VITAL IMAGES INC
Form 10-K
March 30, 2001

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

/X/ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2000

/ / 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 0-22229

VITAL IMAGES, INC.
(Exact name of Registrant as specified in its charter)

Minnesota	**42-1321776**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3300 Fernbrook Lane, N., Suite 200 Plymouth, Minnesota (Address of principal executive offices)	**55447** (Zip Code)

(763) 852-4100
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

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

Common Stock, $.01 par value
Preferred Stock Purchase Rights

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___X___ 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 the Form 10-K. ____

The aggregate market value of the voting stock held by non-affiliates of the registrant as of February 28, 2001 was $24,191,000.

The number of shares outstanding of the issuer's classes of common stock as of February 28, 2001: Common stock, $.01 Par Value 6,822,973.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of registrant's definitive Proxy Statement in connection with the Annual Meeting of Shareholders to be held May 10, 2001 (2001 Proxy Statement) are incorporated by reference into Part III.

VITAL IMAGES, INC.
FORM 10-K

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. For this purpose, any statements contained in this Form 10-K that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, words such as "may," "will," "expect," "believe," "anticipate," "estimate," or "continue" or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. These statements by their nature involve substantial risks and uncertainties, and actual results may differ materially depending on a variety of factors, including those set forth in the section below entitled "Important Factors."

Item 1. BUSINESS

Vital Images, Inc. (Vital Images or the Company) was incorporated in Iowa in September 1988. In March 1997, the Company re-incorporated under the laws of the state of Minnesota. The Company s principal executive offices are located at 3300 Fernbrook Lane N., Suite 200, Plymouth, MN 55447 (telephone (763) 852-4100, facsimile (763) 852-4110, e-mail info@vitalimages.com). From May 24, 1994 through May 11, 1997, the Company was a wholly-owned subsidiary of Bio-Vascular, Inc. (Bio-Vascular).

Business Description

Vital Images develops, markets and supports 3D medical imaging software for use primarily in disease screening, clinical diagnosis and therapy planning. The Company s software applies proprietary computer graphics and image processing technologies to a wide variety of data supplied by computed tomography (CT) scanners, magnetic resonance (MR) imaging devices and ultrasound scanning equipment. Vital Images products allow clinicians to create both two- and three-dimensional views of human anatomy and to non-invasively navigate within these images to better visualize and understand internal structures and pathologies. The Company believes that its high-speed visualization technology and customized protocols cost-effectively bring 3D visualization and analysis into the routine, day-to-day practice of medicine.

Vitrea®, Vital Images advanced 3D medical imaging product for radiological and surgical applications, received FDA clearance in November 1996 and was released for sale in October 1997. Due to its speed and ease-of-use, management believes that *Vitrea* was the first 3D medical imaging product with the ability to appeal primarily to the clinical market. Historically, 3D medical imaging software was slow, difficult to use, and operated only on expensive workstations. Consequently, the functionality of such software was appealing only for research applications. The Company s *Vitrea* software combined speed with ease-of-use to enable a physician to access, manipulate and analyze 3D images, typically in less than five minutes. In February 2001, the Company released *Vitrea* 2 Version 2.2, which included significant enhancements for colon imaging and evaluation, as well as new automated features for tumor volume measurement and 2D comparative review. The Company offers *Vitrea* 2 primarily as an integrated software and hardware system, consisting of *Vitrea* 2 software installed on a computer workstation. To date, the Company has licensed approximately 340 copies of *Vitrea* and *Vitrea* 2 to hospitals, clinics, imaging centers and other sites, including ten of the nation s top fifteen hospitals.

The Company believes that growing acceptance of 3D medical imaging offers Vital Images numerous market expansion opportunities. Research and development efforts are currently focused on using the Company s base of visualization technology to expand to other imaging modalities, such as x-ray angiography, as well as expanding the features and functions in the current modalities. Vital Images is also developing 3D medical imaging software tools for non-invasive screening applications, such as CT colonography for colon cancer screening, surgical planning, intra-operative visualization and real-time interventional 3D visualization.

The global market for 3D medical imaging is largely unpenetrated and growing rapidly. Today, only a small percentage of hospitals, clinics and imaging centers have purchased 3D medical imaging products for use in diagnostic imaging. Recent technological advances in both computer hardware and software development have dramatically improved the cost-to-performance ratio, bringing the prices for 3D medical imaging products into the reach of most healthcare providers. In addition, increasing clinical awareness and improving utility of applications, among other factors, are also driving demand for 3D medical imaging products. Based on an increasing number of 3D procedures being performed as a result of growing use of imaging technology, new 3D screening procedures, and broader acceptance of 3D applications, Vital Images estimates that the potential worldwide market for 3D medical imaging software and workstations will grow to more than $2 billion within the next six years.

Technology

The two core technologies underlying the Company s products are customized protocols which make *Vitrea 2* simple to use and a visualization technique known as volume rendering. A feature critical to *Vitrea 2 s* speed and

ease-of-use are its customized protocols, which provide automated 2D and 3D renderings of scanner data, optimized for individual clinical applications. Vital Images engineers and clinical collaborators have selected specific views for each type of exam *Vitrea 2* supports, in order to provide immediate, useful 2D and 3D views for the user. After the selected patient data has been retrieved, *Vitrea 2* provides the clinician with six views with all visualization parameters pre-set for the specific type of clinical exam. The visualization settings for these views are stored in *Vitrea 2 s* software and are automatically and adaptively applied to each patient study, optimizing the views displayed. By applying this proprietary protocol technique, the system anticipates the clinician s needs and provides immediately useful views of the patient data. The use of customized protocols automates the complex and time-consuming approaches inherent in many competing 3D medical imaging products and eliminates the need for the user to be proficient in operating complex graphics programs. The Company has been issued Patent No. 5,986,662 from the U.S. Patent and Trademark Office for its mechanism for automated protocol selection.

Volume rendering is an advanced technique for displaying two- or three-dimensional views on a computer monitor that the Company believes has significant advantages over the alternative technique, known as surface rendering. Volume rendering permits the direct display of all of the imaging data without mathematical modeling and allows interactive control of the level of transparency of the data. By comparison, surface rendering requires the creation of artificial surfaces based on selected imaging data, and the usefulness of the resulting visual image is largely dependent on where these surfaces are set by the clinical technician. Volume rendering is not dependent on the creation of artificial surfaces and allows visualization of varying components that might otherwise be eliminated from a surface rendered image due to surface approximation. Because volume rendering uses all of the data and information collected by the imaging equipment, the Company believes visualization processes that use volume rendering provide clinicians with better images to define and display pathology and anatomy in a more useful manner.

Until recently, medical imaging companies largely overlooked volume rendering because the computer power necessary to perform volume rendering was significantly more expensive and intensive than the requirements for surface rendering. The Company s experience with volume rendering has its basis in the efforts of Vincent J. Argiro, Ph.D., the founder of the Company, who developed three-dimensional visualization software using volume rendering as an aid in his research in developmental neuroscience. Dr. Argiro focused on accelerating the performance of volume rendering on standard computer platforms. As a result of his work, he developed expertise in accelerated volume rendering, which forms the core of the Company s volume rendering technology. Because the performance of standard computer platforms has increased while the relative cost of such performance has decreased, the Company believes that volume rendering has become a more accessible imaging solution for routine clinical applications.

The Company believes the combination of customized protocols and accelerated volume rendering offered by *Vitrea 2,* together with improved computer performance, allows it to deliver a simple, fast and affordable 3D medical imaging product.

Industry Background

Medical practices in the areas of diagnostic imaging, surgery and cancer treatment have changed dramatically over the past 20 years, due in part to the introduction of a variety of new imaging, visualization, analysis, computer, networking, catheter and navigation technologies. The result has been the rapid adoption and increased use of CT, MR and ultrasound devices, and the incorporation of new physician-care practices based on the imaging information provided by these devices.

Each of these imaging technologies captures data that provides a physician with a graphical representation of the inside of the human body. These images have traditionally been viewed as a series of two-dimensional, cross-sectional slices on x-ray-type film. As computer processing speed increased, software performance improved and networking technologies developed, manufacturers of scanning equipment began offering integrated systems that allowed clinicians to view, analyze and manipulate these medical images in a digital environment. These systems first visualized individual slices, or pictures, on a computer monitor and later provided views of multiple slices. More

recently, medical imaging systems began to permit viewing and manipulation of large, multiple slice data sets as a single, three-dimensional image on a computer workstation. Today, the 3D medical imaging industry involves the creation, visualization, manipulation, analysis and communication of medical images in two and three dimensions.

The 3D medical imaging industry and the markets for 3D medical imaging products have historically lagged the market for imaging devices due to the lack of industry standards for the generation, transmission and storage of medical imaging data and due to computer costs and performance considerations. Over the past several years, a number of technical and cost barriers to growth in the 3D medical imaging industry and the picture archive and communication systems (PACS) industry have begun to erode. In particular, the medical industry has embraced an image transmission and archiving standard called DICOM, promulgated by the American College of Radiology and the National Electronic Manufacturer s Association. This standard permits imaging, visualization, networking and archiving systems from different vendors to work cooperatively within a single network. In addition, the cost-to-performance ratio of computer products used in visualization and PACS has improved dramatically, bringing the prices for 3D medical imaging capabilities and PACS within the grasp of most healthcare providers. The Company believes that the increasing acceptance of industry standards such as DICOM and the improvements in the cost-to-performance ratio for clinical workstations will support continued market growth in the 3D medical imaging and PACS industries.

Vital Images also expects that a number of other advantages of 3D medical imaging products will support growth in the 3D medical imaging industry:

Diagnoses based on 2D images, or slices, require the clinician to assemble a 3D view mentally to understand the true anatomy and pathology. Given the industry pressure on cost-effective outcomes, 3D imaging is a valuable tool for accelerating diagnoses, potentially eliminating unnecessary tests and treatment, optimizing the use of minimally invasive surgery and therapies, and gaining additional insight needed for clinical decisions.

Spatial relationships are of paramount importance in surgery, and 3D views displaying anatomy and pathology can greatly aid in surgical planning. 3D medical imaging has the potential to promote improved surgical outcomes by giving surgeons a better road map from which to plan their operative procedures. Interactive navigation of volume data from scanners may also have the capability to spare patients from invasive procedures like endoscopy or conventional angiography.

Recent technology improvements in CT and MR scanners enable them to generate an increasing number of slices per exam, resulting in over 1000 images, which is more than 5 times as many images as the same study less than five years ago. This makes the viewing of printed images on x-ray film, rather than in a medical imaging system, logistically impractical and expensive.

Increased use of 3D medical imaging technology has the potential to enhance radiologists ability to communicate their findings to fellow clinicians, referring physicians and patients. In addition, the integration of these clinical disciplines through electronic visualization, networking and the Internet has the potential to provide the opportunity for greater cross-discipline coordination due to increased speed, access to information and the resulting ability to perform consultative, interactive planning and examination on computer workstations.

Markets

The Company participates in the rapidly growing 3D medical imaging market. The 3D medical imaging market also interrelates with a number of other markets such as the diagnostic imaging equipment market, the PACS market and the hospital and clinical information systems markets. 3D medical imaging software and systems have application and/or potential in diagnostic screening and radiology, remote diagnosis and consultation (e.g., telemedicine), surgical assessment, planning, navigation and follow-up, and radiation and chemotherapy treatment planning and medical education. The customers for these applications include radiology, surgery and oncology departments of hospitals and research centers, diagnostic imaging and screening centers, outpatient surgery centers, clinics and physician groups.

The Company believes that the worldwide market for 3D medical imaging systems is largely unpenetrated and growing rapidly. Today, a small percentage of hospitals, clinics, and imaging centers have purchased 3D medical imaging systems for use in diagnostic imaging. Recent technological advances in both computer hardware and software development have dramatically improved the cost-to-performance ratio, bringing the prices for 3D medical imaging products into the reach of most healthcare providers. In addition, increasing clinical awareness and improving utility of applications, among other factors, are also driving demand for 3D medical imaging products. Based on an increasing number of 3D procedures being performed as a result of growing use of imaging technology, new 3D screening procedures, and broader acceptance of 3D applications, Vital Images estimates that the potential worldwide market for 3D medical imaging software and workstations will grow to more than $2 billion within the next six years.

As discussed above, the overall market for 3D medical imaging software and systems is developing rapidly, as the related technology and products that define this market are relatively new and undergoing rapid change. Medical imaging software and system solutions for diagnostic radiology have existed for the last several years. However, most have been expensive, slow, difficult to use and of limited clinical application. The use of medical imaging software and systems to assist in surgical planning and navigation has only begun to emerge in clinical practice in the last few years. While medical imaging software and systems have been used in these applications and to support cancer treatment planning in the past, the Company believes that perspective, three-dimensional volume rendering represents an untapped resource to practitioners for diagnostic screening and radiology, surgical planning and navigation and cancer treatment.

Strategy

The Company s goal is to be a leading provider of 3D medical imaging software that improves clinical outcomes and reduces costs. To achieve this goal, Vital Images intends to implement the following key strategies:

Develop and maintain leading-edge technology. The Company intends to continue its overall strategy of developing and marketing leading-edge medical 3D medical imaging software for a variety of medical applications. As part of this strategy, the Company will continue to improve the speed and performance of its *Vitrea 2* software. In particular, the Company will be focused on developing additional protocols that enhance the ease-of-use of *Vitrea 2*, as well as increasing the number of platforms on which *Vitrea 2* will operate.

Further develop applications for the Company s 3D medical imaging technology. The Company intends to leverage its core competencies in volume rendering, computer graphics and clinical applications. The Company plans to develop and offer a full range of 3D medical imaging software tools for radiological diagnosis, therapy planning and intra-operative visualization. The Company believes that significant new opportunities exist for the application of its innovative technologies for the diagnosis and treatment of cardiovascular disease, cancer and orthopedics.

Further penetrate the 3D medical imaging market. The Company intends to expand its sales and marketing staff and increase its marketing efforts in order to continue building momentum for the acceptance and purchase of *Vitrea 2* and its other products. A key challenge for the Company involves reaching and educating physicians and clinicians as to the benefits of the *Vitrea 2* software. By convincing the ultimate users of the benefits of its system, the Company believes that it can successfully influence purchasing decisions for medical institutions purchasing or upgrading their imaging technology. In addition, the Company will work to expand its appeal by implementing additional 2D capability as well as ensuring that its technology will easily integrate into hospital networks.

Continue to seek collaborative partnerships with leading medical institutions. The Company has historically sought out and developed collaborative relationships with several prestigious medical institutions to develop and test the Company s visualization tools. The Company will continue to pursue collaborations to focus on developing products that will improve clinical outcomes and reduce costs for the practices of medical imaging and surgery.

