Other, net	421,000	278,000
Total	17,232,000	16,562,000
Valuation allowance	(17,232,000)	(16,562,000)
Net deferred tax asset	\$ -0-	\$ -0-

Income taxes differed from the amounts computed by applying the U.S. federal income tax of 34% to pretax losses from operations as a result of the following:

<b>Year Ended December 31,</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>
Computed tax benefit at federal statutory rate	34%	34%	34%
Permanent differences, primarily nondeductible interest	(13%)	(18%)	(7%)
Losses for which no benefit has been recognized	(30%)	(30%)	(34%)
State tax benefit, net of effect on federal income taxes	6%	6%	6%
Research and development and other credits	3%	8%	3%
Foreign taxes	(2%)	(5%)	0%
Other	0%	0%	(2%)
	(2%)	(5%)	0%

No tax benefit has been recorded through December 31, 2004 because of the net operating losses incurred and a full valuation allowance provided. A valuation allowance is provided when it is more likely than not that some portion of the deferred tax asset will not be realized. The Company established a 100% valuation allowance for all periods presented due to the uncertainty of realizing

**Table of Contents**

future tax benefits from its net operating loss carryforwards and other deferred tax assets.

As of December 31, 2004, the Company has net operating loss carryforwards of approximately \$42,476,000 for federal and \$12,483,000 for state tax purposes, which begin to expire during 2005. In addition, the Company has tax credit carryforwards for federal and state tax purposes of \$942,000 and \$699,000, respectively, which will begin to expire in 2006.

Internal Revenue Code Section 382 places a limitation (the Section 382 Limitation) on the amount of taxable income that can be offset by net operating loss (NOL) carryforwards after a change in control (generally greater than 50% change in ownership within a three-year period) of a loss corporation. California has similar rules. Generally, after a control change, a loss corporation cannot deduct NOL carryforwards in excess of the Section 382 Limitation. Due to these change in ownership provisions, utilization of the NOL and tax credit carryforwards may be subject to an annual limitation regarding their utilization against taxable income in future periods.

**8. Related Party Transactions**

No consulting fees were paid to any members of the Board of Directors during the years ended December 31, 2004, 2003, and 2002.

**9. Proceeds From Key Man Policy**

On June 23, 2003, BioTime Chairman and Chief Executive Officer Paul Segall passed away. The Company maintained a key man life insurance policy on the life of Dr. Segall in the amount of \$1,000,000. The Company collected the insurance proceeds and recognized the gain from this claim in the third quarter of 2003. To address the business needs created by the loss of Dr. Segall, the Company has created the Office of the President, a three-person executive office comprised of the three remaining founders: Dr. Hal Sternberg, Dr. Harold Waitz, and Judith Segall. The Office of the President is charged with assuming those executive duties previously attended to by Paul Segall. BioTime believes that the Office of the President has provided a smooth management transition without entailing additional operating costs.

The appointment of a new chief executive officer from outside its present management team could entail additional executive compensation cost that would be burdensome on the Company and could require the curtailment of other operating expenses. Accordingly, so long as the Office of the President meets the Company's needs, the Company will defer appointing a new chief executive officer until its cash flow improves and it obtains sufficient new capital to finance the additional executive compensation expenses. It is not possible to determine what impact, if any that, this will have on BioTime's operations. Scientific concerns of the Company, such as product development and laboratory research, will continue to be addressed primarily by Dr. Sternberg, the Vice President of Research, who worked very closely with Paul Segall for many years on all matters of scientific import and strategy.

**Table of Contents****10. Quarterly Results (Unaudited)**

Summarized unaudited results of operations for each quarter of the years ended December 31, 2004 and 2003 are as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Fiscal Year Ended December 31, 2004					
Revenue	\$ 130,700	\$ 195,337	\$ 170,381	\$ 191,959	\$ 688,377
Net Income (Loss)	\$(1,642,942)	\$(442,268)	\$(452,060)	\$(548,054)	\$(3,085,324)
Basic and Diluted Net Income (Loss) per share <sup>1</sup> :	\$ (0.10)	\$ (0.02)	\$ (0.03)	\$ (0.03)	\$ (0.18)
Fiscal Year Ended December 31, 2003					
Revenue	\$ 96,622	\$ 97,297	\$ 109,870	\$ 252,633	\$ 556,422
Net Loss	\$(751,129)	\$(754,872)	\$ 362,020	\$(598,093)	\$(1,742,074)
Basic and Diluted Net Loss per share <sup>1</sup> :	\$ (0.05)	\$ (0.05)	\$ 0.03	\$ (0.04)	\$ (0.12)

<sup>1</sup> The weighted average shares used in computing basic and diluted loss per share have been adjusted to give retroactive effect to shares issued in the rights offering completed on January 21, 2004. The sum of quarterly basic and diluted net loss per share does not necessarily equal total year to date basic and diluted net loss per share due to rounding differences.