Continue to seek collaborative partnerships with leading medical technology companies. In addition to collaborations with medical institutions, the Company intends to selectively pursue relationships with leading medical technology companies to expand the Company s clinical, distribution, financial and/or technical capability for its 3D medical imaging software products. Examples of such relationships include the Company s marketing and distribution agreement with Toshiba America Medical Systems (TAMS) and its PACS relationship with A.L.I. Technologies, Inc. (ALI). See Business-Marketing and Distribution.

Products and Product Development

Vitrea. In December 1995, the Company assessed its business strategy and determined that to optimize its dedicated participation in the medical field, it needed to create a new product for direct clinical application. The objective for this new product effort was to produce an easy-to-use, clinical software tool to allow radiologists and other clinicians to use two- and three-dimensional visualization in their routine clinical processes. Unlike its *VoxelView*® software, the Company set out to design this new software product for users with clinical knowledge, rather than computer graphics expertise. Specifications for this new product, called *Vitrea,* were developed in early 1996, with software development beginning in late spring of that year. The Company submitted 510(k) documentation in September 1996 for *Vitrea* and was granted marketing clearance by the U.S. Food and Drug Administration (the FDA) in November 1996 for use as a clinical diagnostic and surgical planning device when used with CT and MR medical imaging data. *Vitrea* was first released for sale to customers in October 1997. In December 1999, the Company released *Vitrea 2*, a Microsoft® Windows NT compatible version of its *Vitrea* software for 2D/3D visualization and analysis of medical image data. *Vitrea 2* was Vital Images' first 3D-volume medical imaging software product available for Windows NT and provides the speed and ease-of-use the medical community demands for diagnosis and treatment planning in a clinical environment. In February 2001, the Company released *Vitrea 2 Version 2.2*, which included significant enhancements for colon imaging and evaluation, as well as new automated features for tumor volume measurement and 2D comparative review.

Vitrea 2 capitalizes on the Company s experience in 3D medical imaging and provides clinicians with an easy-to-use tool for radiological diagnosis and therapy planning. It represents the Company s most important step to date as a provider of a range of clinical tools for broad distribution to the 3D medical imaging market. *Vitrea 2 s* primary features are its high-speed rendering capability and the ability to provide two- and three-dimensional viewing for routine diagnosis and therapy planning, without requiring the user to be trained in computer graphics techniques. The Company believes that both of these features, speed and ease-of-use, now make it possible to use three-dimensional medical imaging in daily clinical routines. A *Vitrea 2* user, following a built-in clinical workflow, can view the image

data in two or three dimensions using visualization settings based on specific clinical applications stored within the system as dedicated visualization protocols. The user may then interactively navigate around, or fly through, the image to view clinically relevant anatomies and pathologies. *Vitrea 2* software also allows the user to capture views by taking snapshots, which can be integrated into customized reports for electronic transmission and archiving through a DICOM network or sent to another location via the Internet.

Vitrea 2 software conforms to the latest medical imaging and computer industry standards, such as *OpenGL* computer graphics application programming interface (API) and DICOM.

The Company offers *Vitrea 2* primarily as an integrated software and hardware system, consisting of *Vitrea 2* software installed on a personal computer (PC). Pursuant to purchasing arrangements between the Company and computer resellers, the Company purchases personal computers at a nominal discount, installs its *Vitrea 2* software, and markets the package as an integrated 3D medical imaging solution, thereby implementing the Company s strategy to develop, market, sell and support an integrated 3D medical imaging workstation. Currently *Vitrea 2* operates on PC workstations from Omni Tech, Inc., Hewlett-Packard Company and Dell Computer Corporation, and UNIX workstations from Silicon Graphics, Inc. The Company also sells a limited number of software licenses without the related workstation hardware. The list price for a base model integrated workstation and software package is approximately $93,000, and the list price for the *Vitrea 2* software without a workstation is approximately $81,000.

In addition to its immediate clinical applications, *Vitrea 2* software also incorporates a number of additional technological advances, thereby making it adaptable to routine clinical use in surgical navigation and cancer treatment planning and for integration into diagnostic imaging equipment manufactured by other companies. In particular, *Vitrea 2* software was written using advanced programming techniques, a modular, object-oriented design, C++ programming language, and a shared messaging structure. The Company believes these characteristics make it practical to modify *Vitrea 2* software to suit the clinical needs of surgical navigation and oncology, as well as allowing diagnostic equipment manufacturers to integrate *Vitrea 2* software or its components into imaging system consoles and off-line review stations, thereby providing the Company with the opportunity to leverage the *Vitrea 2* software development investment into new commercial areas.

VScore . In August 1999, the Company introduced its *VScore* software for coronary artery calcium scoring. The *VScore* software product was the Company s first add-on option to the Company s *Vitrea 2* 3D medical imaging software product. The *VScore* option adds the functionality to non-invasively quantify calcium in the four major coronary arteries using CT image data. The list price of the *VScore* software option is $14,000. In August 2000, the Company introduced *VScore with EKG Gate*™, which allows physicians and technologists to select the images with the least amount of motion by matching the EKG signal with the images. The list price of the *VScore with EKG Gate* software option is $25,000. The Company intends to continue developing similar add-on products for a variety of other medical applications.

Advanced 3DI. In August 1996, the Company entered into a product development agreement with ATL Ultrasound, Inc., one of the leading ultrasound system vendors. Pursuant to this agreement, each party agreed to collaborate exclusively with the other for a period of five years in connection with the development of three-dimensional visualization products for medical diagnostic ultrasound imaging applications, provided that the Company may collaborate with other parties in connection with products to be used in multi-modality environments (i.e., environments that offer multiple imaging technologies and not just ultrasound imaging). ATL reimburses the Company for certain product development costs and has responsibility for obtaining regulatory approvals. Intellectual property developed jointly by the parties pursuant to this agreement is jointly owned by the parties, each with the right to use or license such intellectual property. The Company typically receives $5,000 to $10,000 for each Advanced 3DI sale by ATL. In September 1998, ATL was acquired by Royal Phillips Electronics, a competitor of the Company s in the 3D medical imaging market. During both 2000 and 1999, the Company experienced a trend of steadily declining revenue from sales of Advanced 3DI. Accordingly, the Company is not anticipating significant revenue in the foreseeable future from ATL for sales of Advanced 3DI.

VoxelView. The Company s *VoxelView* software received marketing clearance from the FDA in November 1995 for use as a clinical diagnostic and surgical planning device when used with CT and MR medical imaging data. *VoxelView* software is sold primarily to medical researchers, although radiologists and surgeons sometimes use it as a clinical diagnostic and planning tool. *VoxelView* software s primary capability is the ability to provide volume rendered, three-dimensional views of human anatomy using three-dimensional image data sets from imaging devices such as CT and MR scanners. *VoxelView* software is a highly flexible tool, allowing the clinician or researcher to interactively control many visualization parameters, including brightness, contrast, color, transparency, shading, lighting, texture, reflectivity and orientation. However, the need to control these visualization parameters limits the usefulness of *VoxelView* software in the routine clinical setting, where an end user may be a skilled medical technician lacking expertise in computer graphics techniques. *VoxelView* is sold only as a software package without computer hardware, and the Company does not actively market this product. The list price for a *VoxelView* software license is $20,000.

Maintenance and Support. In addition to its system and software products, the Company also offers maintenance and support services to its customers, as well as certain other services such as installation and training. In connection with the licensing of *Vitrea 2* software, the Company markets annual maintenance services for both *Vitrea 2* software and the integrated *Vitrea 2* system, pursuant to which the Company provides software updates, minor feature enhancements, error correction, telephone support and general maintenance services for an annual fee of approximately $7,000. Outside of these maintenance services, the Company is required by FDA regulations to provide certain levels of support to end users as a result of the use of its products as medical devices. Maintenance services currently marketed by the Company do not include installation, training and other services, whether on- or off-site, as such services are charged separately by the Company.

License fees accounted for 66%, 63% and 61% of total revenue in each of the fiscal years ended December 31, 2000, 1999 and 1998, respectively. Maintenance and services comprised 13%, 13% and 11% of total revenue for the years ended December 31, 2000, 1999 and 1998, respectively, while hardware accounted for 21%, 24% and 28% of total revenue for the years ended December 31, 2000, 1999 and 1998, respectively.

The Company expensed $3,036,000, $2,525,000 and $1,815,000 incurred in its research and development efforts in each of the fiscal years ended December 31, 2000, 1999 and 1998, respectively.

Collaborative Relationships

Vital Images has formed collaboration relationships with some of the leading universities and physicians in medicine and medical imaging to develop what it believes to be the most innovative and clinically relevant medical imaging solutions. Vital Images has entered into clinical collaboration agreements with universities and physicians to:

- Identify new clinical applications where 3D medical imaging can improve clinical outcomes and reduce costs;
- Develop clinical routines that incorporate Vital Images 3D medical imaging software in normal diagnostic and therapy planning practices;
- Develop new features that facilitate and improve diagnosis and therapy planning for Vital Images future products;
- Assess the clinical value of Vital Images 3D medical imaging software for given applications; and

Develop automated rendering protocols for 3D CT or MR data.

The following universities and physicians have entered into agreements with Vital Images for the purpose of forming collaborative relationships:

UCLA Medical Center

Duke University Medical Center

University of Iowa Hospital and Clinics

Mallinckrodt Institute of Radiology at the Washington University School of Medicine

University of Minnesota-Fairview University Medical Center

University of North Carolina at Chapel Hill

Northwestern University Medical Center

Hospital of the University of Pennsylvania

Stanford University Medical Center

Yale University School of Medicine

In general, the Company s agreements with its collaborative partners do not provide such collaborators with any ownership of technology developed by the Company in connection with the collaboration and do not provide for the payment of any fees or royalties to such collaborators. However, the Company was obligated to pay a royalty to the Stanford University Medical Center equal to one-half of one percent of the Company s software license revenue from the sale of *Vitrea* and *Vitrea 2* through September 2000.

Competition

The 3D medical imaging market is developing and growing rapidly. It is intensely competitive, subject to rapid change and significantly affected by new product introductions and other market activities of industry participants. The Company s primary competitors are the various diagnostic imaging system suppliers, which are typically large, multinational companies, having far greater financial and technical resources than the Company, and which also have well-established sales and distribution networks for their products. These companies, including GE Medical Systems, Siemens Medical Systems, Inc., Marconi Medical Systems and Philips Medical Systems, are engaged in the business of developing and marketing medical imaging systems, such as CT and MR equipment. These competitors offer 3D medical imaging capabilities integrated into their products in addition to the 2D medical imaging capabilities typically provided as a part of the operator s console on the imaging equipment itself. This medical imaging capability may be internally developed by these companies, or may be licensed from independent vendors. In order to compete effectively with these companies, Vital Images must convince customers to separate their purchasing decisions regarding the imaging equipment itself from the selection and purchase of the 3D medical imaging workstations instead of purchasing an entire integrated system manufactured by one entity. To a lesser extent, the Company also faces competition from other medical imaging systems and software suppliers, PACS vendors, hospital, radiology and clinical system suppliers, and internal development projects sponsored by hospital radiology departments.

Other medical imaging systems and software suppliers compete on the basis of volume rendering or other visualization technologies, such as surface rendering. PACS companies sometimes provide medical imaging

capability in addition to their image archiving and networking products. Vendors of hospital, clinical and radiology information systems have also diversified into the PACS and medical imaging product lines, either through internal development or business development. These companies, which may be large or small, attempt to offer an integrated system covering a full range of administrative, clinical and radiology information management capabilities to healthcare providers. Finally, some research and university healthcare institutions may attempt to develop their own 3D medical imaging systems. These institutions have in the past, and may in the future, attempt to secure FDA clearance for such systems and to license such systems or technology for general commercial sale.

The Company s competitive strength is based on its ability to: (i) provide differentiated 3D medical imaging products that operate in multi-vendor network and image source environments; (ii) provide clinical quality, three-dimensional images, volume rendered at high speed with interactive navigation on a relatively low-cost standard computer; (iii) integrate clinical knowledge from its collaborative clinical partners into its products; (iv) leverage its visualization technology across multiple clinical disciplines, including disease screening, clinical diagnosis and therapy planning; (v) offer a DICOM client product which can operate on any DICOM network, independent of the imaging system and network provider; and (vi) serve both original equipment manufacturers (OEM) and end-user customers through the development of a modular end-user product that can easily be segmented for OEM customers.

The Company believes that product quality, performance, functionality and features, quality of support and service, reputation and price are also important competitive factors. The Company believes that customers will prefer *Vitrea 2* because it is simple, fast and affordable. While price has been less significant than other factors, increasing competition in the 3D medical imaging market may result in price reductions and reduced gross margins. In particular, should one or more of the diagnostic imaging system suppliers choose to provide or distribute more competitive medical imaging products than those offered by the Company, the Company s business, financial condition and results of operations could be materially adversely affected.

Marketing and Distribution

The Company markets *Vitrea 2* both as a software package and as part of an integrated software and hardware system to radiologists, surgeons, primary care physicians and medical researchers. The Company markets its products directly to end-user customers, such as hospitals and clinics, as well as to select diagnostic imaging companies, digital imaging equipment manufacturers and PACS companies for resale as a Vital Images branded product. In December 1999, the Company established a strategic marketing alliance with ALI, a leader in the management of clinical data. Both Vital Images and ALI can now offer an integrated solution to the data management requirements of the new generation of CT and MR scanners. In September 2000, the Company signed a marketing and distribution agreement with TAMS, which named *Vitrea 2* as TAMS exclusive 3D software for use with their CT scanners in the United States. The agreement runs through March 31, 2002. See Business Dependence on Major Customers.

In addition, the Company markets its products directly to select OEMs on either a standard basis or, in the case of Advanced 3DI, a customized basis. In connection with its OEM opportunities, the Company will either provide complete systems for resale by such OEMs or will provide elements of its technology for incorporation into the products and systems of such OEMs.

The Company markets its products both domestically and internationally. In the United States, the Company markets its products through its direct sales force as well as through OEMs and resellers. Internationally, the Company markets its products through OEMs and resellers. See Note 9 to the Financial Statements - Major Customers and Geographic Data for information regarding the Company s export sales. As of December 31, 2000, the Company had fourteen direct salespeople in the U.S., one international reseller salesperson, one OEM customer and 13 international resellers.