**11. Enterprise-wide Disclosures***Geographic Area Information*

Revenues, including license fees and royalties, by geographic area are based on the country of domicile of the counterparty to the agreement.

<b>Year ending December 31,</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>
<i>Revenues</i>			
Domestic	\$ 609,677	\$ 514,235	\$ 387,020
Korea	78,700	42,187	
Total revenues	\$ 688,377	\$ 556,422	\$ 387,020

**Table of Contents**

All of the Company's assets are located at its Berkeley, California facility.

**Major Customers**

The Company has two major customers comprising significant amounts of total revenues as follows:

<b>Year ending December 31, % of Total Revenues</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>
<b>Hospira</b>	86%	92%	100%
<b>CJ Corp</b>	11%	8%	

**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Matters required to be reported under paragraph (a) of Item 304 of Regulation S-K have been previously reported. No matter described in paragraph (b) of Item 304 has occurred.

**Item 9A. Controls and Procedures.***Evaluation of Disclosure Controls and Procedures*

Our management, including its principal executive officers and its principal financial officer, have reviewed and evaluated our disclosure controls and procedures as of a date within ninety (90) days of the filing date of this Form 10-K annual report. Following this review and evaluation, management has collectively determined that our disclosure controls and procedures are sufficient to ensure that material information relating to BioTime with respect to the fourth quarter of 2004 was made known to them.

**PART III****Item 10. Directors and Executive Officers of the Registrant.****Directors and Executive Officers**

The names and ages of the directors and executive officers of BioTime are as follows:

**Hal Sternberg, Ph.D.**, 51, is our Vice President of Research and a Member of the Office of the President, and has served on the Board of Directors since 1990. Dr. Sternberg was a visiting scientist and research Associate at the University of California at Berkeley from 1985-1988, where he supervised a team of researchers studying Alzheimer's Disease. Dr. Sternberg received his Ph.D.

**Table of Contents**

from the University of Maryland in Biochemistry in 1982, and has been a BioTime employee since the Company's inception in 1990.

**Harold Waitz, Ph.D.**, 62, is our Vice President of Engineering and Regulatory Affairs and a member of the Office of the President, and has been a BioTime employee and served on the Board of Directors since 1990. He received his Ph.D. in Biophysics and Medical Physics from the University of California at Berkeley in 1983.

**Judith Segall**, 51, is our Vice President of Operations and Secretary and a member of the Office of the President, and has served on the Board of Directors from 1990 through 1994, and from 1995 through the present date. Ms. Segall received a B.S. in Nutrition and Clinical Dietetics from the University of California at Berkeley in 1989, and has been a BioTime employee since the Company's inception in 1990.

**Milton H. Dresner**, 79, has served on the Board of Directors since 1998. Mr. Dresner is a private investor and principal of Milton Dresner Investments. Since 1950, Mr. Dresner has been the Co-Chairman of the Highland Companies, a diversified organization that has been engaged in the development and ownership of residential and industrial real estate. Mr. Dresner serves as a director of Avatar Holdings, Inc., a real estate development company.

**Katherine Gordon, Ph.D.**, 50, has served on the Board of Directors since June 2001. Dr. Gordon is currently Director of Business Development of Harvard Medical School. Prior to her appointment at Harvard in June, 2004, Dr. Gordon was head of corporate development for NovaNeuron, a molecular neurobiology company. Prior to joining NovaNeuron in 2003, Dr. Gordon was Senior Vice President of MitoKor, a company discovering novel therapeutics that act by modulating the activity of mitochondria. Dr. Gordon founded neuroscience company Apollo BioPharmaceutics in 1992 and ran the company as Chief Executive Officer until its acquisition by MitoKor, Inc. in 2001. Prior to founding Apollo BioPharmaceutics, Dr. Gordon was Associate Director at Genzyme Corporation. Dr. Gordon obtained her Ph.D. from Wesleyan University in 1982 and was a post-doctoral fellow at Yale University.