Customers and Customer Support

Through December 31, 2000, the Company has sold approximately 340 separate software licenses for *Vitrea* and *Vitrea 2* for use in approximately 270 different sites, including hospitals, clinics, imaging centers and other sites. The Company s customers include America s most renowned hospitals, including the following ten of the top fifteen hospitals listed in *U.S. News and World Report s* honor roll of top hospitals:

Mayo Clinic	Barnes-Jewish Hospital
Massachusetts General Hospital	Stanford University Hospital
Cleveland Clinic	Hospital of the University of Pennsylvania
UCLA Medical Center	UCSF Medical Center
Duke University Medical Center	University of Washington Medical Center

In addition, the advantages of *Vitrea 2* software simple, fast and affordable have also appealed to hospitals and clinics in smaller population areas including:

Allen Memorial Hospital–Waterloo, Iowa
Campbell County Memorial Hospital Gillette, Wyoming
Diagnostic Radiology Associates of Wisconsin Rice Lake, Wisconsin
Northeast Regional Medical Center Kirksville, Missouri
Palmetto Baptist Medical Center Columbia, South Carolina

The Company is committed to rapid response to customer service requests. Customer support representatives are available during the Company s business hours to answer questions about the operation, maintenance and repair of the Company s products.

Intellectual Property

Although the Company has filed patent applications with respect to certain aspects of its technology, it generally does not rely on patent protection with respect to its products and technologies. Instead, the Company relies primarily on a combination of trade secret and copyright law, employee and third-party nondisclosure agreements and other protective measures to protect intellectual property rights pertaining to its products and technologies. Because of the rapid pace of technological change in the 3D medical imaging industry, the Company believes that patent, trade secret and copyright protection are less significant to its competitive position than factors such as the knowledge, ability and experience of its personnel; new product developments and enhancements; and ongoing, reliable product maintenance and support.

The Company has been issued Patent No. 5,986,662 from the U.S. Patent and Trademark Office for its mechanism for automated protocol selection and Patent No. 6,130, 671 for the mechanism to calculate simulated lighting in 3D images, both of which are utilized in the *Vitrea 2* software. The use of automated protocol selection within *Vitrea 2* allows the user to view image data in two or three dimensions using visualization settings based on specific clinical applications stored within the software. This unique technology adds significantly to the simplicity of use of the software a key advantage over competing technologies. The mechanism for calculating simulated lighting in 3D images permits two-sided lighting in volume-rendered images, which is crucial for viewing image data that represents edges of bright as well as dark regions. These include producing simulated endoscopic images of contrast-filled blood vessels, the gastrointestinal tract and the urinary system.

The Company does not own all of the software and other technologies used in its products, but it has the licenses from third parties that the Company believes are necessary for using that technology in its current products. It may be necessary to renegotiate with such third parties for inclusion in any new versions of the Company s current products or any new products. Such third party licenses may not be available on reasonable terms, or at all.

Manufacturing and Service

The Company s manufacturing efforts are limited to the production, quality assurance and distribution of its software, which is distributed on CD-ROM. The software is sent to the customer site and loaded into a personal computer. The software for *Vitrea 2* is loaded into the computer by Company personnel, as part of the Company s installation services, which are priced and billed incrementally to the software license billing. In addition to the loading of software into the computer, the Company s installation services also include integrating *Vitrea 2* workstations into customers computer networks, configuring the network requirements and validating software operability on site. *VoxelView* software is typically sold alone and loaded into the computer equipment with telephone assistance from the Company, as needed.

The Company relies primarily on its own software development as its core competence. The Company sources certain utility software from third parties, see Intellectual Property above, and the operating system for integrated computer workstations from other parties. In addition, the Company sources systems components, computers and computer peripherals from third party suppliers.

Governmental Regulation

As medical devices, the Company s 3D medical imaging software products are subject to extensive and rigorous regulation by numerous governmental authorities, principally the FDA and corresponding foreign agencies. In the United States, the FDA administers the Federal Food, Drug and Cosmetic Act and its amendments. These regulations classify medical devices as either Class I, II or III devices, which are subject to general controls, special controls or pre-market approval requirements, respectively. Most Class I and II devices, as well as some Class III devices, can be cleared for marketing pursuant to a 510(k) pre-market notification. The process of obtaining a 510(k) clearance typically can take several months to a year or longer.

Class III devices generally require more stringent clinical investigation and pre-market clearance requirements. In such cases, the FDA will require that the manufacturer submit a pre-market approval (PMA) application that must be reviewed and approved by the FDA prior to the sale and marketing of the device in the United States. The process of obtaining a PMA can be expensive, uncertain and lengthy, frequently requiring anywhere from one to several years from the date of FDA submission, if approval is obtained at all. Moreover, a PMA, if granted, may include significant limitations on the indicated uses for which a product may be marketed.

Vitrea 2 and *VoxelView* are classified as Class II medical devices and have received marketing clearance from the FDA as the result of 510(k) submissions. Specifically, *Vitrea 2* has been cleared to be marketed for use with CT and MR scanners, and the Company s *VScore* software options have been cleared for use in coronary artery calcium scoring. ATL is responsible for obtaining any FDA approval necessary for the marketing and sale of Advanced 3DI. Future products, add-on options to existing software, and expanded claims of efficacy will likely require additional 510(k) applications.

In the early 1990s, the review time by the FDA to clear medical devices for commercial release lengthened and the number of clearances, both of 510(k) submissions and PMA s, decreased. In response to public and congressional concern, the FDA Modernization Act of 1997 was adopted with the intent of bringing better definition to the clearance process. Although this Act has resulted in improved cycle times for product clearance, there can be no assurance that the FDA review process will not involve delays or that certain clearances will be granted on a timely basis.

The Company is also increasingly becoming subject to regulation in those foreign countries in which it sells its products. Many of the regulations applicable to the Company s products in such countries are similar to those of the FDA. The Company s ability to successfully market and sell its products internationally depends in large part on its

ability to comply with such foreign regulatory requirements. *Vitrea 2* software has been Conformitee Europeene (CE) marked, indicating conformance with applicable sections of the Medical Device Directive 93/42/EEC, which allows the product to be marketed in the member countries of the European Communities.

The Company is also subject to periodic inspections by the FDA, whose primary purpose is to audit the Company s compliance with quality system regulations established by the FDA and other applicable government standards. Regulatory action may be initiated in response to audit deficiencies or to product performance problems. The Company believes that its manufacturing and quality control procedures are in essential compliance with the requirements of the FDA regulations.

In January 2001, the Company announced that it had received ISO 9001 Certification and an upgraded Class I Measurement CE Mark for its medical imaging software products.

The financial arrangements through which the Company markets, sells and distributes its products may be subject to certain federal and state laws and regulations in the United States with respect to the provision of services or products to patients who are Medicare or Medicaid beneficiaries. Violations of these laws and regulations may result in civil and criminal penalties, including substantial fines and imprisonment. In a number of states, the scope of these laws and regulations have been extended to include the provision of services or products to all patients, regardless of the source of payment, although there is variation from state to state as to the exact provisions of such laws or regulations. In other states, and, on a national level, several health care reform initiatives have been proposed which would have a similar impact. The Company believes that its operations and its marketing, sales and distribution practices currently comply with all current fraud and abuse and physician anti-referral laws and regulations, to the extent they are applicable.

Third Party Reimbursement and Cost Containment

The Company s products are purchased primarily by hospitals, clinics, imaging centers and other users that bill various third party payers for the services provided to the patients. These payers, which include Medicare, Medicaid, private insurance companies and managed care organizations, reimburse part or all of the costs and fees associated with the procedures utilizing the Company s products. The medical imaging services performed using the Company s software are covered by current CPT codes (Current Procedural Terminology, as defined by the Healthcare Financing Administration). As such, hospitals providing services on the Company s 3D medical imaging workstations can seek reimbursement by using existing, approved CPT codes. Medicare and Medicaid reimbursement for hospitals is based on a fixed amount for admitting a patient with a specific diagnosis. Because of this fixed reimbursement method, hospitals have incentives to use less costly methods in treating Medicare and Medicaid patients, and will frequently make capital expenditures to take advantage of less costly treatment technologies. Frequently, reimbursement is reduced to reflect the availability of a new procedure or technique and, as a result, hospitals are generally willing to implement new cost-saving technologies before these downward adjustments take effect. Likewise, because the rate of reimbursement for certain physicians who perform certain procedures has been, and may in the future, be reduced in the event of changes in the resource-based relative value scale method of payment calculation, physicians may seek greater cost efficiency in treatment to minimize any negative impact of reduced reimbursement. Any amendments to existing reimbursement rules and regulations which restrict or terminate the reimbursement eligibility (or the extent or amount of coverage) of medical procedures using the Company s products or the eligibility (or the extent or amount of coverage) of the Company s products could have a material adverse impact on business.

In response to the focus of national attention on rising health care costs, a number of changes to reduce costs have been proposed or have begun to emerge. There have been, and may continue to be, proposals by legislators and regulators and third party payers to reduce these costs. There has also been a significant increase in the number of Americans enrolling in some form of managed care plan and, in addition, many hospitals participate in or have agreements with HMOs. It has become a typical practice for hospitals to affiliate themselves with as many managed care plans as possible. Higher managed care penetration typically drives down the prices of healthcare procedures,

which in turn places pressure on medical supply prices. This causes hospitals to implement tighter vendor selection and certification processes by reducing the number of vendors used, purchasing more products from fewer vendors and trading discounts on price for guaranteed higher volumes to vendors. Hospitals have also sought to control and reduce costs over the last decade by joining group purchasing organizations or purchasing alliances. The Company cannot predict what continuing or future impact these practices, the existing or proposed legislation, or such third party payer measures may have on its future business.

Employees

As of February 28, 2001, the Company had 73 full-time employees, with 23 involved in research and development, 26 in sales and marketing, 10 in technical support functions and 14 in administrative functions. The Company is not a party to any collective bargaining agreement involving its employees and believes its relationship with its employees is good.

EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below are the names of the executive officers of the Company as of February 28, 2001, their ages, the year first elected as an executive officer of the Company and employment for the past five years.

NAME	AGE	TITLE
Albert Emola	50	President, Chief Executive Officer and Director
Vincent J. Argiro, Ph.D.	45	Chief Technology Officer, Founder and Director
Steven P. Canakes	45	Vice President - Sales
David M. Frazee	40	Vice President - Engineering
Gregory S. Furness	46	Vice President - Finance, Chief Financial Officer, Treasurer and Secretary
Jay D. Miller	41	General Manager and Vice President Business Development
Robert C. Samec	48	Vice President - Regulatory Affairs, Quality Assurance and Operations

Albert Emola. Mr. Emola was appointed President and Chief Executive Officer of Vital Images in December 1999. From January 1999 until December 1999, Mr. Emola served as an independent management consultant to start-up medical device companies. From August 1994 to January 1999, he served as President and Chief Executive Officer of Flexmedics Corporation, a designer and manufacturer of nitinol-based medical products. From May 1991 until August 1994, Mr. Emola served as a consultant to other start-up medical companies requiring broad-based strategic direction and implementation. Mr. Emola also served at St. Jude Medical, Inc. from November 1985 to May 1991, most recently as Vice President of Corporate Development.

Vincent J. Argiro, Ph.D. Dr. Argiro, the Founder of the Company, was named Chief Technology Officer of Vital Images in October 1995. From May 1994 until May 1997, Dr. Argiro also served as a Vice President of Bio-Vascular, the former parent company of Vital Images. Dr. Argiro served as a director of Bio-Vascular from May

1994 until March 1996. Following the acquisition of the Company by Bio-Vascular in May 1994, Dr. Argiro served as President of the Company until October 1995. Dr. Argiro served as Chairman of the Board of the Company from 1988 until May 1994. From 1988 to 1990 and from September 1991 to June 1992, Dr. Argiro also served as President of the Company.

Steven P. Canakes. Mr. Canakes was named Vice President Sales in March 2000. Prior to that he was the Company s Vice President U.S. Sales from August 1998 to March 2000 and its Director of U.S. Sales from March 1998 to August 1998. From July 1996 to March 1998, Mr. Canakes was Vice President of Business Development for MedManagement, LLC in Plymouth, Minnesota. From February 1994 to July 1996, Mr. Canakes served as Vice President of Sales for Medintell Systems and Value Health Corporation, a Medintell Systems Division. Prior to February 1994, Mr. Canakes was a CT Product Sales Manager for Picker International, Inc.

David M. Frazee. Mr. Frazee was named Vice President Engineering in March 1999. From July 1998 to March 1999, Mr. Frazee served as a Manager in the Solution Strategies Practice of Whittman-Hart, Inc. From April 1997 to July 1998, Mr. Frazee was Director of Program Management and Internet Products at LodgeNet Entertainment, Inc. Prior to April 1997, Mr. Frazee held several systems and software development and management positions at GE Medical Systems, Inc., most recently as Manager of the Global Software Applications Operation.

Gregory S. Furness. Mr. Furness was named Vice President Finance, Chief Financial Officer, Treasurer and Secretary of Vital Images in February 1997. From December 1987 to December 1996, Mr. Furness served as Executive Vice President and Chief Financial Officer of CAMAX Manufacturing Technologies, Inc., a computer-aided manufacturing software developer, which was acquired by Structural Dynamics Research Corporation in June 1996. Prior to December 1987, Mr. Furness was employed as Vice President, Finance and Chief Financial Officer of Mizar, Inc., and as an audit manager at Deloitte and Touche LLP. Mr. Furness is a Certified Public Accountant.

Jay D. Miller. Mr. Miller was named General Manager and Vice President Business Development in August 1998 and served as the Company s Vice President - Marketing and Business Development from February 1997 to August 1998. From 1989 until his employment by the Company, Mr. Miller was employed by GE Medical Systems, Inc. in positions of increasing responsibility in the marketing area, including serving as product manager and global product line strategy for MR imaging products and marketing manager for the cardiology market segment. Prior to 1989, Mr. Miller was employed by Siemens Medical Systems in technical marketing.

Robert C. Samec. Mr. Samec was named Vice President Regulatory Affairs and Quality Assurance in October 1998 and assumed responsibilities for Operations in September 2000. Mr. Samec served as Vice President, Regulatory/Quality of ContiMed, Inc., a urologic device developer from October 1997 to October 1998. Prior to October 1997, Mr. Samec spent 15 years with Aequitron Medical, Inc., a developer of portable respiratory devices, where he was Vice President, Regulatory Affairs/Quality Assurance.

ITEM 1A - IMPORTANT FACTORS

The following factors are important and should be considered carefully in connection with any evaluation of the Company's business, financial condition, results of operations and prospects. Additionally, the following factors could cause the Company's actual results to materially differ from those reflected in any forward-looking statements of the Company.

Historical Operating Losses

The Company had operating losses of $2,787,000, $3,303,000 and $3,467,000 for the years ended December 31, 2000, 1999 and 1998, respectively, and, with the exception of the fiscal year ended October 31, 1995, has incurred operating losses each year since 1990. As of December 31, 2000, the Company s accumulated deficit was

$19,866,000. The Company s ability to attain and maintain profitability will depend on, among other things, its ability to successfully market its products, make new product offerings, respond to competitive developments and attract and retain qualified sales, technical and management employees. There can be no assurance that the Company will achieve profitable operations. See Management s Discussion and Analysis of Financial Condition and Results of Operations.

New Product Acceptance

The Company s success depends on its ability to successfully market its *Vitrea 2* software for clinical use, and the ability and willingness of physicians to use two- and three-dimensional medical imaging software in disease screening, clinical diagnosis and therapy planning and other diagnosis, surgical, and treatment protocols. The three–dimensional medical imaging software offered by *Vitrea 2* represents a new alternative to the conventional methods traditionally used for viewing medical images in the clinical setting. The acceptance of *Vitrea 2* by physicians and other clinicians will depend on the Company s ability to educate those users as to the speed, ease-of-use and benefits offered by the *Vitrea 2* system, as well as the timely introduction of new features and functions by the Company. There can be no assurance that users will prefer three-dimensional medical imaging software over less expensive two-dimensional medical imaging software, or that the Company will succeed in its efforts to further develop, commercialize, and achieve market acceptance for its *Vitrea 2* product, or for any other product in the clinical setting. See Business Technology, Industry Background, Markets and Competition.

Substantial Reliance on a Single Product

Revenue from software and hardware sales of the *Vitrea 2* system constituted 84% of the Company s total revenue for the year ended December 31, 2000 and 78% of the Company s total revenue for the year ended December 31, 1999. Further, the Company anticipates that revenue from the sale of *Vitrea 2* will continue to account for a substantial portion of the Company s revenue for the foreseeable future. As such, the failure of physicians to accept *Vitrea 2* would have a material adverse impact on the Company s results of operations and financial condition. The Company no longer markets, but has occasional sales of, its *VoxelView* software product, which is used primarily by medical researchers.

Dependence on Market Growth

The 3D medical imaging industry in which the Company markets its products is still developing due to the fairly recent availability of high performance computers at reduced prices, the recent adoption of industry standards for the generation, transmission and storage of medical imaging data, and changing medical practices. Historically, there has been a perception that three-dimensional imaging was too slow or difficult for clinical use. This perception was due largely to the relatively slower processing speed of workstations available in the past. Although the Company believes that the recent advances in the affordability of high performance computers and in the development of industry standards for the generation, transmission, and storage of imaging data will provide opportunities for growth in the 3D medical imaging industry, given the uncertainties associated with the developing stage of this industry, there can be no assurance that it will continue to develop in the manner anticipated by the Company. Accordingly, there can be no assurance that the 3D medical imaging industry will provide growth opportunities for the Company and its software products or that the Company s business strategies will be successful as the 3D medical imaging industry continues to evolve. Ultimately, if the 3D medical imaging industry fails to develop as the Company expects, the Company s business, results of operations and financial condition will be materially and adversely affected.

Need for Additional Capital

If the Company s operations progress as anticipated, of which there can be no assurance, the Company believes that its existing cash balances, together with cash flows from operations and borrowings available under its credit facility, should be sufficient to satisfy its cash requirements for at least the next 12 months.

The timing of the Company s future capital requirements will depend on a number of factors, including, but not limited to, the ability of Vital Images to successfully market its products; the ability and willingness of physicians to use two- and three-dimensional medical imaging software in disease screening, clinical diagnosis and therapy planning and other diagnosis, surgical, and treatment protocols; the impact of competition in the 3D medical imaging business; the ability of the Company to differentiate its products from competing products; the capital equipment budget constraints of some potential purchasers; the ability of the Company to build an effective sales and distribution force; and the ability to enhance existing products and develop new products on a timely basis. To the extent that the Company s operations do not progress as anticipated, additional capital may be required sooner. There can be no assurance that any required additional capital will be available on acceptable terms, or at all, and the failure to obtain any such required capital would have a material adverse effect on Vital Images business. The issuance of additional equity securities may result in dilution of current shareholder voting and ownership interests. See Management s Discussion and Analysis of Financial Condition and Results of Operations.

Highly Competitive Industry

The Company faces intense competition in the 3D medical imaging industry. The Company expects technology to continue to develop rapidly, and the Company s success will depend to a large extent on its ability to maintain a competitive position with its products. Companies competing with the Company in the 3D medical imaging industry include large, established manufacturers of CT and MR imaging equipment. Companies such as GE Medical Systems, Siemens Medical Systems, Inc., Marconi Medical Systems and Philips Medical Systems typically offer their own medical imaging software and workstations as part of their integrated imaging and scanner systems. The Company s ability to successfully market and sell its current 3D medical imaging products to prospective customers depends, in part, on its ability to persuade such customers to separate the purchase of CT or MR equipment from the selection and purchase of 3D medical imaging workstations. In addition to having significantly greater capital and staffing resources for research and development that are critical to success in the rapidly changing 3D medical imaging industry, such companies also have well-established marketing and distribution networks and have a competitive advantage in marketing 3D medical imaging tools as an integrated part of their imaging products. While price has been less significant than other factors, increasing competition may result in price reductions and reduced gross margins. Additionally, the Company faces competition from other entities, such as other information storage and retrieval vendors, hospital, radiology and clinical systems suppliers and internal development projects sponsored by hospital radiology departments. There can be no assurance that the Company will be able to compete effectively with such manufacturers or competing entities. See Business Technology, Industry Background and Competition.

Risk of Technological Obsolescence

The 3D medical imaging market is characterized by rapid innovation and technological change. There can be no assurance that the Company will be able to compete effectively in the marketplace or that products developed by its competitors will not render its products obsolete or non-competitive. Similarly, there can be no assurance that the Company s competitors will not succeed in developing or marketing products that are viewed as providing superior clinical performance or are less expensive than the Company s products currently marketed or to be developed.

Dependence on Major Customers

One of the Company s principal distribution channels is to sell its *Vitrea 2* medical imaging workstations for inclusion with the delivery of medical imaging equipment being sold by TAMS. Sales by the Company to TAMS accounted for approximately 27%, 21% and 23% of the Company s total revenue for the years ended December 31, 2000, 1999 and 1998, respectively. Management believes a limited number of large customers may continue to account for a significant portion of the Company s revenue during any given period for the foreseeable future. Except for its marketing and distribution agreement with TAMS, the Company currently has no long-term purchase or other agreements with any of its customers and sales are generally made pursuant to purchase orders. A reduction, delay, or cancellation of orders from one or more of its significant customers likely would have a material adverse effect on the

Company s operating results. See Business-Marketing and Distribution.

Fluctuations in Operating Results

The Company may experience significant fluctuations in future annual and quarterly operating results. If these fluctuations occur, they may result in volatility in the price of the Company s common stock. Quarterly revenue and operating results may fluctuate as a result of a variety of factors including, but not limited to, the timing of significant orders, the timing of product enhancements and new product introductions by the Company, its competitors and its customers, the pricing of the Company s products, changes in customers budgets, and competitive conditions, many of which are beyond the control of the Company.

Government Regulation

The Company s products are subject to regulation by the FDA and by comparable agencies in foreign countries. In the United States, the FDA regulates the development, introduction, manufacturing, labeling and record keeping procedures for medical devices, including 3D medical imaging software and systems. The process of obtaining marketing clearance from the FDA for new products and new applications for existing products can be time-consuming and expensive. All of the current products actively marketed by the Company have received marketing clearance from the FDA pursuant to 510(k) pre-market notifications. *Vitrea 2* has been approved to be marketed for use with CT and MR scanners, and the Company s *VScore* options have been approved for use in coronary artery calcium scoring. ATL Ultrasound, Inc. (ATL) is responsible for obtaining any FDA approval necessary for the marketing and sale of Advanced 3DI. There can be no assurance, however, that clearance will be granted with respect to future products or enhancements, or that FDA review will not involve delays that would adversely affect the Company s ability to market such future products or enhancements. In addition, there can be no assurance that future products or enhancements will not be subject to the more lengthy and expensive pre-market approval process with the FDA.

Even if regulatory approvals to market a product are obtained from the FDA, these approvals may entail limitations on the indicated uses of the product. Product approvals by the FDA can also be withdrawn due to failure to comply with regulatory standards or the occurrence of unforeseen problems following initial approval. The FDA could also limit or prevent the distribution of the Company s products and has the power to require the recall of such products. FDA regulations depend heavily on administrative interpretation, and there can be no assurance that future interpretations made by the FDA or other regulatory bodies will not adversely affect the Company. The FDA may inspect the Company and its facilities from time to time to determine whether the Company is in compliance with various regulations relating to specification, development, documentation, validation, testing, quality control and product labeling. A determination that the Company is in violation of such regulations could lead to imposition of civil penalties, including fines, product recalls or product seizures and, in extreme cases, criminal sanctions.

The Company markets its products both domestically and internationally. International regulatory bodies have established varying regulations governing product standards, packaging requirements, labeling requirements, import restrictions, tariff regulations, duties and tax requirements. The inability or failure of the Company to comply with the varying regulations or the imposition of new regulations could restrict its ability to sell its products internationally and could thereby adversely affect the Company s business. See Business Governmental Regulation.

Uncertain Protection for Intellectual Property; Possible Claims of Others

Although the Company has filed patent applications with respect to certain aspects of its technology, it generally does not rely on patent protection with respect to its products and technologies. Instead, the Company relies primarily on a combination of trade secret and copyright law, employee and third-party nondisclosure agreements and other protective measures to protect intellectual property rights pertaining to its products and technologies. There can be no assurance that these measures will provide meaningful protection of the Company s trade secrets, know-how or other

intellectual property in the event of any unauthorized use, misappropriation or disclosure or that others will not independently develop similar technologies or duplicate any technology developed by the Company. In addition, to the extent that any patents are applied for, there can be no assurance that such applications will result in issued patents or, if issued, that such patents will be held to be valid or will otherwise be of value. While the Company does not believe that its products and technologies infringe any existing patents or intellectual property rights of third parties, there can be no assurance that such infringement does not exist. The costs of defending an intellectual property claim could be substantial and could adversely affect the Company, even if it was ultimately successful in defending any such claims. If the Company s products or technologies were found to infringe the rights of a third party, the Company could be required to pay significant damages or license fees or cease production, any of which could have a material adverse effect on the Company s business. See Business Intellectual Property.

Product Liability Risk; Limited Insurance Coverage

The manufacture and sale of products used in the practice of medicine entail significant risk of product liability claims. While the Company currently maintains product liability insurance in the amount of $6,000,000 per occurrence and $7,000,000 in total and also maintains errors and omissions coverage in the amount of $6,000,000 per occurrence and in total, there can be no assurance that its coverage limits will be adequate to protect the Company from any liabilities it might incur in connection with the sale of its products, or that the Company will be able to maintain this level of coverage in the future. The Company also may require increased product liability coverage as additional products and updates are released. Such insurance is expensive and in the future may not be available on acceptable terms, if at all. A successful product liability claim or series of such claims against the Company in excess of the Company s insurance coverage could have a material adverse effect on its business.

Dependence on Key Employee; Need to Hire Additional Personnel

The Company depends upon the continued active participation of Dr. Vincent J. Argiro, its Chief Technology Officer and Founder. Loss of the services of Dr. Argiro could have a material adverse effect on the Company s future business. Dr. Argiro does not have an employment agreement with the Company, but does have a confidentiality and non-competition agreement with the Company. The Company maintains key person life insurance coverage on Dr. Argiro s life in the amount of $500,000.

The Company s ability to enhance and develop markets for its current products as well as to introduce new products to the marketplace also depends on its ability to attract and retain qualified scientific and management personnel. The Company competes for such personnel with other companies, academic institutions, government entities and organizations, many of which have substantially greater capital resources, name recognition, and research and development capabilities than the Company. There can be no assurance that the Company will be successful in recruiting or retaining such personnel. The inability of the Company to recruit and retain such personnel would have a material adverse effect on the Company s business.

Management of Growth

The execution of the Company s business plan will place increasing demands on the Company s existing management and resources. There can be no assurance that the Company will be able to effectively manage any expansion of its business, which could have a material adverse effect on the Company s business, financial condition and results of operations.

Dependence on Third-Party Reimbursement

The Company s products are purchased by hospitals, clinics, imaging centers and other users, which bill various third party payers, such as government health programs, private health insurance plans, managed care organizations and other similar programs, for the health care goods and services provided to their patients. There is currently a Current

Procedural Terminology (CPT) reimbursement code for procedures, which utilize the Company s products. However, the amount of such reimbursement varies by location and is subject to change. Payers may deny reimbursement if they determine that a product used in a procedure was not used in accordance with established payer protocol regarding cost-effective treatment methods or was used for an unapproved indication. Third party payers are increasingly challenging the prices charged for medical services and, in some instances, have put pressure on service providers to lower their prices or reduce their services. The Company is unable to predict what changes will be made in the reimbursement methods used by third party healthcare payers. There can be no assurance that procedures in which the Company s products are used will be considered cost effective by third party payers, that reimbursement for such procedures will be available or, if available, that payers reimbursement levels will not adversely affect the Company s ability to sell its products on a profitable basis. In addition, there have been and may continue to be proposals by legislators, regulators and third party payers to curb further these costs in the future. Failure by hospitals and other users of the Company s products to obtain reimbursement from third party payers changes in third party payers policies toward reimbursement for procedures using the Company s products or legislative action could have a material adverse effect on the Company s business. See Business Third Party Reimbursement and Cost Containment.

Uncertainty of Health Care Reform

The levels of revenue and profitability of medical technology companies may be affected by the efforts of government and third party payers to contain or reduce the costs of health care through various means. In the United States there have been, and the Company expects that there will continue to be, a number of federal, state, and private proposals to control health care costs. These proposals may contain measures intended to control public and private spending on health care as well as to provide universal public access to the health care system. If enacted, these proposals may result in a substantial restructuring of the health care delivery system. Significant changes in the nation s health care system could have a substantial impact on the manner in which the Company conducts its business and could have a material adverse effect on the Company s business, financial condition and results of operations.

Possible Issuances of Preferred Stock; Certain Anti-Takeover Considerations

The Company s Articles of Incorporation authorize the Company s Board of Directors, without any action by its shareholders, to establish the rights and preferences of up to 5,000,000 shares of currently undesignated preferred stock. Such shares of preferred stock could possess voting and conversion rights, which could adversely affect the voting power of the holders of the common stock and may have the effect of delaying, deferring or preventing a change in control of the Company. No shares of preferred stock or other senior equity securities are currently designated and currently there is no plan to designate or to issue any such securities. The Company is also subject to certain anti-takeover provisions of the Minnesota Business Corporation Act. In addition, the Company has adopted a Shareholder Rights Plan (the Rights Agreement) designed to protect the Company and its shareholders from unsolicited attempts to acquire the Company. These measures may, in certain circumstances, deter or discourage takeover attempts and other changes in control of the Company not approved by its Board of Directors and may have a depressive effect on any market for the Company s stock. As a result, the Company s shareholders may lose opportunities to dispose of their shares at the higher prices typically available in takeover attempts or that may be available under a merger proposal. In addition, these measures may have the effect of permitting the Company s current directors to retain their positions and place them in a better position to resist changes that the Company s shareholders may wish to make if they are dissatisfied with the conduct of the Company s business.