**Michael D. West, Ph.D.**, 51, has served on the Board of Directors since 2002. Dr. West is the Chairman and President of Advanced Cell Technology, Inc. of Worcester, Massachusetts, a company focused on the medical applications of nuclear transfer (cloning) and embryonic stem cell technologies. Dr. West founded Geron Corporation, in 1990 where he served on the board of directors and in a number of executive positions, including as Vice President of New Technologies from 1993 to 1998, and as a director from inception to 1998, at which time he began working for Advanced Cell. Geron Corporation is engaged in the research and development of diagnostic and therapeutic products for the treatment of cancer and degenerative diseases. Dr. West organized and managed the collaboration that led to the discovery of human embryonic stem and human embryonic germ cells. He received his Ph.D. from Baylor College of Medicine in 1989 concentrating on the biology of cellular aging.

**Valeta Gregg**, 52, joined the Board of Directors during October 2004. Ms. Gregg is Vice President and Assistant General Counsel, Patents of Regeneron Pharmaceuticals, Inc., a Tarrytown,

## **Table of Contents**

New York based company engaged in the development of pharmaceutical products for the treatment of a number of serious medical conditions, including cancer, diseases of the eye, rheumatoid arthritis and other inflammatory conditions, allergies, asthma, and obesity. Prior to joining Regeneron in 2002, Ms. Gregg worked as a patent attorney, at Klauber & Jackson in Hackensack, New Jersey from 2001 to 2002, and for Novo Nordisk A/S and its United States subsidiary from 1996 to 2001, and for Fish & Richardson, P.C., Menlo Park, California from 1994 to 1996. Ms. Gregg received her law degree from University of Colorado School of Law in 1992 and received a Ph.D in Biochemistry from the University of Alberta in 1982.

## **Executive Officers**

Hal Sternberg, Harold Waitz, Judith Segall, Jeffrey B. Nickel, and Steven Seinberg are the only executive officers of BioTime. Following the death of Dr. Paul Segall, BioTime's Chairman and Chief Executive Officer in June 2003, the Board of Directors appointed Hal Sternberg, Harold Waitz, and Judith Segall to serve as members of the Office of the President. The members of the Office of the President collectively exercise the powers of the Chief Executive Officer.

**Steven A. Seinberg, J.D.**, 38, became Chief Financial Officer and Treasurer during August 2001. Prior to assuming these positions, Mr. Seinberg worked for over five years as BioTime's Director of Financial and Legal Research, a position that involved, among other duties, contract modifications and management of our intellectual property portfolio. Mr. Seinberg received a J.D. from Hastings College of the Law in San Francisco in 1994.

**Jeffrey B. Nickel, Ph.D.**, 61, became Vice President of Business Development and Marketing during June 2004 and served on the Board of Directors from 1997 until June 2004. Dr. Nickel was the President of Nickel Consulting through which he served as a consultant to companies in the pharmaceutical and biotechnology industries from 1990 until becoming Vice President of BioTime. Prior to starting his consulting business, Dr. Nickel served in a number of management positions for Syntex Corporation and Merck & Company. Dr. Nickel received his Ph.D. in Organic Chemistry from Rutgers University in 1970.

There are no family relationships among our directors or officers.

## **Committees of the Board**

The Board of Directors has an Audit Committee, a Compensation Committee and a Nominating Committee. Each of those committees is composed of three directors who are independent in accordance with Section 121(A) of the American Stock Exchange (AMEX) listing standards and Section 10A-3 under the Securities Exchange Act of 1934, as amended.

The members of the Audit Committee are Katherine Gordon, Valeta Gregg, and Michael West. The Audit Committee met 6 times during the fiscal year ended December 31, 2004. The purpose of the Audit Committee is to recommend the engagement of our independent auditors and to review their performance, the plan, scope and results of the audit, and the fees paid to the corporation's independent auditors. The Audit Committee also will review our accounting and financial reporting

## **Table of Contents**

procedures and controls and all transactions between us and our officers, directors, and shareholders who beneficially own 5% or more of the common shares. A copy of the Audit Committee Charter has been posted on our internet website and can be found at [www.biotimeinc.com](http://www.biotimeinc.com).