No Dividends

The Company has not paid cash dividends on its common stock in the past and does not intend to do so in the foreseeable future. See "Dividend Policy."

Limitations on Director Liability

As permitted by Minnesota law, the Company s Articles of Incorporation provide that a director of the Company shall not be personally liable to the Company or its shareholders for monetary damages for breach of fiduciary duty as a director, with certain exceptions. These provisions may discourage shareholders from bringing suit against a director for breach of fiduciary duty and may reduce the likelihood of derivative litigation brought by shareholders on behalf of the Company against a director. In addition, the Company s Bylaws provide for mandatory indemnification of directors and officers to the fullest extent permitted by Minnesota law.

Item 2. PROPERTIES

The Company's principal office is located in Plymouth, Minnesota, where the Company currently occupies approximately 24,000 square feet under a lease that expires July 31, 2005. Under certain conditions contained in the lease, the Company has the option to expand its facilities.

The Company considers its current facilities adequate for its current needs and believes that suitable additional space will be available as and if needed.

Item 3. LEGAL PROCEEDINGS

The Company is not engaged in any legal proceedings at this time.

Item 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

There was no matter submitted to the vote of security holders during the fourth quarter of 2000.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Effective September 29, 2000 the Company s common stock began trading on the Nasdaq SmallCap Market under the symbol VTAL. Prior to September 29, 2000, the Company s common stock traded on the OTC Bulletin Board under the symbol VTAL. The table below reflects the high and low per share closing sale prices of the Company s common stock as reported by The Nasdaq Stock Market for the fourth quarter 2000 and, for each of the periods indicated prior to the fourth quarter of 2000, the high and low closing bid quotations for the Company's common stock as reported by the OTC Bulletin Board. Such prices reflect inter-dealer prices, do not include adjustments for retail mark-ups, markdowns or commissions and may not necessarily represent actual transactions.

	High	Low
2000		
Fourth Quarter	$5.94	$3.44
Third Quarter	6.88	4.94
Second Quarter	8.63	5.38
First Quarter	10.94	4.63
1999		
Fourth Quarter	$5.38	$3.25
Third Quarter	8.38	4.00
Second Quarter	8.38	2.88

First Quarter	4.63	1.50

The Company has never paid or declared any cash dividends on its common stock and does not intend to pay dividends on its common stock in the near future. To date, the Company has incurred losses and presently expects to retain its future anticipated earnings to finance development and expansion of its business. As of February 28, 2001, there were approximately 4,000 beneficial owners and approximately 1,200 registered holders of record of the Company's common stock.

Item 6. SELECTED FINANCIAL DATA

The following selected financial data for each of the fiscal years in the five-year period ended December 31, 2000 is derived from the audited financial statements of the Company and the notes thereto. The information set forth below should be read in conjunction with the Company's financial statements, including the notes thereto, and "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this Annual Report on Form 10-K.

(In thousands, except per share data)

	For the Years Ended or As of December 31,				For the Two Months Ended or As of December 31, 1996(1)	For the Year Ended or As of October 31,) 1996(1)
	2000	**1999**	**1998**	**1997(1)**		
Statements of Operations Data:						
Revenue	$10,628	$6,623	$4,527	$1,218	$65	$882
Gross margin	8,110	5,080	3,302	915	53	720
Operating expenses:						
Selling, general and administrative	7,861	5,858	4,954	3,871	328	1,805
Research and development	3,036	2,525	1,815	2,255	333	1,460
Operating loss	(2,787)	(3,303)	(3,467)	(5,211)	(608)	(2,545)
Net loss	$(2,637)	$(3,218)	$(3,209)	$(4,774)	$(521)	$(2,546)
Net loss per share basic and diluted (2)	$(0.39)	$(0.64)	$(0.66)	$(1.00)	$(0.11)	$(0.54)
Weighted average common shares outstanding basic and diluted(2)	6,760	5,046	4,841	4,772	4,745	4,716
Balance Sheets Data:						
	$2,344	$5,409	$3,360	$6,415	$6,214	$(258)

Working capital (deficiency)						
Total assets	7,287	8,666	5,938	8,296	10,493	943
Short and long-term debt	-	-	-	-	-	-
Total equity	3,765	6,098	4,134	7,253	9,720	174

(1) Reflects Vital Images' results as a wholly-owned subsidiary of Bio-Vascular from January 1996 through May 12, 1997. Vital Images was merged with Bio-Vascular in May 1994 in a transaction accounted for as a pooling-of-interests and subsequently spun-off as an independent, publicly-owned company in May 1997. Results of operations during the period from January 1996 through May 12, 1997 include allocations of certain general corporate expenses of Bio-Vascular.

(2) For periods after and including May 12, 1997, basic and diluted net loss per share is computed using the weighted average common shares outstanding during the period. Common share equivalents are not included in the net loss per share calculations since they are anti-dilutive.

For periods prior to May 12, 1997, the weighted average common shares outstanding used in the net loss per share calculation is one-half of the weighted average of Bio-Vascular common shares outstanding based on the distribution of one share of the Company's common stock for each two shares of Bio-Vascular's common stock.

Item 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

Vital Images develops, markets and supports 3D medical imaging software for use primarily in disease screening, clinical diagnosis and therapy planning. The Company s software applies proprietary computer graphics and image processing technologies to a wide variety of data supplied by computed tomography (CT) scanners, magnetic resonance (MR) imaging devices and ultrasound scanning equipment. Vital Images products allow clinicians to create both two- and three-dimensional views of human anatomy and to non-invasively navigate within these images to better visualize and understand internal structures and pathologies. The Company believes that its high-speed visualization technology and customized protocols cost-effectively brings 3D visualization and analysis into the routine, day-to-day practice of medicine. The Company, which operates in a single business segment, markets its products to healthcare providers and to manufacturers of diagnostic imaging systems through a direct sales force in the United States and independent distributors in international markets.

On October 28, 1996, the Board of Directors of Bio-Vascular, Inc. ("Bio-Vascular"), the former parent company of Vital Images, approved a plan to spin off and establish Vital Images as an independent, publicly-owned company. On May 12, 1997 (the "Distribution Date"), Bio-Vascular distributed all of the shares of Vital Images to the shareholders of Bio-Vascular (the "Distribution"), and on that date Vital Images began operating as an independent public company. All Bio-Vascular shareholders of record as of May 5, 1997 received one share of Vital Images common stock for each two shares of Bio-Vascular stock held on that date, and cash in lieu of fractional shares. Vital Images common stock is currently traded on The Nasdaq SmallCap Market under the symbol VTAL.

Revenue

Total revenue increased 60% to $10,628,000 in 2000 compared with $6,623,000 in 1999. Total revenue in 1999 increased 46% from total revenue of $4,527,000 in 1998. These increases were primarily the result of volume increases in shipments of *Vitrea® 2*, the Company s flagship 3D medical imaging software. Software and hardware revenue from the *Vitrea 2* platform totaled $8,963,000, or 84% of total revenue in 2000, compared with $5,143,000, or 78% of total revenue in 1999, and $3,234,000, or 71% of total revenue in 1998. *Vitrea 2* software and hardware

revenue increased 70% in 2000 compared with 1999 and 59% in 1999 compared with 1998. In addition, there was a $620,000 increase in maintenance and service revenue related to *Vitrea 2* sales in 2000 as compared with 1999 and there was also a $388,000 increase in 1999 compared with 1998. Royalties received from the Company s license agreement with Paradigm Geophysical Corporation (Paradigm) decreased in 2000 as compared to 1999 and decreased in 1999 compared to 1998. Revenue received under the license agreement with Paradigm was $210,000, $462,000 and $618,000 in 2000, 1999 and 1998, respectively. License fee revenue and maintenance revenue from *VoxelView*® software, the Company s product for the research market, decreased from $269,000 in 1999 to $89,000 in 2000 and was flat in 1999 as compared to 1998.

Gross Margin

The Company s gross margin percentage was down slightly to 76% in 2000 from 77% in 1999. The gross margin percentage was 73% in 1998. The *Vitrea 2* system, consisting of *Vitrea 2* software and third-party hardware and peripherals, is designed to offer end users an integrated 3D medical imaging system. The Company receives only a nominal discount in purchasing the third-party hardware and peripheral components of the *Vitrea 2* system, and the Company's gross margin on the resale of these system components approximates its discount. The Company anticipates that hardware revenue related to the sale of *Vitrea 2* software will continue to account for a significant proportion of the Company's total revenue and therefore, the overall gross margin percentage will continue to approximate the results of 2000.

Sales and Marketing

Sales and marketing expenses were $5,651,000, or 53% of total revenue, $3,886,000, or 59% of total revenue, and $2,955,000, or 65% of total revenue, for 2000, 1999 and 1998, respectively. The increase in expenses from 1999 to 2000 was primarily due to additional personnel, increased compensation costs as a result of increased sales commissions and increased travel expenses related to selling and promoting the *Vitrea 2* product. There were also advertising and promotional costs during 2000 that increased the marketing expenses over 1999. The increase in expenses from 1998 to 1999 was primarily due to increased compensation costs as a result of additional personnel and sales commissions. There were also increases from 1998 to 1999 in travel expenses as well as advertising and promotion expenses related to selling and promoting the *Vitrea 2* product. Depreciation expense also increased in 2000 as compared with 1999 and in 1999 as compared with 1998, primarily due to equipment purchases used for the additional personnel and equipment for tradeshows and, in 2000, the addition of furniture and fixtures at the Company s new leased facilities. During these periods, sales and marketing expenses as a percentage of revenue declined primarily due to the Company s ability to leverage these expenses into more significant revenue. The Company expects sales and marketing costs to increase in future periods primarily as a result of having a full year of expenses related to employees hired in 2000.

Research and Development

Research and development expenses were up 20% to $3,036,000, or 29% of total revenue, in 2000 from $2,525,000, or 38% of total revenue, in 1999. The increase in expenses was primarily due to increased compensation costs as a result of additional personnel. Research and development expenses were $1,815,000, or 40% of total revenue, in 1998. The increase from 1998 to 1999 was primarily due to a $285,000 decrease in the amount of engineering costs reimbursed pursuant to a software development contract with ATL Ultrasound, Inc. (ATL) and an increase in compensation and recruiting costs due to the hiring of additional personnel. There was also an increase in depreciation expense in 2000, 1999 and 1998 primarily as the result of equipment purchases to support the additional personnel. The decreases in research and development expenses as a percentage of revenue during these periods reflects the Company s ability to generate increasing revenue resulting from its product development efforts. The Company anticipates that research and development expenses will increase in future periods as additional releases of *Vitrea 2* software are developed.

General and Administrative

General and administrative expenses were $2,210,000, or 21% of total revenue, $1,971,000, or 30% of total revenue and $1,999,000, or 44% of total revenue, in 2000, 1999 and 1998, respectively. The increase from 1999 to 2000 was due to increases in compensation costs, legal fees for patent work and additional SEC filings, and shareholder communication costs and, in 2000, higher depreciation expense due to the addition of furniture and equipment at the Company s new leased facilities. The decrease from 1998 to 1999 was primarily due to the absence of costs in 1999 related to the resignation of the Company s former Chief Executive Officer and the decrease of expenses related to the closing of the Company s Iowa facility, primarily due to negotiating an early termination of the lease for that facility. These decreases were partially offset by increases in shareholder communications and compensation costs. The decreases in general and administrative expenses as a percentage of revenue during these periods reflects the Company s ability to limit operating costs while increasing revenue. The Company believes that general and administrative costs will increase in future periods primarily due to increased compensation expense for new employees.

Results of Operations

The increasing revenue from *Vitrea 2* shipments and related service revenue, net of the increased expenses attributable to the development of the Company's infrastructure and the development and promotion of the *Vitrea 2* product, resulted in an operating loss of $2,787,000 for 2000 compared with an operating loss of $3,303,000 for 1999 and an operating loss of $3,467,000 for 1998.

Interest Income

There was $162,000 of interest income for 2000, compared with $91,000 in 1999 and $264,000 in 1998. The increase in interest income from 1999 to 2000 was due to an increase in cash from the Company s private placement of common stock in December 1999. The decrease in interest income from 1998 to 1999 was due to a lower balance of cash, cash equivalents and marketable securities throughout the year as a result of the use of cash to fund the Company s operations.

Income Taxes

The income tax provisions for 2000, 1999 and 1998 consist solely of certain state minimum fees. As a result of the Company s history of generating net operating losses, the Company has established a valuation allowance to completely reserve for the deferred tax assets of the Company.

Liquidity and Capital Resources

As of December 31, 2000, the Company had $2,291,000 in cash and cash equivalents, working capital of $2,344,000 and no material borrowings. The Company has a collateralized line of credit agreement with a bank for $1,000,000. Borrowings under the agreement are limited to the lower of $1,000,000 or the Company s borrowing base, which consists of a specified percentage of certain accounts receivable. The Company is also required to maintain a cash and cash equivalents balance of at least $1,000,000 at the lending bank. As of December 31, 2000, the Company s available borrowings under the agreement were $1,000,000.

Cash used in operations decreased to $1,961,000 for 2000 from $3,064,000 in 1999. For 1998, $2,342,000 of cash was used in operations. Cash flows were used primarily to fund operating losses in each of the years 2000, 1999 and 1998, which were partially offset by non-cash expenses for depreciation and amortization and the provision for uncollectible accounts receivable in 2000, 1999 and 1998. Increases in accounts receivable reduced cash flows while increases in current liabilities increased cash flows in each of the years 2000, 1999 and 1998. Increases in deferred revenue also resulted in increased cash flows in 2000, 1999 and 1998.

The increases in current liabilities in 2000, 1999 and 1998 were due primarily to increases in accounts payable and accrued payroll and other liabilities. The increases in accounts receivable and accounts payable were due primarily to volume increases in *Vitrea 2* sales and costs related thereto, respectively. The increases in accrued payroll and other liabilities in 2000, 1999 and 1998 were primarily due to increases in accrued vacation due to increases in headcount and increases in commissions as a result of increased revenue.

Net investing activities used $1,384,000 of cash in 2000 due to additions of property and equipment primarily due to the move to new office facilities in 2000 and equipment for additional headcount. Net investing activities provided $1,474,000 and $3,555,000 of cash in 1999 and 1998, respectively, primarily due to the conversion of marketable securities into cash. The Company added property and equipment of $512,000 and $423,000 in 1999 and 1998, respectively, primarily for computer equipment to accommodate the increases in employee headcount.