The members of the Nominating Committee are Milton Dresner, Katherine Gordon, and Michael West. The Nominating Committee was formed during 2004. The purpose of the Nominating Committee is to recommend to the Board of Directors individuals qualified to serve as directors and on committees of the Board.

The Nominating Committee will also consider nominees proposed by shareholders; provided that they notify the Nominating Committee in writing at least 120 days before the date of the next annual meeting and they and the nominee provide the Nominating Committee with all information that the Nominating Committee may reasonably request regarding the nominee no later than 90 days prior to the annual meeting. A copy of the Nominating Committee Charter has been posted on our internet website and can be found at [www.biotimeinc.com](http://www.biotimeinc.com).

The Nominating Committee has not set any specific minimum qualifications that a prospective nominee would need in order to be recommended by the Nominating Committee or to serve on the Board or Directors. Rather, in evaluating any new nominee or incumbent director, the Committee will consider whether the particular person has the management, financial, scientific, and industry knowledge, skills, experience, and expertise needed to manage our affairs in light of the skills, experience and expertise of the other members of the Board as a whole. The Committee will also consider whether including a prospective director on the Board will result in a Board composition that complies with (a) applicable state corporate laws, (b) applicable federal and state securities laws, and (c) the rules of the AMEX and the SEC;

The members of the Compensation Committee are Milton Dresner, Katherine Gordon, and Michael West. The Compensation Committee was formed during 2004. The Compensation Committee oversees our compensation and employee benefit plans and practices, including executive compensation arrangements and incentive plans. The Compensation Committee administers our 2002 Stock Option Plan and makes grants of options to key employees, consultants, scientific advisory board members and independent contractors, but not to officers or directors. Grants of options to officers and directors may be recommended by the Compensation Committee but must be approved by the Board of Directors. A copy of the Nominating Committee Charter is available upon request.

## **Compensation of Directors**

The four directors who were not employees each received either \$10,000 in cash and options to purchase 10,000 common shares exercisable at \$2.17 per share, which was the closing price for BioTime stock on the American Stock Exchange on March 8, 2004, or options to purchase 20,000 common shares exercisable at \$2.17 per share. The options granted to these directors vested and became exercisable in equal quarterly installments based on continued service on the Board of Directors. Directors and members of committees of the Board of Directors who are BioTime employees are not compensated for serving as directors or attending meetings of the Board or



**Table of Contents**

committees of the Board. Directors are entitled to reimbursements for their out-of-pocket expenses incurred in attending meetings of the Board or committees of the Board. Directors who are BioTime employees are also entitled to receive compensation in such capacity.

**Code of Ethics**

We have adopted a Code of Ethics that applies to our principal executive officers, our principal financial officer and accounting officer, our other executive officers, and our directors. The purpose of the Code of Ethics is to promote (i) honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (ii) full, fair, accurate, timely and understandable disclosure in reports and documents that we file with or submit to the Securities and Exchange Commission and in our other public communications; (iii) compliance with applicable governmental rules and regulations, (iv) prompt internal reporting of violations of the Code to an appropriate person or persons identified in the Code; and (v) accountability for adherence to the Code. A copy of our Code of Ethics has been posted on our internet website and can be found at [www.biotimeinc.com](http://www.biotimeinc.com).

**Item 11. Executive Compensation**

We do not have long term employment agreements with our executive officers. However, each executive officer has executed an Intellectual Property Agreement which provides that BioTime is the owner of all inventions developed by the executive officer during the course of his or her employment.

The following table summarizes certain information concerning the compensation paid during the past three fiscal years to each of the current members of the Office of the President.

**SUMMARY COMPENSATION TABLE**

Name and Principal Position	Year Ended	Annual Compensation	Long-Term Compensation		
		Salary(\$) (Shares)	Bonus	Stock	Options
Hal Sternberg	December 31, 2004	\$ 87,167	\$		50,000
Vice President of Research	December 31, 2003	\$ 72,000	\$		
Member, Office of the President	December 31, 2002	\$ 72,000	\$		90,000
Harold Waitz	December 31, 2004	\$ 87,167	\$		50,000
Vice President of Engineering	December 31, 2003	\$ 72,000	\$		
Member, Office of the President	December 31, 2002	\$ 72,000	\$		80,000
Judith Segall	December 31, 2004	\$ 108,000	\$		50,000
Vice President of Operations		\$ 90,000	\$		

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	December 31, 2003			
Corporate Secretary	December 31, 2002	\$ 72,000	\$	80,000
Member, Office of the President				

**Table of Contents****Stock Options**

The following table summarizes certain information concerning stock options held by each member of the Office of the President as of December 31, 2004.