Cash provided by financing activities totaled $303,000, $5,171,000 and $91,000 in 2000, 1999 and 1998, respectively. A private placement of the Company s common stock and warrants completed by the Company in December 1999 was primarily responsible for the cash provided by financing activities in 1999. During 2000, 1999 and 1998, net cash of $303,000, $426,000 and $91,000, respectively, was provided by proceeds from the exercise of stock options.

The Company has never paid or declared any cash dividends and does not intend to pay dividends in the near future. The Company expects to use cash in the near term as it continues to develop the infrastructure to support its business and develop the market for its products.

Management believes that its cash, cash equivalents and borrowings available under the credit agreement should be sufficient to satisfy its cash requirements for at least the next twelve months.

Foreign Currency Transactions

Substantially all of the Company's foreign transactions are negotiated, invoiced and paid in U.S. dollars.

Inflation

Management believes inflation has not had a material effect on the Company's operations or on its financial condition.

Recent Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 133, Accounting for Derivative Instruments and Hedging Activities. This statement establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts (collectively referred to as derivatives) and for hedging activities. SFAS No. 133, as amended by SFAS Nos. 137 and 138, is required to be adopted by the Company effective January 1, 2001. The Company does not expect SFAS No. 133, as amended, to materially affect its financial position or results of operations.

The Securities and Exchange Commission issued Staff Accounting Bulletin (SAB) No. 101, Revenue Recognition in Financial Statements, in December 1999. SAB No. 101, as amended, provides further interpretive guidance for publicly traded companies in applying generally accepted accounting principles to revenue recognition in financial statements. The Company adopted SAB No. 101 in the fourth quarter of 2000. The adoption of SAB No. 101 had no effect on the Company s financial position or results of operations.

Market Risk

The Company is exposed to market risk related to changes in the fair value of its financial instruments due to changes in interest rates. The Company does not have any foreign subsidiaries and substantially all of the Company s transactions are denominated in U.S. dollars.

Forward-Looking Statements

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and information that is based on management s beliefs as well as on assumptions made by, and upon information currently available to, management. When used in this Annual Report on Form 10-K, the words expect, anticipate, intend, plan, believe, seek, and estimate, or similar expressions a to identify such forward-looking statements. However, this Annual Report on Form 10-K also contains other forward-looking statements. Forward-looking statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions, including, but not limited to, the following factors, which could cause the Company s future results and shareholder values to differ materially from those expressed in any forward-looking statements made by or on behalf of the Company: the dependence on market growth of the industry in which the Company operates; the extent to which the Company s products gain market acceptance; the need for and availability of additional capital; the potential for litigation regarding patent and other intellectual property rights; the introduction of competitive products by others; dependence on major customers; fluctuations in quarterly results; the progress of product development; the availability of third party reimbursement; and the receipt and timing of regulatory approvals and other factors detailed from time to time in the Company s filings with the Securities and Exchange Commission, including those set forth under the heading Important Factors included in Item 1 of this Annual Report on Form 10-K.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The Company s financial statements, supplemental schedule and Report of Independent Accountants thereon, all of which are included in this Annual Report on Form 10-K, are listed in Item 14 (a) (1) of this Form 10-K.

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

None.

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF REGISTRANT

(a) Directors of the Registrant.

The information under the caption Election of Directors in the Company's 2001 Proxy Statement is incorporated herein by reference.

(b) Executive officers of the Registrant.

Information concerning Executive Officers of the Company is included in this Report under Item 1, Executive Officers of the Registrant.

(c) Compliance with 16(a) of the Securities Exchange Act of 1934.

The information under the caption Compliance with Section 16 (a) in the Company's 2001 Proxy Statement is incorporated herein by reference.

Item 11. EXECUTIVE COMPENSATION

The information under the caption Executive Compensation and Director Compensation in the Company's 2001 Proxy Statement is incorporated herein by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information under the caption Beneficial Ownership of Common Stock in the Company's 2001 Proxy Statement is incorporated herein by reference.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

There are no reportable transactions.

PART IV

Item 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) (1) The following financial statements and supplemental schedule of Vital Images, Inc. and Report of Independent Accountants thereon are included herein:

Report of Independent Accountants

Balance Sheets as of December 31, 2000 and 1999

Statements of Operations for the years ended December 31, 2000, 1999 and 1998

Statements of Shareholders Equity for the years ended December 31, 2000, 1999 and 1998

Statements of Cash Flows for the years ended December 31, 2000, 1999 and 1998

Notes to Financial Statements

Schedule II. Valuation and Qualifying Accounts

(a) (2) Included in Item 14 (a) (1) above

All other schedules to the financial statements required by Article 7 of Regulation S-X are not required under the related instructions or are inapplicable and therefore have been omitted.

(a) (3) LISTING OF EXHIBITS

The Exhibits required to be a part of this Report are listed in the Index to Exhibits, which follows the Financial Statement Schedule.

(b) REPORTS ON FORM 8-K

The Company had no Current Reports on Form 8-K during the year ended December 31, 2000 or during the period from December 31, 2000 to the date of this Annual Report on Form 10-K.

(c) EXHIBITS

Included in Item 14 (a) (3) above.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, in Minneapolis, Minnesota, on the 30th day of March 2001.

VITAL IMAGES, INC.

By: /s/Gregory S. Furness

Gregory S. Furness
Chief Financial Officer and
Vice President-Finance
(Chief Accounting Officer)

Pursuant to the requirement of the Securities Exchange Act of 1934, this Report has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/Albert Emola Albert Emola	President, Chief Executive Officer and Director (Principal Executive Officer)	March 30, 2001
/s/Gregory S. Furness Gregory S. Furness	Chief Financial Officer, Vice President-Finance, Treasurer and Secretary (Chief Accounting Officer)	March 30, 2001
/s/Douglas M. Pihl Douglas M. Pihl	Chairman of the Board and Director	March 30, 2001
/s/Vincent J. Argiro Vincent J. Argiro	Chief Technology Officer, Founder and Director	March 30, 2001
/s/James B. Hickey, Jr.	Director	March 30, 2001

James B. Hickey, Jr
.

/s/Richard W. Perkins	Director	March 30, 2001
Richard W. Perkins		
/s/Michael W. Vannier	Director	March 30, 2001
Michael W. Vannier		
/s/Sven A. Wehrwein	Director	March 30, 2001
Sven A. Wehrwein		

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Shareholders of
Vital Images, Inc.:

In our opinion, the financial statements listed in the index appearing under Item 14(a)(1) present fairly, in all material respects, the financial position of Vital Images, Inc. (the Company) at December 31, 2000 and 1999, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2000 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 14(a)(1) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related financial statements. These financial statements and financial statement schedule are the responsibility of the Company s management; our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit 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, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP
Minneapolis, Minnesota
February 9, 2001

VITAL IMAGES, INC.
BALANCE SHEETS

	As of December 31,	
	2000	**1999**
ASSETS		
Current assets:		

Cash and cash equivalents	$2,291,107	$5,332,885
Accounts receivable, net of allowance for doubtful accounts of $215,000 and $93,000 as of December 31, 2000 and 1999, respectively	3,024,299	2,005,114
Prepaid expenses and other current assets	441,500	463,309
Total current assets	5,756,906	7,801,308
Property and equipment, net	1,529,688	864,479
TOTAL ASSETS	$7,286,594	$8,665,787
LIABILITIES AND SHAREHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$1,019,898	$831,741
Accrued payroll	799,975	539,977
Deferred revenue	1,238,344	758,110
Other current liabilities	354,350	262,183
Total current liabilities	3,412,567	2,392,011
Deferred revenue	109,353	175,360
Total liabilities	3,521,920	2,567,371
Commitments		
Shareholders equity:		
Preferred stock: $0.01 par value; 5,000,000 shares authorized; none issued or outstanding as of December 31, 2000 and 1999	-	-
Common stock: $0.01 par value; 20,000,000 shares authorized; 6,823,106 and 6,695,867 shares issued and outstanding as of December 31, 2000 and 1999, respectively	68,231	66,959
Additional paid-in capital	23,562,444	23,260,227
Accumulated deficit	(19,866,001)	(17,228,770)
Total shareholders equity	3,764,674	6,098,416
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	$7,286,594	$8,665,787

(The accompanying notes are an integral part of the financial statements.)

VITAL IMAGES, INC.
STATEMENTS OF OPERATIONS

	For the Years Ended December 31,		
	2000	**1999**	**1998**
Revenue:			
License fees	$7,037,227	$4,181,750	$2,734,783
Maintenance and services	1,411,583	831,196	511,564
Hardware	2,179,381	1,610,414	1,281,004
Total revenue	10,628,191	6,623,360	4,527,351
Cost of revenue:			
License fees	238,775	139,025	147,387
Maintenance and services	385,950	197,705	120,989
Hardware	1,893,075	1,206,846	956,767
Total cost of revenue	2,517,800	1,543,576	1,225,143
Gross margin	8,110,391	5,079,784	3,302,208
Operating expenses:			
Sales and marketing	5,651,333	3,886,295	2,955,317
Research and development	3,036,016	2,524,670	1,814,602
General and administrative	2,209,999	1,971,435	1,999,141
Total operating expenses	10,897,348	8,382,400	6,769,060
Operating loss	(2,786,957)	(3,302,616)	(3,466,852)
Interest income	161,726	90,991	263,668
Loss before income taxes	(2,625,231)	(3,211,625)	(3,203,184)
Income taxes	12,000	6,000	6,265
Net loss	$(2,637,231)	$(3,217,625)	$(3,209,449)
Net loss per share basic and diluted	$(0.39)	$(0.64)	$(0.66)
Weighted average common shares outstanding basic and diluted	6,760,233	5,045,530	4,840,814

(The accompanying notes are an integral part of the financial statements.)

VITAL IMAGES, INC.
STATEMENTS OF SHAREHOLDERS EQUITY

	Common Stock		Additional Paid-In-Capital	Accumulated Deficit	Total Shareholders Equity
	Shares	Amount			
Balances as of December 31, 1997	4,806,561	$48,066	$18,006,824	$(10,801,696)	$7,253,194
Cancellation of restricted stock	(2,383)	(24)	24	-	-
Issuance of common stock upon exercise of stock options	41,925	419	57,391	-	57,810
Issuance of common stock under Employee Stock Purchase Plan	24,394	244	32,468	-	32,712
Net and comprehensive loss				(3,209,449)	(3,209,449)
Balances as of December 31, 1998	4,870,497	48,705	18,096,707	(14,011,145)	4,134,267
Cancellation of restricted stock	(1,881)	(19)	19	-	-
Stock based compensation	-	-	10,781	-	10,781
Issuance of common stock upon exercise of stock options	153,484	1,535	358,306	-	359,841
Issuance of common stock under Employee Stock Purchase Plan	23,767	238	66,407	-	66,645
Issuance of common stock in connection with private placement, net of offering costs	1,650,000	16,500	4,728,007	-	4,744,507
Net and comprehensive loss				(3,217,625)	(3,217,625)
Balances as of December 31, 1999	6,695,867	66,959	23,260,227	(17,228,770)	6,098,416
Issuance of common stock upon exercise of stock options	105,650	1,056	216,468	-	217,524
Issuance of common stock under Employee Stock Purchase Plan	21,589	216	85,749	-	85,965
Net and comprehensive loss				(2,637,231)	(2,637,231)
Balances as of December 31, 2000	6,823,106	$68,231	$23,562,444	$(19,866,001)	$3,764,674

(The accompanying notes are an integral part of the financial statements.)

VITAL IMAGES, INC.
STATEMENTS OF CASH FLOWS

	For the Years Ended December 31,		
	2000	**1999**	**1998**
CASH FLOWS FROM OPERATING ACTIVITIES:			

Net loss	$(2,637,231)	$(3,217,625)	$(3,209,449)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	718,978	563,420	504,949
Stock-based compensation	-	10,781	-
Provision for uncollectible accounts receivable	122,000	15,000	52,313
Other	-	-	40,267
Changes in operating assets and liabilities:			
Accounts receivable	(1,141,185)	(871,005)	(620,292)
Prepaid expenses and other current assets	21,809	(328,192)	129,709
Accounts payable	188,157	326,481	301,681
Deferred revenue	414,227	411,004	109,803
Accrued payroll and other liabilities	352,165	26,518	349,067
Net cash used in operating activities	(1,961,080)	(3,063,618)	(2,341,952)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Additions to property and equipment	(1,384,187)	(511,661)	(423,240)
Investments in marketable securities	-	(1,014,444)	(9,522,092)
Maturities of marketable securities	-	3,000,000	13,500,000
Net cash (used in) provided by investing activities	(1,384,187)	1,473,895	3,554,668
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net proceeds from private placement	-	4,744,507	-
Purchases of common stock under Stock option plans	303,489	426,486	90,522
Net cash provided by financing activities	303,489	5,170,993	90,522
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(3,041,778)	3,581,270	1,303,238
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	5,332,885	1,751,615	448,377
CASH AND CASH EQUIVALENTS, END OF YEAR	$2,291,107	$5,332,885	$1,751,615

(The accompanying notes are an integral part of the financial statements.)

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(1) Business Description and Background

Business Description

Vital Images develops, markets and supports 3D medical imaging software for use primarily in disease screening, clinical diagnosis and therapy planning. The Company s software applies proprietary computer graphics and image processing technologies to a wide variety of data supplied by computed tomography (CT) scanners, magnetic resonance (MR) imaging devices and ultrasound scanning equipment. Vital Images products allow clinicians to create

both two- and three-dimensional views of human anatomy and to non-invasively navigate within these images to better visualize and understand internal structures and pathologies. The Company believes that its high-speed visualization technology and customized protocols cost-effectively bring 3D visualization and analysis into the routine, day-to-day practice of medicine. The Company, which operates in a single business segment, markets its products to healthcare providers and to manufacturers of diagnostic imaging systems through a direct sales force in the United States and independent distributors in international markets.

Background

On October 28, 1996, the Board of Directors of Bio-Vascular, Inc. (Bio-Vascular), the former parent company of Vital Images, approved a plan to spin off and establish Vital Images as an independent, publicly owned company. On May 12, 1997 (the Distribution Date), Bio-Vascular distributed all of the shares of Vital Images to the shareholders of Bio-Vascular (the Distribution), and on that date Vital Images began operating as an independent public company. All Bio-Vascular shareholders of record as of May 5, 1997 received one share of Vital Images common stock for each two shares of Bio-Vascular stock held on that date, and cash in lieu of fractional shares.