**Aggregated Options Exercised in Last Fiscal Year,  
and Fiscal Year-End Option Values**

Name	Number of Shares	Value Realized (\$)	Number of		Value of Unexercised In-the-Money Options at	
			Unexercised Options at December 31, 2004	Unexercisable	at December 31, 2004	Unexercisable
Judith Segall		\$	92,500	37,500	\$	\$
Hal Sternberg		\$	102,500	37,500	\$	\$
Harold Waitz		\$	92,500	37,500	\$	\$

**Item 12. Security Ownership of Certain Beneficial Owners and Management.**

The following table sets forth information as of March 4, 2005 concerning beneficial ownership of common shares by each shareholder known by us to be the beneficial owner of 5% or more of our common shares, and our executive officers and directors. Information concerning certain beneficial owners of more than 5% of the common shares is based upon information disclosed by such owners in their reports on Schedule 13D or Schedule 13G.

	Number of Shares	Percent of Total
Alfred D. Kingsley (1) Gary K. Duberstein Greenbelt Corp. Greenway Partners, L.P. Greenhouse Partners, L.P. 110 E. 59 <sup>th</sup> Street, Suite 3203 New York, New York 10022	5,281,108	27.8%
Neal C. Bradsher (2) Broadwood Partners, L.P. Broadwood Capital, Inc. 767 Fifth Avenue, 50 <sup>th</sup> Floor New York, NY 10153	1,339,084	7.4
Judith Segall (3)	540,169	3.0

Harold D. Waitz (4)

277,443

1.5

66

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**Table of Contents**

	Number of Shares	Percent of Total
Hal Sternberg (5)	395,201	2.2
Steven A. Seinberg (6)	60,000	*
Jeffrey B. Nickel (7)	182,812	1.0
Milton H. Dresner (8)	105,614	*
Katherine Gordon (9)	65,000	*
Michael D. West (10)	58,332	*
Valeta Gregg (11)	18,332	*
All officers and directors as a group (9 persons) (12)	1,702,903	9.1%

\* Less than 1%

(1) Includes 1,059,670 shares, owned by Greenbelt Corp., 72,604 shares that may be acquired upon the exercise of certain warrants owned by Greenbelt Corp., 180,000 shares owned by Greenway Partners, L.P., 44,624 shares that may be acquired upon the exercise of certain warrants owned by Greenway Partners, L.P., 2,864,243 shares owned solely by Alfred D. Kingsley, 1,047,031 shares that may be acquired upon the exercise of warrants owned solely by Mr. Kingsley, 12,256 shares owned solely by Gary K. Duberstein, and 680 shares that may be acquired upon the exercise of certain warrants owned solely by Gary K. Duberstein. Alfred D. Kingsley and Gary K. Duberstein control Greenbelt Corp. and may be deemed to beneficially own the warrants and shares that Greenbelt Corp. beneficially owns. Greenhouse Partners, L.P. is the general partner of Greenway Partners, L.P., and Mr. Kingsley and Mr. Duberstein are the general partners of Greenhouse Partners, L.P. Greenhouse Partners, L.P., Mr. Kingsley, and Mr. Duberstein may be deemed to beneficially own the shares that Greenway Partners, L.P. owns. Mr. Duberstein disclaims beneficial ownership of the shares and warrants owned solely by Mr. Kingsley, and Mr. Kingsley disclaims beneficial ownership of the shares owned solely by Mr. Duberstein.

(2) Includes 959,341 shares owned by Broadwood Partners, L.P., 336,835 shares that may be acquired upon the exercise of certain warrants owned by Broadwood Partners, L.P., 37,358 shares owned by Neal C. Bradsher, and 5,550 shares that may be acquired upon the exercise of certain warrants owned by Mr. Bradsher. Broadwood Capital, Inc. is the general partner of Broadwood Partners, L.P., and Neal C. Bradsher is the President of Broadwood Capital, Inc. Mr. Bradsher and Broadwood Capital, Inc. may be deemed to beneficially own the shares that Broadwood Partners, L.P. owns.

(3) Includes 130,000 shares that may be acquired upon the exercise of certain stock options, and 21,587 shares that may be acquired upon the exercise of certain warrants.

(4) Includes 2,362 shares held for the benefit of Dr. Waitz's minor children, 130,000 shares that may be acquired by Dr. Waitz upon the exercise of certain stock options, 7,758 shares that may be acquired by Dr. Waitz upon the exercise of certain warrants (including 130 warrants held for the benefit of Dr. Waitz's minor children).

(5) Includes 140,000 shares that may be acquired upon the exercise of certain options and 13,431 shares that may be acquired upon the exercise of certain warrants.

(6) Includes 60,000 shares that may be acquired upon the exercise of certain options.

(7) Includes 170,000 shares that may be acquired upon the exercise of certain options, and 937 shares that may be acquired upon the exercise of certain warrants.

(8) Includes 80,000 shares that may be acquired upon the exercise of certain options.

**Table of Contents**

- (9) Includes 65,000 shares that may be acquired upon the exercise of certain options.
- (10) Includes 58,332 shares that may be acquired upon the exercise of certain options.
- (11) Includes 18,332 shares that may be acquired upon the exercise of certain options.
- (12) Includes 851,664 shares that may be acquired upon the exercise of certain options and 43,843 shares that may be acquired upon the exercise of certain warrants.

**Compliance with Section 16(a) of the Securities Exchange Act of 1934**

Section 16(a) of the Securities Exchange Act of 1934, as amended (the Exchange Act ), requires our directors and executive officers and persons who own more than ten percent (10%) of a registered class of our equity securities to file with the Securities and Exchange Commission (the SEC ) initial reports of ownership and reports of changes in ownership of common shares and other BioTime equity securities. Officers, directors and greater than ten percent beneficial owners are required by SEC regulations to furnish us with copies of all reports they file under Section 16(a).

To our knowledge, based solely on our review of the copies of such reports furnished to us, all Section 16(a) filing requirements applicable to our officers, directors, and greater than ten percent beneficial owners were complied with during the fiscal year ended December 31, 2004, except that Judith Segall, Harold Waitz, Hal Sternberg, Alfred Kingsley, Milton Dresner, Michael West, and Katherine Gordon each filed one report on Form 4 late with respect to a single acquisition of BioTime securities, Jeffrey Nickel filed two reports on Form 4 late, each of which pertained to one acquisition of BioTime securities, and Alfred Kingsley filed a report on Form 5 late.

**Item 13. Certain Relationships and Related Transactions**

During April 1998, we entered into a financial advisory services agreement with Greenbelt Corp., a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also BioTime shareholders. We agreed to indemnify Greenbelt and its officers, affiliates, employees, agents, assignees, and controlling person from any liabilities arising out of or in connection with actions taken on our behalf under the agreement. The agreement has been renewed each year. We agreed to pay Greenbelt \$90,000 in cash and to issue 80,000 common shares for the twelve months ending March 31, 2004, and \$90,000 in cash and 60,000 common shares for the twelve months ending March 31, 2005. Of the final period's fees, \$22,500 in cash was paid following the renewal of the agreement, \$45,000 in cash was paid in the first quarter of 2005, 40,000 common shares were issued on January 2, 2005, and the balance of the cash is due to be paid, and the balance of the shares is due to be issued, on March 31, 2005. Activity related to the Greenbelt agreement in 2004 is presented in the table below:

	Balance included in Accounts Payable at January 1	Add: Cash- based expense accrued	Add: Stock- based expense accrued	Less: Cash payments	Less: Value of stock- based payments	Balance included in Accounts Payable at December 31,
2004	\$ 105,300	\$ 90,000	\$ 107,950	\$ (67,500)	\$ (122,800)	\$ 112,950





**Table of Contents**

On December 10, 2003, we commenced a subscription rights offer by distributing 13,654,949 subscription rights to our shareholders, entitling them to purchase a total of 1,706,869 units at a subscription price of \$1.40 per unit. Each unit consisted of one new common share and one-half of a warrant to purchase an additional common share. We also reserved 853,434 additional units for sale to fill over-subscriptions.