(2) Summary of Significant Accounting Policies

Use of Estimates

The preparation of the Company s financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Financial Instruments

The Company considers all highly liquid investments acquired with an original maturity of three months or less to be cash equivalents. Investments having original maturities in excess of three months are classified as marketable securities. Investments are classified as short-term or long-term on the balance sheet based on their maturity date. All of the Company s marketable securities are classified as available-for-sale and all mature in one year or less. Available-for-sale investments are recorded at market value, which is based on quoted market prices, with unrealized holding gains and losses included as a separate component of shareholders equity. The Company uses a specific identification cost method to determine the gross realized gains and losses on the sale of its securities.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

Concentration of Credit Risk

Cash is held primarily by one financial institution. Cash equivalents and marketable securities are invested in money market accounts and a limited number of corporate bonds. The Company's customer base is generally concentrated with a small base of customers. The Company reviews the creditworthiness of its customers prior to product shipment and generally does not require collateral.

Property and Equipment

Property and equipment are stated at cost. Depreciation is computed using the straight-line method over the related asset s estimated useful life, generally three to seven years. Leasehold improvements are amortized over the shorter of their estimated useful lives or the remaining terms of the related leases. The asset cost and related accumulated

depreciation or amortization is adjusted for asset retirement or disposal with the resulting gain or loss, if any, credited or charged to results of operations.

Revenue Recognition

The Company recognizes revenue in accordance with AICPA Statement of Position (SOP) 97-2, Software Revenue Recognition, as amended by SOP 98-4. Revenue is derived from the licensing of computer software, sales of system hardware, maintenance and from services consisting of installation, training and consulting services.

In software arrangements that include the rights to multiple software products, system hardware, specified upgrades, maintenance or services, the Company allocates the total arrangement fee among each deliverable based on the relative fair value of each of the deliverables determined based on vendor-specific objective evidence. In software arrangements in which the Company does not have vendor-specific objective evidence, revenue is deferred until the earlier of when vendor-specific objective evidence is determined for the undelivered elements or when all elements have been delivered.

Revenue from license fees is recognized when persuasive evidence of an agreement exists, shipment of the product has occurred, no significant Company obligations with regard to implementation remain, the fee is fixed and determinable and collection is probable. Revenue allocable to maintenance is recognized on a straight-line basis over the periods in which it is provided. The Company evaluates arrangements that include services to determine whether those services are essential to the functionality of other elements of the arrangement. Currently, the Company s services are not considered essential to the functionality of other elements, and accordingly, revenue allocable to services is recognized as the services are performed. Hardware revenue is recognized upon shipment when all other revenue recognition criteria in the arrangement have been met.

Research and Development Costs

Costs related to research, design and development of products are charged to research and development expense as incurred. Software development costs are capitalized beginning when a product's technological feasibility has been established and ending when a product is available for general release to customers. The Company uses the working model approach to determine technological feasibility. Generally, the Company's products are released soon after technological feasibility has been established. As a result, the Company has not capitalized any software development costs, since such costs have not been significant.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

Income Taxes

The Company accounts for income taxes using the asset and liability method. Deferred income tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

Net Loss Per Share

Net loss per share is computed using the weighted average common shares outstanding during the period. Common share equivalents are not included in the net loss per share calculations since they are anti-dilutive. Warrants and options to purchase 3,889,675, 3,624,561 and 1,440,318 shares of the Company s common stock were outstanding as of December 31, 2000, 1999 and 1998 respectively, and could potentially dilute basic earnings per share in future

periods, if the Company generates net income.

Stock-Based Compensation

The Company has chosen to continue to account for stock options granted to employees and directors using the intrinsic value method prescribed by APB Opinion No. 25, *Accounting for Stock Issued to Employees,* and related interpretations. Accordingly, compensation cost for stock options granted is measured as the excess, if any, of the value of the Company's stock as of the date of the grant over option exercise price. Such compensation cost is amortized on a straight-line basis over the underlying vesting term of the option.

Recent Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 133, Accounting for Derivative Instruments and Hedging Activities. This statement establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts (collectively referred to as derivatives) and for hedging activities. SFAS No. 133, as amended by SFAS Nos. 137 and 138, is required to be adopted by the Company effective January 1, 2001. The Company does not expect SFAS No. 133, as amended, to materially affect its financial position or results of operations.

The Securities and Exchange Commission issued Staff Accounting Bulletin (SAB) No. 101, Revenue Recognition in Financial Statements, in December 1999. SAB No. 101, as amended, provides further interpretive guidance for publicly traded companies in applying generally accepted accounting principles to revenue recognition in financial statements. The Company adopted SAB No. 101 in the fourth quarter of 2000. The adoption of SAB No. 101 had no effect on the Company s financial position or results of operations.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(3) Supplemental Financial Statement Information

Cash and Cash Equivalents and Marketable Securities

	December 31,	
	2000	**1999**
Cash and cash equivalents:		
Cash	$1,192,633	$-
Money market funds	1,098,474	5,332,885
Cash and cash equivalents	$2,291,107	$5,332,885

Cost approximates market for all classifications of financial instruments. Realized gains and losses on marketable securities were not significant for the years ended December 31, 1999 and 1998.

Property and Equipment

	December 31,

	2000	1999
Equipment	$2,730,272	$2,122,651
Furniture and fixtures	795,726	188,958
Computer software	393,260	316,274
Leasehold improvements	79,861	-
Total property and equipment	3,999,119	2,627,883
Less accumulated depreciation and amortization	(2,469,431)	(1,763,404)
Property and equipment, net	$1,529,688	$864,479

(4) Line of Credit

In June 2000, the Company renewed a credit agreement with a bank for a short-term line of credit for borrowings up to $1,000,000. Borrowings under the line of credit agreement bear interest at one-half percent over the prime rate as printed in the Wall Street Journal (9.50% as of December 31, 2000). Borrowings under the agreement are limited to the lower of $1,000,000 or the Company s borrowing base, which consists of a specified percentage of certain accounts receivable. Borrowings under the agreement are collateralized by substantially all of the Company s assets. The line of credit agreement is renewable on an annual basis and contains certain restrictive covenants, which, among other things, require the Company to maintain a net worth of at least $2,000,000 and cash and cash equivalents of at least $1,000,000 at the lending bank. There were no amounts outstanding under the credit agreement as of December 31, 2000 and 1999 and the available borrowings were $1,000,000 at December 31, 2000.

(5) Deferred Revenue

Deferred revenue consists primarily of deferred licensing and maintenance revenue and is amortized on a straight-line basis over the term of the arrangement.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(6) Lease Commitments

In October 1999, the Company entered into a non-cancelable office facilities lease in Plymouth, Minnesota commencing on February 1, 2000 and expiring on July 31, 2005. Under the terms of the lease the Company is also required to pay a portion of allocable operating costs.

Total rent expense, including an allocation of operating costs, was $476,000, $417,000 and $368,000 for the years ended December 31, 2000, 1999 and 1998, respectively.

Scheduled minimum lease payments for the next five years are approximately as follows:

Year Ending December 31,	
2001	$330,000

2002	330,000
2003	347,000
2004	349,000
2005	203,000
Total	$1,559,000

(7) Shareholders Equity

Stock Option Plans

In connection with the Distribution, Bio-Vascular, as the sole shareholder of the Company, approved and adopted several option plans and stand-alone option grants, which covered employees of both Vital Images and Bio-Vascular. The adopted plans include the Incentive Stock Option Adjustment Plan, the 1990 Management Incentive Stock Option Plan, the 1992 Director Stock Option Adjustment Plan, the 1992 Stock Option Plan, and the 1995 Stock Incentive Adjustment Plan (collectively, the Mirror Plans). Each of these plans is intended to mirror the provisions of a corresponding Bio-Vascular plan that was in effect at the time of the Distribution. As each Bio-Vascular option plan generally provided for the termination of options following termination of employment, each of the Mirror Plans, as well as each of the stand-alone option grants (the Mirror Grants), were approved and adopted to provide that the Distribution would not cause a termination of any Vital Images employee for the purposes of such plans or option grant, and that Bio-Vascular options held by Vital Images employees following the Distribution would remain exercisable following the Distribution, so long as such employees remain employed by Vital Images or any subsidiary. Similar provisions were also adopted with respect to Vital Images options held by Bio-Vascular employees. On the Distribution Date, 608,534 options were issued in connection with the Mirror Plans and the Mirror Grants (collectively, the Mirror Options). These options have vesting periods ranging from less than one year up to four years and terms ranging from less than one year up to ten years. No additional grants may be made pursuant to any of the Mirror Plans.

In May 1997, Bio-Vascular, as the sole shareholder of the Company, approved and adopted the Vital Images, Inc. 1997 Stock Option and Incentive Plan (the Stock Option Plan), which became effective on the Distribution Date. Under the terms of the plan, the Board of Directors may grant options and other stock-based awards to key employees to purchase shares of the Company s common stock at an option exercise price equal to or greater than 85% of the fair market value on the date of grant. The options are exercisable at such times, in installments or otherwise, as the Board of Directors may determine. Generally, these options are incentive stock options with a term of eight years and are exercisable to 28% of the total grant one year after the date of grant and 2% per month thereafter. In May 2000, the shareholders of the Company approved an increase of 500,000 common shares, bringing the total number of shares of common stock that may be issued or awarded under the Stock Option Plan to 1,925,000. As of December 31, 2000, there are 458,516 shares available for grant under the Stock Option Plan.

Also in May 1997, Bio-Vascular, as the sole shareholder of the Company, approved and adopted the Vital Images, Inc. 1997 Director Stock Option Plan (the Director Plan) (together with the Stock Option Plan, the 1997 Plans), which became effective on the Distribution Date. The Director Plan provides non-employee directors with automatic grants of stock options, and allows the Board of Directors to make additional discretionary option grants to any or all directors. Options that are granted under the Director Plan are generally granted with an option price equal to the fair market value on the date of grant, with a term of eight years, are non-qualified options and become exercisable in

three equal annual installments beginning on the first occurring December 31 after the date of grant. In May 1999, the shareholders of the Company approved an increase of 105,000 common shares, bringing the total number of shares of common stock that may be issued or awarded under the Director Plan to 210,000. In May 2000, the shareholders of the Company approved an increase to the number of shares subject to automatic option grant to current and future non-employee directors from 15,000 shares to 18,000 shares. As of December 31, 2000, there are 43,000 shares available for grant under the Director Plan.

Certain non-plan options were granted to certain officers of the Company in 1998 and 1999. In February 1998, the Company reserved and granted 300,000 non-qualified, non-plan options to an officer of the Company. These non-plan options have a term of eight years, vest over a two year period and were granted at exercise prices at least equal to fair market value of the Company s common stock on the date of grant. In December 1999, 100,000 of these non-plan options were canceled. In December 1999, the Company reserved an additional 75,000 and granted an additional 175,000 non-qualified, non-plan options to another officer of the Company. These non-plan options have a term of eight years, are exercisable to 28% of the total grant one year after the date of grant and 2% per month thereafter and were granted at exercise prices at least equal to fair market value of the Company s common stock on the date of grant.

In December 2000, the Company granted 10,000 options to a non-employee consultant. These non-plan options have a term of eight years and were granted at exercise prices at least equal to fair market value of the Company s common stock on the date of grant. 5,000 of the options vest over a four-year period and the remaining 5,000 options will vest immediately when a specified milestone is achieved. The Company records compensation expense related to this arrangement based upon the fair values of the options during the periods the consultant provides services. Such fair values are measured using the Black-Scholes option-pricing model. The fair value of the options was approximately $19,000 at December 31, 2000. There was no significant compensation expense to the Company in 2000.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

The following table summarizes stock option activity for 2000, 1999 and 1998:

	Shares Under Option	Weighted-Average Exercise Price Per Share
Total outstanding as of December 31, 1997	947,018	$2.66
Options granted	731,000	2.06
Options exercised	(41,925)	1.38
Options canceled	(195,775)	2.30
Total outstanding as of December 31, 1998	1,440,318	2.44
Options granted	693,750	4.22
Options exercised	(153,484)	2.34
Options canceled	(169,674)	3.60
Total outstanding as of December 31, 1999	1,810,910	3.02

Options granted	482,750	6.83
Options exercised	(105,650)	2.06
Options canceled	(111,986)	4.56
Total outstanding as of December 31, 2000	2,076,024	$3.87

Options exercisable as of:

December 31, 1998	654,850	$2.59
December 31, 1999	847,640	$2.41
December 31, 2000	1,125,409	$2.87

Various price ranges and weighted average information for options outstanding as of December 31, 2000 are as follows:

	Outstanding Options			Exercisable Options	
Range of Exercise Prices	Number Outstanding as of Dec 31, 2000	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable as of Dec 31, 2000	Weighted Average Exercise Price
$1.13 2.00	332,405	4.49 years	$1.36	279,115	$1.36
2.16 2.38	440,513	4.82 years	2.33	382,873	2.33
2.59 3.87	371,254	6.26 years	3.36	171,914	3.13
4.09 4.75	504,606	6.24 years	4.62	257,011	4.64
5.13 7.63	427,246	7.24 years	6.96	34,496	6.77
	2,076,024			1,125,409	

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

Employee Stock Purchase Plan

The 1997 Employee Stock Purchase Plan (the ESPP) was approved and adopted by Bio-Vascular, as the sole shareholder of the Company, in May 1997. The ESPP, which became effective on July 1, 1997, enables eligible employees to purchase the Company s common stock at 85% of the fair market value of the stock on the date an offering commences or on the date an offering terminates, whichever is lower. The ESPP covers an aggregate of up to 250,000 shares of common stock that can be issued and sold to participating employees of the Company through a series of three-month offerings, beginning July 1, 1997. The ESPP covers substantially all employees, subject to certain limitations. Each employee may elect to have up to 10% of his or her base pay withheld and applied toward the purchase of shares in each such offering. Purchases under the ESPP for 2000 were 21,589 shares generating proceeds to the Company of $85,965 at an average purchase price of $3.99; for 1999 there were 23,767 shares purchased, generating proceeds to the Company of $66,645 at an average purchase price of $2.80; and for 1998 there

were 24,394 shares purchased, generating proceeds to the Company of $32,712 at an average purchase price of $1.34. As of December 31, 2000, there are 164,474 shares of common stock reserved for purchases under the ESPP.

Stock-Based Compensation

If compensation cost for the Mirror Options, the ESPP, the Stock Option Plan, the Director Plan and the non-plan options had been determined based on the fair values on the grant dates for awards in 2000, 1999 and 1998 consistent with the provisions of SFAS No. 123, the Company s net loss and net loss per share for 2000, 1999 and 1998 would have been increased to the pro forma amounts indicated below:

		For the Years Ended December 31,		
		2000	1999	1998
Net loss	As reported	$(2,637,231)	$(3,217,625)	$(3,209,449)
	Pro forma	$(3,570,000)	$(3,745,000)	$(3,647,000)
Net loss per share - basic and diluted	As reported	$(0.39)	$(0.64)	$(0.66)
	Pro forma	$(0.53)	$(0.74)	$(0.75)

The weighted average fair values of options granted were:

Options under the 1997 Plans	$5.43	$3.47	$1.28
Options under ESPP	$0.70	$0.50	$0.24
Non-plan options	$3.66	$2.80	$0.60
Mirror Options	$-	$-	$-

The weighted average fair values for the Mirror Options, the 1997 Plans and the non-plan options were based on the fair values on the dates of grant. The fair values of options under the ESPP were based on the 15 percent purchase discount. The fair values for the Mirror Options, the 1997 Plans and the non-plan options were calculated using the Black-Sholes option-pricing model with the following weighted average assumptions:

	For the Years Ended December 31,		
	2000	1999	1998
Expected option life	6.0 years	6.0 years	5.2 years
Expected volatility factor	92.6 %	91.7 %	88.7 %
Expected divided yield	0 %	0 %	0 %
Risk-free interest rate	6.40 %	5.97 %	5.53 %

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

The pro forma effects on the net losses for 2000, 1999 and 1998 are not necessarily representative of the pro forma effect that may occur on the net income (loss) in future periods.

Warrants

In December 1999, the Company completed a private placement of 1,650,000 units at $3.25 per unit. Each unit consisted of one share of the Company s common stock and a redeemable, five-year warrant to purchase an additional share of common stock at $3.75 per share. The warrants are immediately exercisable and expire in December 2004. The warrants may be redeemed by the Company at any time before December 2004 at a redemption price of $.01 per warrant, upon notice of such redemption, provided that (i) the closing bid price of the Company s common stock exceeds $5.75 per share for any thirty consecutive trading days prior to such notice and (ii) a registration statement covering the resale of the warrant shares has been filed by the Company with the Securities and Exchange Commission and is effective as of the date of such notice. The Company satisfied the conditions for redemption of the warrants as of December 7, 2000.

The Company also issued warrants to the underwriter in the private placement to purchase 163,651 shares of the Company s common stock at $3.25 per share. The warrants are immediately exercisable and expire in December 2004.

None of the warrants have been exercised as of December 31, 2000.

Restricted Stock

Under certain compensation agreements, an arrangement which provides for awards of restricted common stock to key management was adopted by Bio-Vascular in 1992. Pursuant to the agreement governing the Company s spin-off from Bio-Vascular (the Distribution Agreement), Vital Images assumed its proportionate share of obligations represented by such restricted shares such that the Company issued 25,375 restricted shares on the Distribution Date in connection with the spin-off from Bio-Vascular. As of December 31, 2000, no shares of restricted stock remain unearned by certain key Bio-Vascular employees.

Rights Plan

In April 1997, the Company declared a dividend distribution of one Preferred Stock Purchase Right for each outstanding share of the Company s common stock (the Rights). With certain exceptions, the Rights become exercisable only in the event that (i) an acquiring party accumulates 15% or more of the Company s common stock, (ii) a party announces an offer to acquire 15% or more of the Company s common stock, or (iii) the acquisition of a substantial amount of the Company s common stock by a person whom the Board of Directors has determined is an Adverse Person as defined in the underlying Rights Agreement. Each Right entitles the holder to purchase one-thousandth of a share of the Company s Series A Junior Preferred Stock at a price of $20.00 (the Exercise Price). If a person or group becomes the beneficial owner of 15% or more of the Company s common stock or the Board of Directors determines that a person is an Adverse Person, each holder of a Right shall thereafter have the right to receive preferred stock having a fair market value equal to two times the Exercise Price. Upon the occurrence of certain mergers, combinations or acquisitions of the Company s assets, each holder of a Right shall thereafter have the right to receive that number of shares of common stock of the acquiring company which equals the Exercise Price of the Right divided by one-half of the current market price of such common stock as of the date of the occurrence of the event. The Company is generally entitled to redeem the Right at $.001 per Right at any time until ten days following the acquisition of 15% or more of the Company s common stock or ten days after the point at which the Company s Board of Directors determines that a person is an Adverse Person, as defined by the Rights Agreement. The Rights expire on April 30, 2007, if not previously redeemed or exercised.

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(8) Income Taxes

The income tax provision for each of the periods presented represents state minimum taxes. As of December 31, 2000, the Company has net operating loss carryforwards of approximately $16,500,000 for federal income tax

reporting purposes and unused research and development credits of approximately $662,000, which expire in varying amounts from 2004 to 2020. For financial reporting purposes, a valuation allowance has been established to completely reserve for the Company s deferred tax assets related to those carryforwards.

As a result of Bio-Vascular s acquisition of the Company in May 1994, the Company experienced an ownership change as defined by Section 382 of the Internal Revenue Code (the Code). Under the Code, the amount of pre-acquisition net operating loss carryforwards and research and development credits that can be used to offset future taxable income and income taxes will be limited. As of the date of the Company s acquisition by Bio-Vascular, the Company had approximately $1,600,000 of net operating loss carryforwards and approximately $137,000 of research and experimentation credits, both of which will be subject to limitation under the Code.

The significant components of the Company's tax-effected net deferred tax assets, based on an assumed effective tax rate of 40%, are:

	December 31,	
	2000	**1999**
Net operating loss carryforwards	$6,600,000	$5,649,000
Research and development tax credit carryforwards	662,000	542,000
Deferred compensation	230,000	230,000
Other, net	382,000	226,000
Net deferred tax assets before valuation allowance	7,874,000	6,647,000
Less valuation allowance	(7,874,000)	(6,647,000)
Net deferred tax assets	$-	$-

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(9) Major Customers and Geographic Data

Customers accounting for more than 10 percent of the Company s total revenue are as follows:

	Significant Customer	**Revenue**	**Percentage of Total Revenue**
Year ended December 31, 2000	Toshiba America Medical Systems, Inc.	$2,819,000	27%
Year ended December 31, 1999	Toshiba America Medical Systems, Inc.	$1,377,000	21%
Year ended December 31, 1998	Toshiba America Medical Systems, Inc.	$1,020,000	23%
		$618,000	14%

Paradigm Geophysical Corporation

In August 1995, the Company entered into a source code license agreement with Paradigm Geophysical Corporation ("Paradigm") granting Paradigm a worldwide, exclusive license for use in oil and gas exploration applications. Under the agreement, Paradigm became both the exclusive developer and marketer of *VoxelGeo*®. The Company receives royalty payments based upon cash collections through January 1, 2001 from sales of *VoxelGeo* software by Paradigm. During 2000, 1999 and 1998, the Company received royalty payments of $210,000, $462,000 and $618,000, respectively.

The Company s accounts receivable is generally concentrated with a small base of customers. As of December 31, 2000, two customers, each accounting for more than 10% of accounts receivable, accounted for 27% of accounts receivable, while as of December 31, 1999, two customers, each accounting for more than 10% of accounts receivable, accounted for 28% of accounts receivable.

Export revenue accounted for 7%, 8% and 7% of total revenue for the years ended December 31, 2000, 1999 and 1998, respectively. Substantially all of the Company s export sales are negotiated, invoiced and paid in U.S. dollars.

Export sales by geographic area are summarized as follows:

	For the Years Ended December 31,		
	2000	**1999**	**1998**
Europe	$389,000	$312,000	$222,000
Asia and Pacific Region	195,000	133,000	77,000
Latin America	108,000	42,000	-
Other foreign countries	44,000	22,000	8,000

VITAL IMAGES, INC.
NOTES TO FINANCIAL STATEMENTS

(10) Employee Benefit Plan

The Company maintains the Vital Images, Inc. Salary Savings Plan (the Plan), which is intended to qualify under Section 401(k) of the Internal Revenue Code, as amended. The Plan covers substantially all employees. Each employee may elect to contribute to the Plan through payroll deductions of up to 25% of his or her salary, subject to certain limitations. At the discretion of the Board of Directors, the Company may make matching contributions equal to a percentage of the salary reduction contributions or other discretionary amounts. There were no contributions to the Plan by the Company in 2000, 1999 and 1998.

SCHEDULE II

VITAL IMAGES, INC.
VALUATION AND QUALIFYING ACCOUNTS

Description	**Balance as of Beginning of Period**	**Charges to Cost and Expenses**	**Deductions**	**Balance as of End of Period**

Allowance for doubtful accounts:

Year ended December 31, 2000	$93,000	$122,000	$-	$215,000
Year ended December 31, 1999	$78,000	$15,000	$-	$93,000
Year ended December 31, 1998	$40,000	$52,313	$14,313	$78,000

VITAL IMAGES, INC.

FORM 10-K

INDEX TO EXHIBITS

Item No.	Description
3.1	Articles of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company s registration statement on Form 10 (File No. 0-22229)).
3.2	By-laws of the Company (incorporated by reference to Exhibit 3.2 to the Company s registration statement on Form 10 (File No. 0-22229)).
4.1	Form of common stock Certificate of the Company (incorporated by reference to Exhibit 4.3 to the Company s registration statement on Form 10 (File No. 0-22229)).
4.2	Rights Agreement, dated effective as of May 1, 1997 between the Company and American Stock Transfer and Trust Company, which includes as Exhibit B the form of Rights Certificate (incorporated by reference to Exhibit 4.4 to the Company s registration statement on Form 10 (File No. 0-22229)).
4.3	Certificate of Designation, Preferences and Rights of Series A Junior Preferred Stock of the Company (incorporated by reference to Exhibit 4.5 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.1	Form of Distribution Agreement, effective as of May 2, 1997 between Bio-Vascular, Inc. and the Company (incorporated

	by reference to Exhibit 10.1 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.2	Form of Employee Benefits Agreement, effective as of May 2, 1997, between Bio-Vascular, Inc. and the Company (incorporated by reference to Exhibit 10.2 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.3	Form of Tax Sharing Agreement, effective as of May 2, 1997, between Bio-Vascular, Inc. and the Company (incorporated by reference to Exhibit 10.3 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.4	Form of Transition Services Agreement, effective as of May 2, 1997 between Bio-Vascular, Inc. and the Company (incorporated by reference to Exhibit 10.4 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.5	Incentive Stock Option Adjustment Plan (incorporated by reference to Exhibit 10.5 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.6	1990 Stock Option Plan (incorporated by reference to Exhibit 10.6 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.7	1992 Stock Option Plan (incorporated by reference to Exhibit 10.7 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.8	1992 Director Stock Option Adjustment Plan (incorporated by reference to Exhibit 10.8 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.9	1995 Stock Incentive Adjustment Plan (incorporated by reference to Exhibit 10.9 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.10	Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.10 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.11	1997 Stock Option and Incentive Plan (incorporated by reference to Exhibit 10.11 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.12	1997 Director Stock Option Plan (incorporated by reference to Exhibit 10.12 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.13	License Agreement dated August 25, 1995 between the Company and Paradigm Geophysical Corporation (formerly CogniSeis Development, Inc.) (incorporated by reference to Exhibit 10.14 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.14	Lease agreement dated May 14, 1993, as amended April 15, 1997, between Vital Images, Inc. and Douglas Green IRA Trust (incorporated by reference to Exhibit 10.15 to the Company s registration statement on Form 10 (File No. 0-22229)).
10.15	Lease Agreement dated January 31, 1997 between ACKY 3100 Lake Limited Partnership and the Company (incorporated by reference to Exhibit 10.16 to the

Company s registration statement on Form 10 (File No. 0-22229)).

10.16 Form of Change in Control Agreement between the Company and Andrew M. Weiss, Vincent J. Argiro, Ph.D., David A. Davis, Gregory S. Furness and Jay D. Miller (incorporated by reference to Exhibit 10.17 to the Company s registration statement on Form 10 (File No. 0-22229)).

10.17 Joint Development Agreement dated August 14, 1996 between the Company and ATL Ultrasound, Inc.* (incorporated by reference to Exhibit 10.18 to the Company s registration statement on Form 10 (File No. 0-22229)).

10.18 Sales and Marketing Agreement dated August 14, 1996 between the Company and ATL Ultrasound, Inc.* (incorporated by reference to Exhibit 10.19 to the Company s registration statement on Form 10 (File No. 0-22229)).

10.19 Software License Agreement dated August 1, 1997 between the Company and Duke University (incorporated by reference to Exhibit 10.20 to the Company s Annual Report on Form 10-K for the year ended December 31, 1997 (File No. 0-22229)).

10.20 Severance Agreement dated February 13, 1998 between the Company and Mr. Weiss (incorporated by reference to Exhibit 10.21 to the Company s Annual Report on Form 10-K for the year ended December 31, 1997 (File No. 0-22229)).

10.21 Employment Agreement dated February 1, 1998 between the Company and Douglas M. Pihl (incorporated by reference to Exhibit 10.22 to the Company s Annual Report on Form 10-K for the year ended December 31, 1997 (File No. 0-22229)).

10.22 Non-qualified Stock Option Agreement dated February 24, 1998 between the Company and Douglas M. Pihl (incorporated by reference to Exhibit 10.23 to the Company s Annual Report on Form 10-K for the year ended December 31, 1997 (File No. 0-22229)).

10.23 Loan Agreement dated March 19, 1999 between the Company and Riverside Bank (incorporated by reference to Exhibit 10.24 to the Company s Form 10-Q for the quarter ended March 31, 1999 (File No. 0-22229)).

10.24 Promissory Note dated March 19, 1999 between the Company and Riverside Bank (incorporated by reference to Exhibit 10.25 to the Company s Form 10-Q for the quarter ended March 31, 1999 (File No. 0-22229)).

10.25 Commercial Security Agreement dated March 19, 1999 between the Company and Riverside Bank (incorporated by reference to Exhibit 10.26 to the Company s Form 10-Q for the quarter ended March 31, 1999 (File No. 0-22229)).

10.26 Lease agreement dated October 19, 1999 between St. Paul Properties, Inc. and the Company (incorporated by reference to Exhibit 10.27 to the Company s Form 10-Q for the quarter ended September 30, 1999 (File No. 0-22229)).

10.27 Vital Images, Inc. and Toshiba America Medical Systems, Inc. Reseller Agreement * (incorporated by reference to Exhibit 10.27 to the Company s Form 10-Q for the quarter ended September 30, 2000 (File No. 0-22229)).

10.28	Employment Agreement dated December 27, 1999 between the Company and Albert Emola (filed herewith electronically).
10.29	Non-qualified Stock Option Agreement dated December 28, 1999 between the Company and Albert Emola (filed herewith electronically).
10.30	Form of Change in Control Agreement between the Company and Albert Emola and Gregory S. Furness (filed herewith electronically).
10.31	Form of Change in Control Agreement between the Company and Vincent J. Argiro, Ph.D., Steven P. Canakes, David M. Frazee, Jay D. Miller and Robert C. Samec (filed herewith electronically).
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith electronically).

* Portions of such exhibit are subject to a request for confidential treatment filed with the Commission by the Registrant.