A group of private investors (the Guarantors ) and holders of \$1,500,000 in principal amount of BioTime Series 2001-A debentures (the Participating Debenture Holders ), including Mr. Kingsley, agreed to purchase units that remained unsold at the conclusion of the rights offer, excluding units that we reserved to issue to fill over-subscriptions, and subject to a maximum purchase commitment of \$2,250,000. The Participating Debenture Holders agreed to purchase their portion of any unsold units by exchanging a principal amount of Series 2001-A debentures equal to the purchase price of the units. Mr. Kingsley's purchase commitment under the Standby Purchase Agreement as a Guarantor was \$187,500, payable in cash, and his purchase commitment as a Participating Debenture Holder was \$818,182, payable in debentures. The Guarantors and Participating Debenture Holders were not required to acquire any units through those commitments because the rights offer was oversubscribed.

Under the Standby Purchase Agreement, Mr. Kingsley received total cash fees of \$67,045 and warrants to purchase 335,227 common shares in consideration of his participation as a Guarantor and Participating Debenture Holder.

Under the Standby Purchase Agreement, we also offered to sell up to an additional 428,571 units at the subscription price directly to the Guarantors and their designees. Mr. Kingsley assigned his right to purchase 107,142 of those units to another Guarantor. The Participating Debenture Holders agreed to exchange \$1,500,000 of their debentures for units, if the rights offer was over-subscribed so that we issued all of the units reserved to fill excess over-subscriptions, and if the Guarantors purchased all 428,571 additional units offered to them. Mr. Kingsley exchanged \$818,182 of his debentures for 584,415 common shares and 292,207 warrants.

By exercising subscription rights, and purchasing additional common shares and warrants through the over-subscription privilege in our rights offer, during January 2004 Mr. Kingsley acquired 389,044 common shares and 194,521 warrants, Greenbelt acquired 145,210 common shares and 72,604 warrants, and Greenway Partners, LP, an affiliate of Mr. Kingsley, acquired 89,250 common shares and 44,624 warrants.

Following the rights offer, we eliminated the balance of our debenture indebtedness by repaying \$1,850,000 of debentures in cash. Mr. Kingsley received \$681,820 in cash, plus accrued interest, for his debentures. Milton Dresner received \$100,000 in cash, plus accrued interest for his debentures.

**Table of Contents****Item 14. Principal Accountant Fees and Services**

BDO Seidman, LLP ( BDO ) audited our annual financial statements for the fiscal years ended December 31, 2003 and 2004, and reviewed our financial statements included in our quarterly reports on Form 10-Q for the first three quarters of 2004.

*Audit Fees.* BDO billed us \$113,814 and \$129,141 for the audit of our annual financial statements and for the review of our financial statements included in our quarterly reports on Form 10-Q for the first three quarters of 2003 and 2004, respectively. BDO also provided services related to the filing of securities registration statements. Fees for those services were \$16,584 and \$7,097 for the fiscal years ended December 31, 2003 and December 31, 2004, respectively.

*Audit-Related Fees.* BDO billed us \$2,565 and \$8,760 for audit-related fees during the fiscal years ended December 31, 2003 and 2004, respectively.

*Tax Fees.* BDO did not provide any tax compliance services, tax advice, or tax planning services to us during the fiscal years ended December 31, 2003 and 2004.

*Other Fees.* There were no other fees charged to us by BDO during the fiscal years ended December 31, 2003 and 2004.

Under practices and procedures adopted by the Audit Committee, the prior approval of the Audit Committee is required for the engagement of the Company's auditors to perform any non-audit services for the Company. Other than de minimis services incidental to audit services, non-audit services shall generally be limited to tax services such as advice and planning and financial due diligence services. All fees for such non-audit services must be approved by the Audit Committee, except to the extent otherwise permitted by applicable SEC regulations.

**PART IV****Item 15. Exhibits, Financial Statement Schedules.**

(a-1) Financial Statements.

The following financial statements of BioTime, Inc. are filed in the Form 10-K:

	Page
Report of Independent Registered Public Accounting Firm	42
Balance Sheets As of December 31, 2004 and December 31, 2003	43
Statements of Operations For the Years Ended December 31, 2004, December 31, 2003, and December 31, 2002	44

**Table of Contents**

	Page
Statements of Shareholders' Equity For the Years Ended December 31, 2004, December 31, 2003 and December 31, 2002	45
Statements of Cash Flows For the Years Ended December 31, 2004, December 31, 2003 and December 31, 2002	46-47
Notes to Financial Statements (a-2) Financial Statement Schedules	48-61

All schedules are omitted because the required information is inapplicable or the information is presented in the financial statements or the notes thereto.

**Table of Contents**

(a-3) Exhibits.

Exhibit Numbers	Description
3.1	Articles of Incorporation, as Amended.
3.2	By-Laws, As Amended.#
4.1	Specimen of Common Share Certificate.+
4.2	Form of Warrant++
4.3	Form of Warrant Agreement between BioTime, Inc. and American Stock Transfer & Trust Company++
10.1	Lease Agreement dated July 1, 1994 between the Registrant and Robert and Norah Brower, relating to principal executive offices of the Registrant.*
10.2	Intellectual Property Agreement between BioTime, Inc. and Hal Sternberg.+
10.3	Intellectual Property Agreement between BioTime, Inc. and Harold Waitz.+
10.4	Intellectual Property Agreement between BioTime, Inc. and Judith Segall.+
10.5	Intellectual Property Agreement between BioTime, Inc. and Steven Seinberg.**
10.6	Agreement between CMSI and BioTime Officers Releasing Employment Agreements, Selling Shares, and Transferring Non-Exclusive License.+
10.7	Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+
10.8	2002 Stock Option Plan, as amended.##
10.9	Addenda to Lease Agreement between BioTime, Inc. and Donn Logan.
10.10	Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###
10.11	Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^^^
10.12	Warrant Agreement, dated March 27, 2001, between BioTime, Inc. and Alfred D. Kingsley
10.13	Form of Series 2001-A 10% Debenture due August 1, 2004



**Table of Contents**

Exhibit Numbers	Description
10.14	Warrant Agreement between BioTime, Inc. and Purchasers of Series 2001-A Debentures
10.15	Warrant Agreement, dated March 27, 2002, between BioTime, Inc. and Alfred D. Kingsley**
10.16	Warrant for the Purchase of Common Shares, dated August 12, 2002, issued to Ladenburg Thalmann & Co. Inc.***
10.17	Exclusive License Agreement between BioTime, Inc. and CJ Corp.****
10.18	Warrant Agreement dated April 9, 2003, between BioTime, Inc. and certain holders of Series 2001-A Debentures*****
10.19	Addendum to Lease, dated March 12, 2004, between BioTime, Inc. as lessee, and Donn Logan and Marcy Li Wong as lessor
23	Consent of BDO Seidman, LLP
31	Rule 13a-14(a)/15d-14(a) Certification
32	Section 1350 Certification

Incorporated by reference to BioTime's Form 10-K for the fiscal year ended June 30, 1998.

+ Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.

++ Incorporated by reference to Registration Statement on Form S-2, File Number 333-109442, filed with the Securities and Exchange Commission on October 3, 2003, and Amendment No. 1 thereto filed with the Securities and Exchange Commission on November 13, 2003.

# Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.

\* Incorporated by reference to BioTime's Form 10-K for the fiscal year ended June 30, 1994.

^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended March 31, 1997.

## Incorporated by reference to Registration Statement on Form S-8, File Number 333-101651 filed with the Securities and Exchange Commission on December 4, 2002 and Registration Statement on Form S-8, File Number 333-122844 filed with the Securities and Exchange Commission on February 23, 2005.

^^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended March 31, 1999.

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**Table of Contents**

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Filed herewith



**Table of Contents****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 on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 31st day of March 2005.

BIOTIME, INC.

By: /s/Judith Segall

Judith Segall, Vice  
President-Operations and  
Corporate Secretary; Member -  
Office of the President\* and  
Director

Signature	Title	Date
/s/Judith Segall Judith Segall	Vice President -Operations and Corporate Secretary; Member- Office of the President* and Director	March 31, 2005
/s/Hal Sternberg Hal Sternberg, Ph.D.	Vice President-Research; Member - Office of the President*  and Director	March 31, 2005
/s/Harold D. Waitz Harold D. Waitz, Ph.D.	Vice President-Regulatory Affairs;  Member - Office of the President*  and Director	March 31, 2005
/s/Steven Seinberg Steven Seinberg	Chief Financial Officer  (Principal Financial and Accounting Officer)	March 31, 2005
/s/Milton H. Dresner Milton H. Dresner	Director	March 31, 2005
/s/ Katherine Gordon Katherine Gordon	Director	March 31, 2005

Michael D. West      Director      March \_\_\_\_, 2005

Valeta Gregg      Director      March \_\_\_\_, 2005

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\*    The Office of the President is comprised of the three above-referenced executive officers of the Registrant who collectively exercise the powers of the Chief Executive Officer.

75

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77

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**Table of Contents**

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